Is conversion a syntactic or a lexical process of word formation?

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ABSTRACT. Conversion is sometimes described as a syntactic phenomenon by which a lexical item changes its lexical category according to the syntactic environment where it is inserted. This syntactic-ordered approach comes from theoretical fields that conceive the lexicon as the domain of irregularity, whilst regular patterns are treated in syntax (Chomsky 1995).

However, Portuguese converted deverbal nouns (*remendo* 'event of mending', *curte* 'event of having fun', *trinca* 'event of biting') manifest a structural behaviour that permits us to situate their formation in the lexicon instead of in the syntax. According to the theoretical allusion we made above, this would characterise converted deverbal nouns as lacking a regular pattern. However, what we mean is that the lexicon is not the field of irregularity. Apart from the irregular material that must be stored in long term memory as to be used by speakers, such as inherited lexemes (*e.g. rato* 'mouse', *cão* 'dog', *rir* 'to laugh', *verde* 'green', etc.), the lexicon is the domain of word formation, which is constraint-based (Rodrigues 2008, 2009). This means the word formation part of the lexicon is constrained by regular patterns that are neither directional in principle, nor syntactic in nature.

We follow Jackendoff (2002) conception on the lexicon, conceiving it an interface of syntax, phonology and semantics.

Converted deverbal nouns formation seems to agree with this conception, since it depends on phonological, semantic and syntactical constraints (Rodrigues 2004, 2009). Portuguese verb-into-noun conversion is not a simple case of syntactic environment. This is specially visible when we confront this lexical conversion with a purely syntactic type of nominalisation (Kerleroux 1996), such as the one that occurs in *O estudar matemática traz-me vantagens*. 'Studying maths brings me advantages' or *O remendar roupa é um recurso nesta época*. 'Mending cloths is a good resource nowadays'. Apart from the syntactic constraints that converted deverbal nouns must follow (*e.g.* as real nouns they cannot directly theta-mark, whilst syntactic nominalisations can), these nouns display phonological constraints in their formation and a semantic variability that is not observable in syntactic nominalisations. This semantic variability is not exclusively explainable by the syntactic environment. Moreover, the formation of converted deverbal nouns obeys

to structural constraints that do not act upon syntactic nominalisation. All this means that conversion is not syntactic in nature. Yet it is not irregular either. This evidences that the mainstream generative grammar conception on the lexicon should be abandoned.

KEY-WORDS. lexical conversion, nominalisation, Portuguese word formation, deverbal nouns.

1.   Introduction

We intend to demonstrate that V to N conversion, following the process formation of $[abraç]_V o]_N$, is not a syntactic process. For that, we will distinguish lexical conversion from syntactic nominalisations.

We follow the parallel architecture of Jackendoff (2002). According to this, the lexicon is an interface between syntax, phonology and semantics. We consider word formation a lexical domain with its own rules, which are basically constraints, which are not dependent on syntactic principles.

We believe the lexicon is not the domain of irregularity, as Chomsky proposes. According to Chomsky (1981), grammar is divided into the core and the periphery. According to Chomsky, only regular matters are the object of linguistics. However, this is to say that many linguistic phenomena are put aside. The problem is that every language contains irregular material, and people acquire and use that material as proficiently as they use the regular one.

Moreover, following Chomsky's proposal of focusing on the core of the grammar and leaving aside the periphery brings another risk: whenever the theoretical model fails to explain some phenomenon, it is very tempting to leave it to the periphery. Nevertheless, one should not decide of the 'peripheral character' of the object without having tested the effectiveness of the model.

What have these theoretical and philosophical considerations to do with conversion?

Conversion is sometimes characterised as an irregular domain. We think it is not so irregular as that, we would say, since it obeys to structural constraints, belonging to phonological, syntactic and semantic domains (Rodrigues 2004; Rodrigues 2009). This means that conversion does neither generate every hypothetical word, nor it is subdued to overgeneration.

Since word formation is not syntax, or it is not reducible to syntax, we need to observe that object with appropriate lens. Word formation is only periphery if analysed by the wrong lens. Otherwise, it will be explainable.

Thus, we have three steps to track:

1st: is conversion a syntactic process? Or does it involve other structures? Do syntactic principles explain every part of conversion phenomenon? No. It is not explainable by syntax principles.

2nd: if it is not syntax, is it irregular, that is, periphery, following Chomsky's label? No. It is not syntax, but, in spite of it, it is not irregular. On the contrary, converted deverbal nouns (CDN) formation has a regular pattern.

3rd: So, what is it? It is word formation at a lexical level, with its own rules, with its own regularity.

2. Defining lexical categories

One problem that emerges when dealing with conversion is the definition of lexical categories. For this, we will follow Baker (2003: 17). Since we are concerned with the distinction between verbs and nouns, we make only reference to these two categories. Baker (2003: 20) defines verbs as a lexical category that has a specifier («Only verbs are true predicates, with the power to license a specifier, which they typically theta-mark.»).

In what concerns nouns, these are defined by Baker (2003: 96) as having a referential index. Since Baker proposal is to define lexical categories according to their differences, we have here the criteria that permit us to distinguish verbs from nouns: «No syntactic node can both license a specifier and bear a referential index.» (Baker 2003: 96).

Bearing a referential index is dependent on the criterion of identity. According to Geach (1962), only a noun can occur in the frame "X is the same ____ as Y".

Because of this identity criterion, nouns are the only category that may occur with determiners, bear plurality and quantification, and bear a relationship of coreference, such as anaphora.

We will evaluate nominalisations using those different syntactic structures that depend on the identity criterion and see what they will evidence about them.

3.   Comparing syntactic nominalisation with lexical conversion
3.1. The identity criterion

According to Baker (2003), only nouns have the criterion of identity. This means that only nouns may occur in sentences such as "X é o mesmo _____ que Y" ('X is the same ____ as Y').

