Nouns and labelling

The advance of nominalization in Spanish

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Beyond its communicative function, language plays a key role in the labelling of things and events of reality, which has significant cognitive effects. Whereas the verb performs an essentially predicative function, the labelling task is carried out by the noun and is the reason why nouns are the essential protagonists in science and doctrinal texts of all ages. This very fact allows us to understand that nominalization is especially abundant in these types of texts. This paper proposes (or "uses") an historical approach to the increasing extension of the processes of nominalization of verbs and adjectives through a survey of some of the tables of contents of science books from Renaissance times.

Keywords: nouns, verbs, labelling, nominalization

1. Noun *vs*. verb: Asymmetric categories

Most parts of speech (adverbs, articles, prepositions, etc.) are not universal. Strange as it may seem, there are languages that do not have conjunctions or prepositions. However, for many years it has been taken for granted that all the world's languages have, at least, the categories of noun and verb. This idea is expressed by classical authors of linguistics such as Sapir (1921: 56), who wrote: "No language wholly fails to distinguish noun and verb, though in some cases the nature of the distinction may be an elusive one."

This traditional view fits well with a widespread intuition in linguistics today, according to which the existence of nouns and verbs as basic grammatical categories of our languages has an easy cognitive accommodation which corresponds to a view of reality clearly perceptible by the senses. This immediate reality shows basically two types of facts: things or entities, on the one hand, and events or actions performed by those entities, on the other. But this purely semantic or referential criterion does not help us justify the existence of nouns and verbs as

basic categories. The existence of nouns of action in many or all languages makes it difficult to establish a radical boundary between both categories based on their referential properties.

From the point of view of some particular languages (Spanish, for example), it may be easy to identify and distinguish these two basic categories, because both show clearly defined morphosyntactic properties. In Spanish, in particular, there are some features and grammatical distinctions that are specifically associated with nouns (gender, number, case, quantifiers, determiners, etc.) and other features that are directly associated with the verb (tense, mode, aspect, person, etc.).

But the identification of nouns and verbs is much more complicated from a broader typological perspective since there are no universal properties (morphological, syntactical, phonological) that help identify these categories. In some languages the noun and verb opposition is manifested at some specific level through certain traits, while in other languages it is manifested at another level through others.

In some languages, such as English, it is not always easy to deduce the nominal or verbal category of certain parts of speech when they are viewed in isolation. This happens, for example, with such words as *cook, fear, hammer, love* and *sleep*. If we want to recognize their category, we need to insert them into the appropriate syntactic structure (i.e., *the cook, I cook*). Only a limited number of English words exhibit different accentuation patterns depending on their use as nouns or as verbs (*affect* vs. *afféct*, etc.). It has even been suggested that the noun/verb distinction is absent in some languages (especially in some of North America), but this is currently a controversial issue (Dixon 2010).

The diachronic perspective does not enable us to easily confirm the existence of two basic categories. The recent theory of grammaticalization has revealed that the ultimate source for all parts of speech lies in the so-called lexical categories, that is, nouns and verbs, and to a lesser extent, adjectives, which have a more hybrid typological status. However, in an attempt to reconstruct the temporal primacy of the different categories, Heine and Kuteva (2007: 111) suggest a chronological priority of nouns over verbs and assume an even more primitive stage in which there were only nouns. This very same idea is contained in the work of Toyota (2012).

Probably beyond the possible typological and diachronic differences partially separating the noun and the verb there is another difference of a functional character that allows us to separate both categories in a more precise way: nouns have a labelling function that verbs lack.

Indeed, language has an essentially communicative potential. In this function of communication, the combination of a noun and a verb forms the essential and basic unit of every statement. The two constituent elements of this smallest unit play different roles: the noun mentions or refers to a reality (of any kind), and the verb predicates about that reality, that is, it tells us something about what is referred by

the noun. The idea that designation and predication are essential to establish the opposition between noun and verb is not new and has already been formulated earlier by several authors from different perspectives (Hopper and Thompson 1984; Simone 2003).