This is true for non-constructed nouns such as *lápis* 'pencil' or *carro* 'car', as examples (1) show. (Every sentence was attested with 60 naive native speakers.)

(1)   a. *Este lápis é o mesmo que vimos ontem.*
        'This pencil is the same we saw yesterday.'

        b. *Este carro é o mesmo que vimos ontem.*
        'This car is the same we saw yesterday.'

In what concerns event deverbal nouns, the same construction is possible if the *denotatum* has ontological conditions that fit it, for instance, if it means a type and not an instance. This is because events have ontological limits that coarct their durability in time (example 2).

(2)   **Este é a mesma plantação de árvores a que assistimos ontem.*
        'This is the same planting of trees we have attended yesterday.'

Event nouns may only appear in this structure if they designate an event with no interruption along time. Thus, we consider that this is not a good criterion to measure nominality.

3.1.1. Determiners

Because of having a referential index, nouns are syntactically related with determiners and quantifiers.

Thus, according to Baker, the occurrence of determiners is only bearable

by nouns. This is true for deverbal nouns and for infinitive nominalisations (examples 3).

(3) a. *O apodrecimento da fruta.*
       'The rot of the fruit.'

       b. *O   apodrecer   a   fruta/ o   apodrecer   da   fruta.*
       The   rot-INF   the   fruit/ the   rot-INF   of.the   fruit.
       'Rotting the fruit./ The rotting of the fruit.'

       c. *A apanha da fruta.*
       'The gathering of the fruit.'

3.1.2. Plurality

Plurality is another criterion that encompasses nouns. Notice that when verbs have number morphemes, these are a syntactic consequence of agreement with a noun projection (Baker 2003: 107). Let us examine what happens with pluralising verbs (4a, 5b, 6a), comparing them with deverbal nouns (examples 4b, 5 a, 6c).

(4) a. **Os   remendares   são cuidados.*
       The-PL   mend-INF-PL   are careful
       'The mendings are careful.'

       b. *Os   remendos   a   que   assistimos   são cuidados.*
       The-PL   mend-CDN-PL   to   which   attend-1st PL   are careful
       'The mendings we have attended are careful.'

       c. *O   remendar   a   que   assistimos   é cuidado.*
       The   mend-INF   to   which   attend-1stPL   is careful.
       'The mending we have attended is careful.'

(5) a. *As reconstruções da cidade foram trabalhosas.*
       'The reconstructions of the city were arduous.'

   b. *Os   reconstruires   da   cidade foram   trabalhosos.*
   The-PL   reconstruct-INF PL   of.the   city   were   arduous
   '*The reconstructings of the city were arduous.'

(6)   a. *Estamos a assistir aos saltares em série dos atletas.*
   Be-1stPLto   attend   to.the.PL jump-INF PL   in   series   of.the-PL
athletes
   '*We are attending to the jumps in series of the athletes.'

   b. *Estamos a assistir aos saltos em s*érie *dos atletas.*
   Be-1st PL   to attend   to.the-PL jumps-PL in series of.the   athletes
   'We are attending to the jumps in series of the athletes.'

   c. *Estamos   a assistir ao   saltar do   atleta.*
   Be-1stPL   to attend to.the jump-INF   of.the   athlete
   'We are attending to the athlete jumping.'

Examples (4-6) show that, although there had been a nominalisation, verbs cannot undergo pluralisation, contrarily to CDNs and suffixed deverbal nouns.

This seems to evidence that when changes occur at the morphological level, they are not accepted, whilst if changes are merely syntactic, they are accepted, in infinitive nominalisations. What is inside the scope of the word in itself is not accepted, only what is outside. This make way to the hypothesis that nominalisation is not the same as conversion and, more than that, conversion is at a different level than nominalisation – it occurs in the lexicon.

3.1.3. Quantifiers
Quantifiers evidence the criterion of identity focused on by Baker in relation to nouns.

In what concerns syntactic nominalisations, quantifiers are restricted, since pluralisation also is.

(7)   a. *Os dois saltares a que assistimos   foram   consecutivos.*
   The-PLtwo jump-INF.PL   to   which   attend-1stPL   be-3rdPL

consecutive-PL

  '*The two jumpings we attended to were consecutive.'

  b. *Os dois saltos   a   que   assistimos   foram   consecutivos.*
  The.PL jumps-N PL   to   which   attend-1stPL   be-3rdPL consecutive
  'The two jumps we attended to were consecutive.'

(8) a. **Os   dois*   *abraçares*   *foram*   *sinceros.*
  The-PL   two   hug-INF PL   be-3rdPL   sincere
  'The two huggings were sincere'.

  b. *Os   dois   abraços*   *foram*   *sinceros.*
  The-PL   two   hugs-N PL   be-3rdPL   sincere
  'The two hugs were sincere.'

3.1.4. Anaphora

Another criterion that provides nominality is anaphora (Baker 2003: 127-128). This is true because «the antecedent of a pronoun must be a referential-index-bearing noun projection.» (p. 128). See examples (9-11) below. From these examples we may see that infinitive nominalisations do not accept anaphora.

(9) *Isto é o bolo. O João fê-lo ontem.*
  'This is the cake. John made it yesterday.'

Anaphora is possible with event nouns (10a, 11c) but it is not grammatical with infinitive nominalisations (10b; 11a,b):

(10) a. *Isto é a comemoração. O João organizou-a ontem.*
  'This is the commemoration. John organised it yesterday.'
  b. **Isto é   o   comemorar. O   João organizou-o ontem.*
  This is the   commemorating-INF. The   John organised it yesterday
  '*This is the commemorating. John organised it yesterday.'

(11) a. *Isto é o   apanhar   a   fruta. O   João organiza-o   bem.
      This is the   gather-INF   the   fruit. The   John organises-it   well
      '*This is the gathering the fruit. John organises it well.'
      b. *Isto é o apanhar   da   fruta. O   João organiza-o   bem.
      This is the gather-INF   of.the   fruit. The   John organises-it   well
      'This is the gathering of the fruit. John organises it well.'

      c. Isto é a   apanha   da   fruta. O   João organiza-a bem.
      This is the   gather-CDN   of.the   fruit. The   John organises-it well.
      'This is the gathering of the fruit. John organises it well.'

3.1.5. Conclusions on the criterion of identity and its syntactic consecutions

Table 1 summarises data exposed till now.

	Concrete nouns	Suffixed Deverbal nouns	Converted deverbal nouns	Syntactic Nominalisation
X is the same ___as Y	+	-+	-+	-+ depends on the semantics
determiners	+	+	+	+
quantifiers	+	+	+	-
pluralisation	+	+	+	-
anaphora	+	+	+	-

Table 1. Different nouns and nominalisations and its acceptability towards syntactic environments of nouns

Table 1. synthesises that syntactic nominalisations only bear determiners. They fail the criterion of identity with the structure "X is the same ____ as Y", since this depends more on semantic typology. Infinitive nominalisations also fail plurality, quantification and anaphora.

These results evidence that a lexical category is not a simple question of syntactic environment.

Now we will add more syntactic occurrences that characterise verbs in general and specifically in Romance languages (Kerleroux 1996:70).

3.2. Clitics

Verbs have their complements actualised by clitics (examples 12a, b; 13a, b). Nouns do not (12 c, d, e, f; 13c, d).

(12) a. *O   derrubar   árvores é uma atitude   insensata.*
The   cut.down-INF   trees   is a   attitude senseless
'Cutting down trees is a senseless attitude.'

b. *O   derrubá-las é   uma   atitude insensata.*
The   cutt.down-INF-it-FEM PL   be-1st SG   a   attitude senseless
'Cutting down them is senseless.'

c. *O   derrube   de árvores   é   insensato.*
The   cut.down-CDN of trees   is   senseless
'The cutting down of trees is senseless.'

d. **O derrube-   as   é insensato.*
The cut.down-CDN-them   is senseless
'*The cutting down them is senseless.'

e. *O   derrubamento   de árvore.*
The   cut.down-SUFDEVN   of trees
'The cutting down of trees.'

f. **O   derrubamento- as.*
The   cut.down-SUFDEVN-them
'*The cutting down them.'

(13) a. *O   desejar   livros é   uma   atitude sensata.*
The   desire-INF   books is   a   attitude sensible
'Desiring books is a sensible attitude.'

b. *O   desejá-los   é uma atitude   sensata.*
The   desire-INF-them   is a attitude   sensible
'Desiring them is a sensible attitude.'

c. *O   desejo   de livros é sensato.*
The   desire-CDN   of books is sensible
'The desire for books is sensible.'

d. *O   desejo-   los   é   sensato.*
The   desire-CDN-   them   is   sensible
'*The desire them is sensible.'

Examples (12) and (13) show that clitics may only occur with verbs, even if they are nominalised.

3.3. Theta-mark

Verbs may theta-mark directly (examples 14a, b), whilst nouns need a preposition (14d, e, f).

(14) a. *O João derrubou uma árvore.*
        'John cut down a tree.'

        b. *O   derrubar   árvores   é insensato.*
        The   cut.down-INF   trees   is senseless
        'Cutting trees is senseless.'

        c. *O   derrubar   de árvores   é insensato.*
        The   cut.down-INF   of trees   is senseless
        'The cutting down of trees is senseless.'

        d. *O   derrube   de árvores   é insensato.*
        The   cut.down-CDN   of trees   is senseless
        'The cutting down of trees is senseless.'

        e. *O   derrube   árvores é insensato.*
        The   cut.down-CDN   trees   is senseless
        '*The cutting down trees is senseless.'

f. *O   derrubamento   árvores   é *insensato.*
The   cut.down-SUFDEVN   trees   is senseless
'*The cutting down trees is senseless.'

3.4 Modification

Verbs are modified by adverbs (examples 15a, b), whilst nouns are modified by adjectives (example 15c).

(15) a. *O*   [*saber   pouco*] *apoquenta-a.*
The   know-INF   little   scares- her
'Knowing little scares her.'

b. *O*   [*passear   ocasionalmente*]   *entorpece   as pernas.*
The   walk-INF   occasionally   numbs   the legs
'Walking occasionally numbs the legs.'

c. *O*   [*passeio   ocasionalmente*]   *entorpece   as pernas.*
The   walk-CDN   occasionally   numbs   the legs
'*The walk occasionally numbs the legs.'

3.5 Sum up on verb vs. noun criteria

We have now conditions to add more details about verb vs. noun behaviour in table 2.

	Concrete nouns	Suffixed Deverbal nouns	Converted deverbal nouns	Syntactic Nominalisation [VP]$_{DP}$
adverbs	-	-	-	+
direct theta-mark	-	-	-	+
complements as clitic	-	-	-	+

Table 2. Syntactic behaviour of verbs in Romance languages in nominalisations and nouns.

Table 2 shows syntactic occurrences of verbs in Romance languages. As we can see, only [VP]$_{DP}$ syntactic nominalisations admit those occurrences such as adverbs, complements as clitics and a direct theta-mark. Concrete

nouns, suffixed deverbal nouns and CDNs do not. We use determiner phrase following Brito (1993), instead of noun phrase. This is so because we defend there is no real noun, but a nominalization which is built by the determiner. Otherwise nominalisations would accept every criteria applied to nouns.