2.   Cognitive effects of labelling

Beyond linguistic communication, nouns are mental symbolic objects that can play an important and useful task of mapping reality. This task has essential effects on simplifying the description and understanding of reality, and also other advantages of a cognitive character; among others, the following:

a.   Development and acquisition of concepts

There is a capacity in the human mind that allows us to link or identify many realities as similar or belonging to the same type, class, or category by the fact that these realities share some traits or characteristics. The notion of concept, coined from philosophy and also used in psychology and cognitive science, is also related to this categorization ability of the human mind.

Many concepts are associated with a linguistic label, but the ability to create and process concepts is not necessarily associated with language. People perceive that many sensory stimuli (sounds, events, objects, etc.) make up a category, but they do not apply a verbal label to them in all cases. We know, for example, that all human beings are able to identify the green colour. In some sense they have the concept of 'green' in their mind. But not all languages have a word that refers to that specific colour. Some languages use the word 'blue' for this function (Goddard and Wierzbicka 2014: 81). This well-known fact is an eloquent proof that at least certain concepts and categories do not need an associated label to be perceived and processed by the mind.

However, some researchers have defended the idea that categorical representations with a verbal correlate are different in nature. In fact, for some authors, the term "concept" refers only to labelled categorical representations. For example, Wacewicz (2015: 121) considers that a category is the mental representation of objects that share common features and qualities and restricts the term "concept" to those representations that are associated with certain labels. A similar approach is present in Bermúdez (2003) in which the author finds a very complex cognitive activity in beings without language, but defends what he calls a Priority Principle, according to which language proficiency is a prerequisite for the mastery of certain concepts.

There are many non-linguistic creatures with cognitive systems that we are tempted to describe as conceptual, but these systems have a fundamentally different nature, which does not mean that they are not systems with a significant cognitive power. Some primates, for example, may have abstract representations without language (Aguilera 2010). What is more controversial is whether these mental representations should be called "concepts". There are very complex operations without language that the mind is able to carry out, but minds operating with nouns in language have a qualitatively different cognitive flexibility.

Verbal tags may work as a kind of catalyst that facilitate and accelerate the formation of concepts (Lupyan 2012). The repeated use of a label to mark certain aspects of reality reinforces the possibility that in many cases the individual perceives what is common among these facts. Objects receiving the same label are seen as more similar to each other than those who do not share a label (Tolins and Colunga 2015: 221). By the same token, tagged concepts facilitate a type of learning that does not depend on personal experience only. In fact, the acquisition of concepts and cognitive performance by the child increase when working with speech labels (Zelazo *et al.* 2007).

Some psycholinguistic experiments seem to confirm that there is some feedback between perceptions and labelling, such that speakers who have certain nouns in their memory might be willing to perceive corresponding perceptions to a greater extent. This might mean that labelled perceptions show better identification and isolation than those that have not been previously named. At the same time, nouns associated with nuanced differences between similar perceptions can help reinforce the perception of these differences and nuances (Lupyan 2012: 255). Wine tasters know this well when they rely on nouns to distinguish the different flavours and aromas. These differences are very subtle and not everyone is prepared to grasp them. But the names we apply to these nuances are clearly differentiated themselves and their use and knowledge helps us separate and distinguish the differences of flavour.

It has been argued that the use of lexical terms speeds the formation of categories which would otherwise be slower to acquire or perhaps never be formed. Certain abstract categories cannot be easily acquired through the mere observation of an object. If we want to teach a child what a dog is, we only need to show a real dog or a picture of one. But if we want to teach a child what a 'mammal' is, showing a photo of a dog or a tiger will not be enough. We must resort to language to express certain abstract characteristics that are not easily transmissible by image alone. Likewise, certain culturally acquired concepts, such as those related to religion, kinship systems (*second cousin*), and social roles (*justice of the peace, treasurer*) cannot be obtained without language (Pinker and Jackendoff 2005: 206).

b.   Reformatting representations and cognitive availability

Human beings are evolutionarily prepared to the learning and processing of sensory-motor representation. That is, they easily process images and sounds, and mimic instructions that are iconic in nature. These representations are extremely variable. We can, for example, perceive rain in different ways: when it falls on the head, because we hear it falling on the roof, when we see the wet car window, etc. All these events have a sensory character and they give us a very specific version of rain closely linked to context; specific situations, its frequency, and our personal experience. These sensory representations easily changeable and unstable and have, according to some, a connectionist character (Dennett 1994).