Comparing data in table 1 and 2, we may conclude that syntactic nominalisation detaches from other nominal occurrences. The last ones display a typical noun syntactic behaviour, whilst nominalised [VP] do not. Nominalised [VP] shows a typical syntactic verbal behaviour, whilst CDNs do not. As we will see in section 4, there is a kind of nominalisation that is in-between both poles, but it does not follow every N criteria.

4.   Are all syntactic nominalisations the same?

We want to demonstrate that conversion is not a syntactic nominalisation. However, first we need to observe if syntactic nominalisations of verbs are all the same (See Brito 2012 for different kinds of nominalisations.).

4.1 CDNs

Converted deverbal nouns correspond to real nouns. They are not a syntactic nominalisation. As we will see in section 5, there are structural marks that point out this. Example 16 provides an example of a CDN.

(16) *O João fez uma compra fabulosa.*
       'John made a fabulous purchase.'

4.2. [VP]$_{DP}$

Nominalisation of a verbal phrase (example 17) constitutes a kind of syntactic nominalisation.

(17) *O*   [*comprar*   *livros*] *faz-*   *me*   *bem.* [VP]$_{DP}$
       The   buy-INF books   do-3rdSG-   me   well
       'Buying books does me well.'

Syntactic behaviour that evidence that [VP]$_{DP}$ corresponds to a syntactic nominalisation operated by the determiner are focused on as following:
    i)   It does not admit pluralisation (example 18):

(18) *Os   comprares   livros   fazem-me bem.
     The-PL   buy-INF PL   books   do-PL-me well
     '*The buys books do me well.'
ii)   It admits clitics (examples 19-20):

(19) *O* [*abrir-se   a   porta*]   *foi   efeito   do   vento.*
     The   openINF-itself-ANTCAUS   the   door   was   effect   of.the
wind
     'The opening of the door was the wind effect.'

(20) *O* [*barbear-se   o   João*] *foi   efeito   do   noivado.*
     The   shave-INF-himself   the   John   was   effect   of.the
engagement
     'Shaving himself by John was the engagement effect.'

Notice that, when there is a clitic, a preposition to theta-mark is excluded (19-20). Clitics and preposition exclude each other. The clitic is verbal and the occurrence of Preposition, which serves the noun because this does not theta-mark directly, is nominal.

This shows that what is nominalised is a phrase [VP] and not a lexical item [V]. Notice also that a real lexicalised nominal infinitive excludes the clitic (see section 4.5).

4.3. Metalinguistic nominalisation
Metalinguistic nominalisation is represented in examples (21a, b), which correspond to citations.

(21) a. *Aquele 'não tenho tempo para ler' é falso.* [S]$_{DP}$
      'That   'I have no time to read' is false.'

      b.   *O 'as armas e barões assinalados' está na memória de toda
a gente.* [s]$_{DP}$
      'The 'as armas e os barões assinalados' is in the memory of everybody.'

Metalinguistic nominalisations do not take obligatory lexicalisation. If so, we would always have to presuppose a noun for every word, phrase and sentence (Kerleroux 1996: 101).

4.4. [V]$_{DP}$

The nominalisation of the verb as a lexical item is exemplified in (22a, b, c, d, g, h).

(22) a. *Aquele* [*caminhar*]   *lento.* [V]$_{DP}$
         That   walk-INF   slow
         'That slow walking.'

      b.   *Aquele* [*observar*] *de aves.* [V]$_{DP}$
         That   watch-INF of birds
         'That watching of birds.'

   c. **O   [*observar*]   *lento   aves.*
       The   watch-INF   slow   birds
       '*That slow watching birds.'

   d. *O   [*observar*]   *lento   de   aves.* [V]$_{DP}$
       The   watch-INF   slow   of   birds
       'The slow watching of birds.'

   e. *O   [*observar   lentamente   aves*]. [VP]$_{DP}$
       The   watch-INF   slowly   birds
       'The slowly watching birds.'

   f. **O   [*observar   lentamente   de aves*].
       The   watch-INF   slowly   of birds
       '*The slowly watching of birds.'

   g. **O   *observá-las   lento.*
       The   watch-INF-them   slow
       '*The slow watching them.'

h.   *Os*   *observares*   *de aves.*
     The-PL   watch-INF   of birds
     '*The watchings of birds.'

When there is a VP nominalisation, it may occur with adverb (22e) and not with adjective (22c) and it excludes preposition to theta-mark (22e, f). When there is a V nominalisation, it cannot occur with an adverb (22f), but with an adjective (22d) and it does not directly theta-mark (22c), but via preposition (22d). It does neither admit clitics (22g) nor pluralisation (22h).

4.5. Lexicalised nominalisations

There are in the lexicon some nominalisations that have been lexicalised. This means there is an infinitive verbal form that, by means of its usage frequency, has undergone a process of blockage as a noun. This means that this form is not lexically coincident with the inflectional verb form; instead, it corresponds to a different lexical item, with its own conceptual and syntactic structures (Kerleroux 1996: 75). Examples of lexicalised nominalisations are provided in examples (23-27).

(23) *Os olhares do João.*
     'John's glances.'

(24) *O pôr do sol*
     'The sunset'

(25) *O comer está na mesa.*
     'The meal is on the table.'

(26) *O jantar está na mesa.*
     'Dinner is on the table.'

(27) *O cantar de amigo.*
     'A kind of medieval song'

Lexicalised nominalisations are characterised by the following syntactic behaviours (i-vi):

i)   it does not take clitics (examples 28a, c), contrarily to verbs (examples 28b, d):

(28) a. *O   pôr-se   do   sol.
        The   set-itself   of.the   sun
        '*The sun-itself-set.'

     b. O   sol   pôs-se   às   20:11.
        The   sun   set-1st SING-itself   at.the-PL   20:11
        'The sun set at 20:11.'

     c. *O jantar-se   está   na   mesa.
        The dinner-INF-NOM CL is   on.the   table
        '*One having dinner is on the table.'

     d. Jantar-se   às   21:00 é tarde?
        Dinner-INF-NOM CL   at.the-PL   21:00 is late
        'Is it late to have dinner at 21:00?'

ii)   it takes pluralisation (*os olhares*, *os jantares*);
iii) it does not occur with adverbs (examples 29b), but with adjectives (examples 29a)

(29) a. *O jantar delicioso*
        'The delicious dinner'

     b. **O jantar deliciosamente*
        '*The deliciously dinner.'

iv) it may be the base of a compound following the paradigm V + N (*guarda-chuva* literally 'save$_V$-rain$_{NN}$' 'umbrella', *corta-vento* literally 'cut$_V$-wind$_{NN}$' 'windcheater', *guarda-rios* literally 'save$_V$-rivers$_{NN}$' 'kingfisher'), such as demonstrated in the examples (30).

(30) a. *O guarda-jantares*
      The keep-dinners

      b. *O guarda-cantares*
      The keep-songs

      c. *O resguarda-olhares*
      The keep.away-glances

Notice that constructions V+ INFINITIVE such as the ones exemplified in (31) are not accepted.

(31) a.*O   guarda- passeares*
      The   keep-   walk-INFINITIVE.PL

      b. *O   guarda- pintares*
      The   keep-   paintINFINITIVE.PL

      c. *O   guarda- trepares*
      The   keep-   climbINFINITIVE.PL

Examples (31) show that the infinitive form must be in the lexicon as such to function as a base in this form. Otherwise they will not integrate word-formation bases (Corbin 1987). Contrasting examples (30) with (31), we may check that only lexicalised nominalisations have occurrences equal to the ones of CDNs, in what refers to compounds formation. CDNs may constitute the base of compounds following the paradigm V + N (examples 32).

(32) a. *para- roncos*
       stop-   snores-CDN.PL

      b. *para-choques*
      stop- collisions- CDN.PL
      'bumper'

4.6. Summing up CDNs vs. nominalisations

Table 3. summarises the main conclusions on the differences between conversion (CDNs) and syntactic nominalisations.

	plurali-sation	Theta-mark via Prep	Adjectival modification	Base of other words	anaphora	Adverbial modification	clitics
CDNs	+	+	+	+	+	-	-
Lexicalised $[V]_N$	+	+	+	+	+	-	-
$[V]_{DP}$	-	+	+	-	-	-	-
$[VP]_{DP}$	-	-	-	-	-	+	+

Table. 3 Syntactic environment of conversion and nominalisation

From the analysis of table 3, we may observe that CDNs and lexicalised Vs are in a pole which is typical of nouns. They undergo pluralisation, they are only able to theta-mark via preposition, they admit adjectival modification, and they may function as bases for other words. They reject adverbial modification and clitics. $[VP]_{DP}$ are in the opposite pole obeying to verb environment. In spite of occurring with determiner, $[VP]_{DP}$ do not pluralise, theta-mark directly instead of via preposition, and they do not function as bases for other words. On the contrary, they accept adverbial modification and clitics. In between these two poles are $[V]_{DP}$. Behaving like verbs, they can neither pluralise nor be the bases of other words, in the infinitive form. Behaving like nouns, they theta-mark via preposition and not directly, they take adjectives as modifiers and reject adverbs for it, and they reject clitics.

5. Why conversion is not a simple question of syntactic mechanisms

Until now we have observed that syntactic nominalisations are not at the same level of nouns. Syntactically speaking, on one hand, nominalisations cannot undergo the syntactic environment every noun can bear. On the other hand, syntactic nominalisations undergo syntactic environment verbs can bear. In between nominalisation $[V]_{DP}$ does not provide a total nominal behaviour to those items.

It is now the time to search for evidence about conversion at the lexical level. Is the production of items such as *arranque* 'starting-CDN', *mordo* 'bite-CDN', *apanha* 'gathering-CDN', *abate* 'cut(trees)'; 'slaughter (animals)-CDN', *derrube* 'nocking down-CDN)', *descanso* 'rest-CDN' the same as nominalisations such as *o arrancar* '(the) starting-INFINITIVE', *o morder* '(the biting-INFINITIVE)', *o apanhar* '(the) gathering'-CDN? Until now, we have concluded that the first kind of nouns seems to be real nouns, since they obey to every criteria identified by Baker (2003) that a noun must have. Nominalised infinitives still obey to verbal criteria, despite of the occurrence of the determiner. Even in between nominalisations fail some N behaviour.

We need to understand if conversion is a real word formation process or if it is simply a syntactic one. Let us compare deverbal derivations in the next sentence (examples 33 to 37).

(33) a. *O   encaixar   a   madeira   leva   muito   tempo.*
     The   fit-INF   the   wood   takes   a.lot.of   time
     'Fitting the wood takes a lot of time.

   b. *O   encaixe   da   madeira   leva muito   tempo.*
     The   fit-CDN   of.the   wood   takes a.lot.of   time
     'The fitting of the wood takes a lot of time.'

   c. *O   encaixe   que   escolhi   é de metal.*
     The   fit-CDN-CONC   that   choose-1st SING   is of metal
     'The dowel that I have chosen is made of metal.'

(34) a. *O   abrigar   dos   animais por Noé foi rápido.*
     The   shelter-INF   of.the-PL   animals by Noah was quick
     'The sheltering of the animals by Noah was quick.'

    b. *O   abrigo   dos   animais por Noé foi rápido.*
     The   shelter-CDN   of.the-PL   animals by Noah was quick
     'The sheltering of the animals by Noah was quick.'

c. *O   abrigo   era de madeira.*
The   shelter-CDN-CONC   was of wood
'The shelter was made of wood.'