But there is another type of mental object: symbols, that is, representations associated with a label (of a verbal character or otherwise). If someone simply says, "It's raining", we create a more abstract and stable representation which is not necessarily exhaustive and may be deprived of some specific sensory data. To the extent that it simplifies the representations associated with each category, labelling of perceptions favours categorization and therefore abstraction.

This association allows the symbol to have a more stable condition. It also makes storage of the symbol in our memory possible and be subsequently used "offline", in the absence of the reality and sensory stimuli to which it is associated. By converting a representation into a stable and symbolic mental object, our thinking becomes able to make further manipulations and mental operations with this object which may then be the starting point for new thoughts. We can, for example, carry out operations of recognition (*this is a dog*), learning (*collagen is a protein*), or classification *(the dog is a mammal)*. Partnership operations become possible that include other symbols which establish some kind of relationship of semantic opposition, contrast, and phonetic similarity (*male>female, white>black, rich>poor*, etc.).

Some words can be relatively poorly defined or not fully understood, but we can nevertheless carry out operations with them (Dennett 1996: 150–151). This view refers ultimately to the philosopher Locke and has been recently retaken by Jackendoff (1996).

c.   Meta-representation

The cognitive object that we have created through symbolic labelling may refer to sensory representations but can also refer to relationships between other words or labels that allows access to higher and more flexible cognitive levels of abstraction. This means that the level of representation is raised and some concepts are created that cannot be understood without language.

Beings without language cannot perform such second-level operations. A dog, for example, certainly has in its mind a category *cat*, even if it does not have a verbal label associated to that category. But a dog cannot wonder, for example, if a dog is an animal, i.e., it cannot perform cognitive operations that affect more than one category with an associated label. The cognitive operation associated with the idea 'a dog is an animal' is at the bottom of an operation of symbols. If we wonder if a dog is an animal, we are basically wondering if a specimen to which we apply the tag *dog* can also be assigned the label *animal*. Likewise, saying that whales are mammals is tantamount to saying that the members of the category labelled with the word *whale* can also be labelled with the noun *mammal*.

A relational concept can receive a perceptually simple tag, for example, the relationship that the term *son* mentions. But this new cognitive object can in turn establish new relationships: son of your brother. This relationship can in turn receive a perceptually simple label (*nephew*). In the new domain, what used to be complex becomes now perceptually simple – and the process can be repeated, of course.

Language has what some have called "cognitive properties of second order" (Clark 1998: 173; 2008: 44–60). This means that words are like fixed points of thought that attract new processes of reflection. This enables us to return to our own thoughts and modify, specify, and extend them, etc.

3. Nominalization

We can find a good example of meta-representation in the structures arising from the processes of nominalization. In many grammatical treatises, the concept of nominalization applies more broadly to any derivational process that permits the formation of a noun from a word that belongs to another grammatical category without substantially changing its meaning. Nominalization in Spanish frequently occurs with verbs and adjectives:

(1) a. *La   lluvia **cae** > **la   caída** de la   lluvia*
         The rain   fall.3SG the fall   of the rain
         'the rain falls > the fall of rain'
     b. *Pedro es   **alto** > **la   altura** de Pedro*
         Pedro is.3SG tall   the height of Pedro
         'Pedro is tall > the height of Pedro.'

In this process, the verb loses the grammatical marks that characterize it as a verb (tense, mood, aspect, person agreement, combination with adverbs, etc.) and acquires those of a noun (definite and indefinite determination, number, quantification, combination with adjectives, etc.).