(35) a. *O   derrubar   sobreiros é proibido   por   lei.*
The   cut.down-INF   cork.oak is forbidden by   law
'Cutting down cork oaks is forbidden by law.'

b. *O   derrube   de sobreiros   é   proibido   por   lei.*
The   cut.down-CDN   of cork.oak   is   forbidden   by   law
'The cutting down of cork oaks is forbidden by law.'

c. **O   derrube   de sobreiros   que vi   ontem   é um   mau
produto.*
The   cut.down-CDN   of cork.oak   that see-1stSING
yesterday   is a   bad product
'*The cutting down of cork oaks I saw yesterday is a bad product.'

(36) a. *O remendar   roupa   é uma boa solução.*
The mend-INF   cloth   is a good solution
'Mending cloth is a good solution.'

b. *O   remendo   da   roupa   é uma boa   solução.*
The   men-CDN   of.the   cloth   is a   good   solution
'The mending of the cloth is a good solution.'

c. *O   remendo   que   vi   ontem   é um bom produto (feito à
mão).*
The   mend-CDN.CONC   that   see-1stSING   yesterday   is a
good product (made by.the hand)
'The mend that I saw yesterday is a good product (handmade).'

(37) a. *O   atinar   a   resposta   é ótimo.*
      The   find-INF   the   answer   is great
      'Finding the answer is great.'

    b. *O   atino   da   resposta   é   ótimo.*
      The   find-CDN   of.the   answer   is   great
      'The finding of the answer is great.'

    c. **O   atino   que vi   ontem   é um bom produto.*
      The   CDN   that see-1stSING   yesterday   is a good product
      'The finding that I saw yesterday is a good product.'

In the examples (33) to (37), sentences (a.) represent examples of transposition of verbs into a nominal syntactic behaviour. Sentences (b.) represent examples of a converted deverbal noun meaning 'event'. This is the most regular meaning of this kind of derived words. Sentences (c.) represent the actualisation of converted deverbal nouns with a concrete meaning - 'product', which is one of the most concrete meanings of these words (different levels of concreteness can be observed in Rodrigues 2001: 139-145).

    As we can see in sentences (a.) every verb may be integrated in a sentence with a determiner, which gives the verbal phrase (VP) a determiner phrasal character. This is in accordance with data provided in § 3.1.1. We may check if this syntactic mechanism works for every verb (examples 38a):

(38) a

o fumar the smoke-INF
o beber the drink-INF
o analisar muitas frases the analyse-INF many sentences
o escrever muitos artigos the write-INF many papers
o conduzir muitos carros the drive-INF many cars
o haver pouco dinheiro the there.be-INF few money
o ser boa pessoa the be-INF a good person

o estar em Londres the be-INF in London
o viver alegremente the live-INF joyously
o morrer sem dor the die-INF without pain
o nascer de parto natural the be.born-INF of natural childbirth
o permanecer em casa the remain-INF at home
o desenvolver as teorias the develop-INF the theories
o arborizar muitos terrenos the plant.trees.in-INF many plots
o refletir sobre os assuntos the reflect-INF on the subjects
o dar alimentos para a ajuda de África the give-INF of food in aid of Africa
o ler histórias aos meninos the read-INF stories to the children
o rir muito faz bem à saúde the laugh-INF a.lot is good for health

In (38a) there are unaccusative verbs (*morrer* 'to die', *nascer* 'to be born', *permanecer* 'to remain'), transitive verbs (*arborizar* 'to plant trees in a plot', *dar* 'to give', *ler* 'to read'), unergative verbs (*rir* 'to laugh'), verbs with an erudite morphological structure (*conduzir* 'to drive', *arborizar* 'to plant trees in a plot'), and with non-erudite morphological structure (*ler* 'to read', *dar* 'to give'), verbs with just one syllable in the infinitive form (*ler*, *dar*, *rir*). We could add more classes, as the reader can see.

Going back to examples (33) to (37), sentences (b.) show converted deverbal nouns from the verbs *encaixar* 'to fit', *abrigar* 'to shelter', *derrubar* 'to cut down', *remendar* 'to mend' and *atinar* 'to find'. However, four verbs are not sufficient to decide if every verb may generate converted deverbal nouns. Taking into account the sentences we have presented above, we may conclude that none of those verbs whose VPs have been nominalised ([[VP]]$_{DP}$) are now able to create a CDN shown in (38 b):

(38) b

*o fumo the smoke-CDN
*o bebo the drink-CDN
*o analiso de muitas frases the analyse-CDN of many sentences
*o escrever de muitos artigos the write-CDN of many papers
*o conduzo muitos carros the drive-CDN of many cars
*o haver??? pouco dinheiro the there.be-CDN of few money

o ser??? boa pessoa the be-CDN a good person
o estar??? em Londres the be-CDN in London
o vivo alegremente the live-CDN joyously
o morro sem dor the die-CDN without pain
o nasço de parto natural the be.born-CDN of natural childbirth
o permaneço em casa the remain-CDN at home
o desenvolvo das teorias the develop-CDN of the theories
o arborizo de muitos terrenos the plant.trees.in-CDN of many plots
o refleto?? sobre os assuntos the reflect-CDN on the subjects
o/a do/da/de de alimentos para a ajuda de África the give-CDN of food in aid of Africa
o/a le/la/lo histórias aos meninos the read-INF stories to the children
* o/a rio/rie/ria faz bem à saúde* the laugh-INF is good for health

Syntactic environment has been changed from (38a) to (38b) to create an environment adequate to nouns.

Notice that some of the constructions in (38 b) are acceptable, if and only if they would correspond to a citation role in speech. These would be [o [*vivo alegremente*]$_{VP}$]$_{DP}$ (and not [o *vivo alegre*], since a verb would not occur with adjective; this would correspond to a NP), [o [*morro sem dor*] $_{VP}$]$_{DP}$, [o [*permaneço em casa*]$_{VP}$]$_{DP}$, which corresponds to a speech situation like the one represented in :

Marta says to João: -*Eu vivo alegremente*.
And João tells António: - *I don't agree with 'o* [*vivo alegremente*]' *da Marta*.