Nominalization is a wide-spread mechanism in the world's languages, including those of the Indo-European and Romance families in the past and present. In Spanish, nominalization was obtained from ancient times through morphological procedures. The most used nominalizing suffix is – *ción*, which is employed with verbs. It is, according to Pharies (2002), a literary suffix that is present in more than 2000 terms in Spanish and indicates an action (vgr., *activación* 'activation') and also the result of an action (vgr., *acumulación de gente* 'accumulation of people', which may refer to the effect or outcome of accumulating people somewhere). There are also some other inherited suffixes, such as *-miento* (*alzamiento* 'uprising', *movimiento* 'movement', etc.), *-aje* (*aterrizaje* 'landing', *viraje* 'turning', etc.), as well as nominalizations in *-a, -e, -o* (*purga* 'blowdown', *cierre* 'closure', etc.). For the nominalization of adjectives, several inherited suffixes are available: *-dad* (*densidad* 'density', *solidaridad* 'solidarity', etc.), *-eza* (*rareza* 'oddity', *extrañeza* 'strangeness', etc.), *-ura* (*hermosura* 'beauty'), etc.

Many nominalizations in Spanish are learned words, that is, they are formations that have been recovered from Latin in more or less recent centuries: *defensa* 'defense', *fusión* 'fusion', *presión* 'pressure', *tensión* 'tension, stress', etc., are examples of literary deverbal nominalizatión, and *distancia* 'distance', *longitud* 'longitude', *latitud* 'latitude', etc. are good examples of nominalization of adjectives. It is not surprising to find that many of these nouns have a formal equivalent in English, as this language has also received a significant amount of words of foreign origin.

Nominalization is more than a categorical reorganization; it is also a functional modification. It represents a functional reuse of the verb and adjective, whose essential function is to predicate (as we have shown above) and now become purely referential elements, that is, reality taggers. In other words, we convert a predicate into a label.

If we say *los gatos se protegen arañando* 'cats protect themselves by clawing', we refer to a real or frequent fact that is scientifically verifiable and linguistically communicable. But if we simply say *la protección de los gatos mediantes arañazos* 'the protection of cats by clawing'', we refer to an event through an expression that is not communicable by itself in Spanish. This expression acquires another linguistic function different from communication, which is the labelling of facts, objects, events and states of reality. For this expression to be effectively communicable, we need to add a new predicate: for example, *la protección de los gatos mediante arañazos es un peligro para sus dueños* 'the protection of cats through by clawing is a danger to their owners'. This new sentence could theoretically undergo nominalization again and be combined with a new predicate: *el peligro para sus dueños de la protección de los gatos mediante arañazos tiene difícil solución* 'the danger for owners of the protection of cats through scratches is difficult to solve'. We are facing what could be called a potential semiotic loop. Nominalization has therefore a strong power for

recursive thinking, that is, the thinking that arises from the combination of other units of simpler thought.

In Spanish and other European languages today, complex thought is expressed through embedded or subordinate clauses. However, sentence subordination is not the only possible way to express complex ideas. Indeed, when the Indo-European linguists try to reconstruct the past of the languages of this family, they encounter some difficulties in the proto-language when trying to find some evidence of sentence embedding. Does this mean that there were no phenomena of sentence embedding in the grammar of the Proto-Indo-European languages? This today is a controversial issue. More than the evidence against the existence of embedding, we have indications that the primitive complex sentences in Proto-Indo-European had a paratactic character (see Hock 2015, Section 3).

At the same time, there are signs that in Indo-European languages and other languages from other families, nominalization had an essential role as a method of expressing notional subordination and recursion (Harris and Campbell 1995: 310–313; Deutscher 2009). The syntax of Latin largely confirms this idea because the oldest method of forming completive sentences in that language was not to resort to conjunctions but the use of the so-called completive infinitive sentence, which, as suggested by its own name, used the infinitive, which was an early type of deverbal nominalization.

Nominalization is a form of labelling, but it is something more than a labelling of the real world or of our perceptions. It is also a labelling of our own language. This type of labelling allows our subjective experiences to be considered at a higher level of consciousness (Zelazo *et al.* 2007: 425).

4. The advance nominalization in the past

We have noted that nominalization has undeniable cognitive effects. No wonder, therefore, that it plays an essential role in the language of Science. Indeed, the nominalization processes increased in European languages when, for cultural and scientific reasons, more specialized terminology was needed, requiring an increase in its lexicon. This growth was made with the collaboration of grammar, through the available morphological methods, but also via Latin, by recovery of learned lexicon.

In the history of English, this model of scientific discourse emerges in the 18th century and has been well-studied by Halliday (1988: 153–154) and Banks (2005a and b). These authors find that nominalization in scientific language underwent a breakthrough in English in the 17th century, due mainly to the influence of Newton,

author of essential works in the history of science, such as *Optics* (1670–1680, but published in 1704) and *Principia Mathematica*, which exerted a strong influence on other scientific texts of the time and marked the beginning of scientific language in English. It should be noted that Newton knew and wrote in Latin.

The linguistic renewal in science is related to several motivations. One of these is the need to create taxonomies and nomenclatures. When an object or phenomenon is assigned a tag, it can be described and classified, assimilated into and opposed to others that are similar to or of the same order. The noun is the part of speech best prepared for this task which defines a semiotic domain when other grammatical categories are absent or have a minor role. As expected, experimental sciences and human disciplines are the domain in which this classificatory task is done more thoroughly.

Scientific texts provide the appropriate context for the creation of a special type of taxonomy: indexes and tables of contents facilitate the management and exploration of the contents of scientific texts. At present, not only scientific texts, but also historical, philosophical, and even literary essays provide a description or 'map' of their contents at the end or beginning of the volumes. Also, the texts of the past orient the reader through the use of indexes and tables of contents. But the presence of nominalization in these types of tables has not always been the same throughout history.

Without going into an exploration of more technical and specialized texts, we simply need to observe the index of words or subjects (of subject words) of a present-day history book to ascertain the absolute predominance of nouns and the almost complete absence of verbs and other categories in the performance of these tasks.

Note, in this regard, the index reproduced in Figure 1. Observe the absolute predominance of nouns, many of which have a deverbal character (*agradecimiento* 'thanks', *comienzo* 'start', *exterminio* 'extermination'). There are also some nouns coming from adjectives (*imminencia* 'imminence', from *imminente* 'imminent'). Others, in turn, are eventive names, as the book's title itself (*holocausto* 'sacrifice'). Some are abstract in nature (*terror* 'terror', *consecuencias* 'consequences'). There are, in general, action and situation nouns, which is not surprising in a history book.

The presence of indexes and tables of contents in scientific, narrative, and doctrinal works is old in the history of the Spanish language. In the books of the Spanish Middle Ages, the insertion of these tables was customary and usually included a list of chapters and sections. However, the model of formulation and verbalization of contents was not homogeneous in medieval books and manuscripts. In those volumes the recourse to nominalization was not yet frequent. In this respect, however, three types of situations can be identified:

Índice

Figure 1. Paul Preston. *El holocausto español.* Madrid: Debate, 2011

a. In historical books one can find a type of table in which the contents of each section or chapter are described through a formula based on indirect speech. The title of each section used to be initiated with the expression *de cómo* 'on how' or similar (*de la manera* 'on the way', etc.), which presupposes an unexpressed verb of speech (vgr. *Este capítulo* **habla** *sobre…/* **trata** *de…* 'This chapter talks about … / deals with …', etc.). This way of presenting the content is very common in narrative texts, even after the Middle Ages.

   The extract of the table of contents reproduced in Figure 2 allows us to witness the overwhelming use of the indirect interrogative expression *de cómo* 'on how' to introduce the contents of each chapter. Nominalization attempts are rare. In this table we can find only two cases: *muerte* 'death' (Chapter 2) and *respuesta* 'answer' (Chapter 18). It should also be mentioned that *muerte*

and *respuesta* are patrimonial words that existed in Castile since the origins of Spanish and had therefore no literary character. Elsewhere in the same table, but not included in Figure 2, we observe the word *manera* 'way, mode', which is also an old term, inherited from Latin, but is present today in the formula *de la manera* 'about the way'.