So far, verbs seem to be syntactically nominalised in [VP]$_{DP}$ (38 a), but not every verb is lexically convertible in a noun [N] (38b).

Sentences (33-37 c) show something more interesting: even those verbs that may generate CDNs are not able to produce concrete meanings of those nouns. Sentences (33-37) are simply a random sample. But if sentences (c) are even coarcted in a universe of five objects, it is easy to imagine that its number among language is fewer than sentences (b), which, from the examples in (38), are less than (a).

This evidences that CDNs are not syntactically derived. Why not? Some reasons may be adjudged here:

a. CDNs are not producible from every verb, contrarily to syntactic nominalisations;

b. As every word formation mechanism, deverbal conversion is constraint-based. These constraints are of word formation type and not of syntactic type (cf. Rodrigues 2009; Rodrigues 2004 for those constraints).

c. CDNs have a semantic structure that is much more complex than a simple syntactic nominalisation would admit. Do syntactic nominalisations in sentences (33) to (37) admit a concrete reading?

Atino does not provide a concrete reading. We should not expect nominalisations to behave in a way that not even lexical nouns do. So let us choose verbs whose CDNs display a concrete meaning (examples 39 and 40). CDNs are presented in bold in examples 39; correspondent verbs are presented in bold in examples 40.

(39) a. *O **enxerto** da pereira vê-se no nó.*
        'The graft of the pear tree is seen at the knot.'
        b. *O **remendo** das calças é azul.*
        'The mend of the trousers is blue.'
        c. *O **respiro** da baleia é maior do que o respiro do forno.*
        'The blowhole of the wale is bigger than the air hole of the oven.'
        d. *O **saltarico** traz calças verdes.*
        'The hopper wears green trousers.'
        e. *O **agasalho** é azul.*
        'The garment is blue.'
        f. *O **abordo** é de madeira.*
        'The wharf is made of wood.'

(40) a. **O **enxertar** da pereira vê-se no nó.*
        '*The graft-INF of the pear tree is seen at the knot.'

b. *O **remendar** das calças é azul.*
'The mend-INF of the trousers is blue.'

c. *O **respirar** da baleia é maior do que o respirar do forno.*
'The breathe-INF of the wale is bigger than the breathe-INF of the oven.'

d. *O **saltaricar** traz calças verdes.*
'The hop-INF wears green trousers.'

e. *O **agasalhar** é azul.*
'The muffle.up-INF is blue.'

f. *O **abordar** é de madeira.*
'The board-INF is made of wood.'

From examples (39) and (40) we conclude that a concrete meaning is not available in syntactic nominalisations, even when the correspondent CDN provides a concrete meaning. Thus, CDNs are not a simple matter of syntactic environment as it is syntactic nominalisation.

Besides, not every converted deverbal noun displays any concrete meaning.

If the meaning of the word depended only on the context, any converted noun would have any meaning. But this does not happen. This could lead the followers of mainstream generative grammar to believe that this kind of word is not constructed by any regular mechanism, and thus, that CDNs have to be stored like words such as *gato* 'cat' and *mesa* 'table'. However, the multiplicity and the non-transversality of meanings in CDNs are not good reasons to consider CDNs as irregular, belonging to the periphery of language. Non-transversality is a clue on regularity, not syntactic regularity, but word formation regularity. Consider this: if every CDN had every meaning, it would be aleatory, belonging to periphery. There would be overgeneration in the lexicon. What is regular in syntax may be irregular in the lexicon and vice versa. Take the contrast: if every verb could originate 'agent' meaning nominalisations, these would occur in the syntax.

This does not happen with CDNs. We have to check if some kind of

verbs generates a specific kind of meaning.

In the examples (39) above, there are three classes of concrete meanings: 'product', 'agent', 'place/part of the body'. *Enxerto* 'graft', *remendo* 'mend', *agasalho* 'garment' have a 'product' meaning; *saltarico* 'hopper' has an 'agent' meaning; and *abordo* 'wharf' and *respiro* 'air hole; blowhole' have a 'place /part of the body' meaning. Notice that *enxertar* 'to graft', *remendar* 'to mend', *agasalhar* 'to muffle' are accomplishment verbs; and that the 'product' meaning corresponds to the projection of the [point of arrival] and the [telic] features of the verbs (Rodrigues 2008). *Abordar* 'to board' and *respirar* 'to breathe' imply a [path] in their semantic structures, which is projected in the concrete meanings of the CDNs.

Unergative verbs of emission of light and substance (Levin & Rappaport Hovav: 1995) generate CDNs with 'product' meaning, apart from the 'event' meaning. However, $[V]_{DP}$ of the correspondent verb do not display those meanings (examples 41-42).

(41) a. *O   *mijar*   é   *excessivamente amarelo*.
     The   piss-INF is   excessively   yellow
     '*Pissing is excessively yellow.'

     b. *O*   *mijo*   é   *excessivamente amarelo*.
     The   piss-CDN   is   excessively   yellow
     'The piss is excessively yellow.'

(42) a. *O   *brilhar*   é   *amarelo*.
     The   glitter-INF   is   yellow
     '*Glittering is yellow.'

     b. *O*   *brilho*   é   *amarelo*.
     The   glitter-CDN   is   yellow
     'The glitter is yellow.'

Notwithstanding, unergative verbs of emission of substance or light do not generate CDNs with 'agent' meaning, whilst unergative verbs of behaviour involving motion do (examples 43 and 44). Once again, notice

that $[V]_{DP}$ do not display the 'agent' meaning (examples 43-44b).

(43) a. *O João é um saltarilho.*
        'John is a hopper.'

        b. **O João é um saltarilhar.*
        '*John is a hopping.'