Figure 2. Curcio Rufo, Quinto, *De los hechos del Magno Alexandre rey de Macedonia*, Sevilla, ed. by Juan Cromberger, 1534

b.   Another expressive possibility is the use of infinitives as a nominalization procedure. The infinitive is a verbal noun which shares syntactic features with other nouns (such as the use of determiners; vgr. *el ir y venir* 'coming and going', etc.). However, the nominalizing task of the infinitive has never been much rooted in the present or in the past in Spanish. Some grammarians have noted that nominal infinitives are much more common in literary language than in other linguistic records (RAE 2009: 1967). This is probably due to the fact that many of these categorical infinitives have a heterogeneous nature and combine in varying degrees traits of noun and of verb. Many of them cannot be used in plural (i.e. we can say *los cantares* 'the songs, the chansons', but not **los ires y venires* 'the comings and goings', etc.). They also retain strong features of verbality, such as the ability to be used in the perfect aspect: *el haber llegado tarde me preocupa* 'that he has arrived late worries me', etc.

　　　Nevertheless, the infinitive was present in the tables of contents of many technical books of the 16th century, as shown in Figure 3, which reproduces a section of the index in a book of geometry.

Figure 3. *Tratado de Geometría Práctica y Especulativa*, Bachiller Juan Pérez de Moya, Alcalá, 1573

In the index shown in Figure 3, very similar to other scientific texts of the time, we repeatedly find the verbal form *muestra* 'it shows', followed by a governed infinitive that indicates the content of each section (vgr. *muestra hazer* 'it shows how to do', in Chapter 3; *muestra medir* 'it shows how to measure', in Chapter 4; *muestra saber* 'it shows how to know' in Chapter 14.2: *muestra sacar* 'it shows how to take out/calculate', in Chapter 14, articles 1 and 3, etc.) and, more sporadically, the equivalent verbal forms *trata de* 'it deals with' (Chapter 5, articles 2 and 3) and *se dice que* 'it is said that' (Chapter 2).

Other indices of that time can do without the recourse to the governed infinitive by showing this verbal form in a direct and isolated manner. Observe some of the chapters listed in the table shown in Figure 4 which present their content through an infinitive not governed by any verb, particularly those in first, second and fourth place (*abreviar* 'abbreviate') and fifth place (*acercentar* 'increase').

Figure 4 image content:

TABLA DE LAS
cosas mas memorables de-
ste tratado, por el or-
den del A.B.C.

A

ABreuiar particio-
nes para partir con
menor numero. lib.
2.fol.72.
Abreuiar quebrados a
menor denominació
lib.2.fo.69.71.72.
Abos que quiere dezir
en numeros quebra-
dos.lib.2.fo.66.
Abreuiar characteres
en la regla de la co-
sa.lib.7.fo.258.
Acrecentar quebrados
en denominació.lib.
2.fo.73.
Acetabulum es quarta
parte dela emina.lib.
octauo fo.317.318.
319.

Aedades del mundo.
lib.8.fol.319.
Areolus como se figu-
ra lib.8.fo.318.vale
tanto como As.
AEquinoctium de do
se dize libro.8.fol.
321.
AEuo q tiempo signifi
que lib.8.fo.320.
AEs eris, significa va-
rias cosas li.8.fo.310.
Algebra. lib.7.fo.219.
Almucabala.lib.7.fol.
219.
Ambligonia figura de
geometria. lib.4.
fol.152.
Amphora li.8.fol.317.
Anea, es de dos dize
libr.

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Figure 4. Juan Pérez de Moya (1598) *Aritmética práctica y especulativa*

c. There is, finally, a third type of table showing a much more determined nom-
inalizing method, but these texts frequently use lexical Latinisms, and not
many derivational procedures productive in the grammar of the time. Note
the sample provided in Figure 5: In this table it is possible to observe the
presence of different deverbal formations, most of them are learned words:
distinción 'distinction' (Chapter I); *division* 'division' (Chapter IV), *diffinición*
'definition' (chaps. II and III). There are also some literary nouns derived
from adjectives: *inmutabilidad* 'immutability' (Chapter VI), *longitud* 'length'
(Chapter XVII), *latitud* 'latitude' (Chapter XVII.). The derivative formations
without that do not come from learned words are very rare: *redondez* 'round-
ness' (Chapter VII.).

Figure 5. Martín Cortés Albácar, *Breue compendio de la sphera y de la arte de nauegar: Con nueuos instrumentos y reglas, exemplificado con muy subtiles demonstraciones*, Sevilla, 1551

5.   The Latin precedents: Isidore of Seville

It is very likely that the model for this nominalizing preference was in other Latin texts of that period and showed an advanced tendency for nominalization. Observe the table of contents of a Latin book of metaphysics reproduced in Figure 6, very similar in style to other texts of the same period. In many of the titles in this table, nouns have a verbal origin (*univocatio* 'homonym', from *unus* 'one' + *vocare* 'to call'; *equivocation* 'mistake', *determination* 'determination', *conclusione* 'conclusion', *subiectio* 'supposition', *subordinatione* 'subordination', *praexistentia* 'preexistence', *divisione* 'division', *contractione* 'contraction', *durationis* 'duration', etc.). There are some nouns resulting from the nominalization of an adjective (*diversitate* 'diversity', *differentia* 'difference', etc.).

De uniuocatione & equiuocatione.   Ca:xxii.
De ortu naturaliũ uírtutũ.   Ca.xxiii:
De determinatióeuniuoca tionis & equo cationis
    entis.   Ca.xxiiii
De conclusione príme partis.   Ca.xxv.
De scđa parte prími preambulí uidelicet de subíe
čto materíalí methaphísíces.   Ca.xxví.
℘ Secũdum p̃ambulũ continet capítula nouem .
De diuersítate subiečto℞ in p̃ía naturalí · Ca.í.
De sufficiẽtí subíečto phíe naturalis. Ca.ii.
De subordinatione graduũ í pticularíb⁹ .Ca.iíí.
De realíũ ulíũ preexístẽtía.   Ca.iiíí.
De uniuersalíbus post rem.   Ca.v.
De diuísíone durationis.   Ca.vi.
De cótračtíone qñ.   Ca.vií.
De tpe.   Ca.víii.
De formali & materíalí temporís.   Ca.ix.
℘ Tertíum preanbulũ continet capítula uigintí.
De subordinatione termínorũ logicalíũ. Ca.í.
De cathegorica ppositíone.   Ca.ii.
De ipotetíca propositíone: Ca.iíí.
De equipollẽtíís.   Cã.iiíí.
De uniuersalí ante rem.   Ca.v.
De quínque predicabílíbus: & prímo de gene /
    re.   Ca.ví.
De spē.   Ca.víí.
De differentía.   Ca.viíí.
De proprío   Ca.ix.

Figure 6. *Liber formalitatum, Metaphysica nominatus De differentia*, Pere Degui, impens. Johannis Montiserrati, 1500

An essential precedent for this nominalizing task in Latin can be found in the work of Isidore of Seville (6th and 7th centuries), author of the famous *Etymologies,* an early precursor of the medieval concern for nomenclatures and encyclopaedias which intended to gather the knowledge accumulated in different matters of science and humanities. They are repertoires relative to some specific field of knowledge that became abundant in Europe during the Middle Ages. In Castilian they were common from the 15th century (Alvar Ezquerra 2003). They usually do not show alphabetical order, but are organized by other criteria (Garcia Aranda 2003). In medieval nomenclatures, certain nouns predominate and verbs are scarce (Alvar Ezquerra 2003: 27).