(44) a. *O João é um estardalho.*
        'John is a rowdy.'

        b. **O João é um estardalhar.*
        '*John is a behave noisily.'

These few examples support the hypothesis that CDNs generation belongs to a specific word formation domain, not to syntax, since their formation depends on lexical (among others) features of the verbal bases.

5.1. Constraints

We are now going to summarise structural constraints that rule CDNs formation. We will go fast through these, because they have been studied in (Rodrigues 2009).

Following Rodrigues (2009), these constraints belong to different structures and are in interface with each other.

1- Prosodic constraint in connection with processing conditions: the verbal stem must obey the minimal prosodic word requirement so that the obtained noun is lexically identified with its base;

2 - Morphological constraint in connection with pragmatic and processing conditions: the verbal stem must not contain morphological constituents etymologically classified as [+Latin] and simultaneously prototypical of a cultivated usage;

3 - Lexical-conceptual structure and argument structure constraints: the verbal base must have in its basic construction a) a [+concrete] meaning; b) an external argument that semantically corresponds to a Proto-Agent role.

These are not syntactic constraints.

These constraints do not apply to infinitive nominalisation. There seems to be no constraints of this kind ruling syntactic nominalisation.

5.2. Other differences between CDNs and infinitive nominalisations

Until now we have observed constraints that rule the formation of CDNs. These constraints do not apply to the infinitive nominalisations, and this shows that the latter are generated in the syntax, whilst the former are generated in the lexicon. However, there are more structural differences between them that evidence a distinct origin.

5.2.1 Morphological clues

CDNs may bear the three theme vowels of Portuguese. These theme vowels have no relation with the theme vowel of the verb. This is a lexical choice, not a syntactic one (table 4).

Verbal Theme vowel	CDN with -a	CDN with -e	CDN with -o
-a	*limpa*	*trote*	*choro*
-e	*colha*	*combate*	*mordo*
-i	*zurza*	*cuspe*	*cuspo*

Table 4. Verbal Theme Vowels and nominal theme vowels

Even the same stem may undergo the three theme vowels (table 5). This has no relation with syntax.

Verbal Theme vowel	CDN -a	CDN -e	CDN -o
-a	*descasca*	*descasque*	-
	-	*desgaste*	*desgasto*
	desmama	*desmame*	-
	-	*encalhe*	*encalho*
	encarna	*encarne*	-
	-	*encoste*	*encosto*
	encrava	*encrave*	*encravo*
	enleia	-	*enleio*
	ensaca	*ensaque*	-
	entalha	*entalhe*	*entalho*
	espalha	-	*espalho*
	pinga	*pingue*	*pingo*
	queima	-	*queimo*
	quita	*quite*	-
	-	*rasgue*	*rasgo*
	requeima	*requeime*	*requeimo*
-e	*recolha*	-	*recolho*
-i	-	*cuspe*	*cuspo*

Table 5. CDNs stems that go with different theme vowels.

5.2.2. Gender

Apart from the theme vowel variance, CDNs may bear masculine or feminine gender. This is seen by the determiner before the N (examples 45).

(45). a. *O*   *aguço*   *do*   *lápis.*
      The-MASC   sharpen-CDN   of.the   pencil
      'The sharpening of the pencil.'

      b. *A*   *apanha da*   *azeitona.*
      The-FEM   gather-CDN   of.the   olive
      'The gathering of the olive.'

      c. *A*   *encrava*   *do*   *mecanismo.*
      The-FEM   jam-CDN   of.the   device
      'The jamming of the device.'

      d.*O*   *encravo*   *do*   *mecanismo.*
      The-MASC   jam-CDN   of.the   device
      'The jamming of the device.'

e. *O*   *encrave*   *do*   *mecanismo.*
The-MASC   jam-CDN   of.the   device
'The jamming of the device.'

f. *A*   *poda*   *da*   árvore.
The-FEM   prune-CDN   of.the   tree
'The pruning of the tree.'

g. *A*   *curte*   *da*   *música.*
The-FEM   enjoy-CDN   of.the   music
'The enjoyment of the music.'

On the contrary, infinitive nominalisations only bear masculine determiner, which corresponds to the unmarked gender in Portuguese. This seems to show that gender is dependent on the lexicon and not on the syntax, even if it is (only) observable in syntax (Of course we are not talking about syntactic agreement.). If dependent on the syntax, the gender will always be masculine. This is the same for French, Spanish and Italian (see examples 46).

(46) a. *El mirarte a los ojos.* Vs. **La mirarte a los ojos.*

      b. *Le lancer du disque.* Vs. **La lancer du disque.*

      c. *Il cantare aiuta la respirazione.* Vs. **La cantare aiuta la respirazione.*

6.   Conclusions

CDNs construction occurs in the lexicon. CDNs have meaning variables not dependent on syntax. Their construction obeys to structural constraints not explainable by syntax. They bear the determiners *o* and *a*. Nominalisations have no multiple meaning and do not undergo those constraints. Nominalisations only take the determiner *o*. It functions as a kind of referenciation.

Every nominalisation occurs in the syntax. This does not mean that the

lexicon is the field of irregularity. The lexicon is generative, without being syntax. Constraints in interface show that.

[V]$_{DP}$ are not in the lexicon as nouns, they are in the syntax. Thus, it takes just a determiner to make a nominalisation; but it takes many more things to make a noun. Pluralisation, anaphora, and the possibility of generating words following other nouns paradigms are crucial.

Of course, with our perspective we do not mean that the syntactic study of lexical nominalisations is not rightful. Of course it is, apart from bringing evidence to the distinction we have made here between syntactic nominalisation and lexical conversion, a syntactic study should bring light to the syntactic behaviour of these lexemes. However, understanding their syntactic behaviour is not the same as explaining their formation process.

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