In this line, Isidore of Seville collected all the wisdom of her time regarding the seven liberal arts (grammar, logic, rhetoric, music, arithmetic, geometry and astronomy), as well as history, science and medicine. Interestingly, the *Etymologies*

of Isidore of Seville received its name from the contents of book, or Chapter X, entitled *De Vocabulis*, which is specifically dedicated to the etymology of words. Etymology, incidentally, receives particular attention based on the view that there is a natural relationship between things and their names, such that knowledge of etymology allows a better understanding of things. This vision, as opposed to the arbitrary view of the sign that predominates in today's semantics, has its precedents in Plato and led Isidore to apply etymologies that would be in many cases surprising, shocking, or even picturesque when viewed from contemporary etymological science (Villaseñor Cuspinera 2003: 115). Isidore proposes, for example, that *rege* 'king' is so called because he acts *recte* 'correctly', which is, incidentally, the reverse of the derivative relation between these words.

But beyond the particular etymological criterion used by Isidore, it is interesting that Book X does not pay attention to verbs. The author *himself* at the beginning of the chapter announces that it will deal with the origin of nouns. We soon find that he is referring not only to nouns, but also to adjectives and only slightly to other categories, such as the indefinite; *nemo* 'no one', *nihil* 'nothing' or *nullus* 'nothing'.

In the table of contents of *Etymologies*, we see a remarkable presence of nominalizations. Figure 7 shows an excerpt from the table of contents of Book III: *Mathematica*. Nominalizations of a verbal origin are marked with capitals (*cursu* 'route, path', *efectu* 'execution', *remotione* 'departure') and those from adjectives are underlined (*vicinitate* 'vicinity', *differentia* 'difference' *praecedentia* 'reverse motion', *antegradatione* 'march forward):

De EFECTU solis	De stellarum situ
De itinere solis	De stellarum CURSU
De lumine lunae	De vario CURSU stellarum
De formis lunae	De stellarum intervallis
De interlunio lunae	De circulari numero stellarum
De CURSU lunae	De stellis planetis
De **vicinitate** lunae ad terras	De **praecedentia et antegradatione** stellarum.
De eclipsi solis	De REMOTIONE vel **retrogradatione** stellarum
De eclipsi lunae	
De **differentia** stellarum, siderum, et astrorum	
De lumine stellarum	

Figure 7. Isidore of Seville, *The Etymologies (or Origins)* Extract of Table of Contents. Book III, *De Mathematica*

Despite the wealth of nominalizations in the text, there are still some residues of labelling through sentential mention. The same table of contents shows, among others, the following examples:

Quid sit numerus	'what are the numbers'
Quid praesent numeri	'what are the numbers for'
Quot infiniti existunt numeri	'how many infinite numbers exist'

6. Concluding remarks

It seems reasonable to say that the labelling function is the feature that essentially distinguishes essentially the noun from the verb. This feature goes beyond the communicative role and has also, as we have seen, some relevant cognitive effects. The phenomenon of nominalization, which has already been well-described and studied in grammatical theory, acquires a special relevance from the perspective of the labelling function of nouns.

Nominalization does not have the same presence in all registers and levels of language. Its activity has not been the same at every moment of history and it also does not have the same presence in all registers and levels of language. In Spanish it acquired a growing vitality at the end of the Middle Ages, at a time when humanistic and scientific treatises proliferated in Spain and other European countries.

Indexes and tables of contents have scarcely been explored by linguistic research, but they are an ideal place to check the intensity of nominalization at a certain time. Their interest lies in the fact that verbs are often excluded in such summaries and authors are forced to implement different mechanisms for content description. Among these we can find the indirect style, subordinate infinitives and other mechanisms that would appear dense, ponderous and unsophisticated in any present-day narrative or doctrinal book.

The testimony of these tables and indices in some works of the late medieval Castilian science shows that the process of nominalization had not yet come to fully take root and that Latin provides a vital precedent for the nominalizing task. The testimony of Isidore of Seville is particularly innovative. It has been particularly relevant to show the differences between Latin and Castilian scientific and doctrinal works of the same period in relation to the vitality of nominalization. These data confirm the importance that Latin had in shaping scientific language in Spain, as in other European languages.

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