

RESEARCH

The syntactic structure of *pelirrojo* compounds

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This paper deals with Spanish adjective-headed compounds (*pelirrojo*), whose main properties are systematically compared with those of their English counterparts (*red-haired*). I provide a distinction based on the grammatical category of the non-head projections *pelí* and *red* and on their relative complexity to capture the relevant differences. Additionally, I focus on the most noticed feature of Spanish *pelirrojo* compounds, which is the fact that they only codify inalienable possession relationships. I argue that the existence of an inalienable-only compound pattern shows that Spanish *pelirrojo* compounds contain a relational head which establishes an inalienable possession relationship between a possessee located inside the compound (*pelo* 'hair'), and a possessor located outside it (e.g., *Juan* in *Juan es pelirrojo*. 'John is red-haired.'). The same kind of relational structure is not identifiable inside English parallel structures or other Spanish compound patterns.

Keywords: modifier; complement; compounding; inalienable; coreference

1 Introduction

Pelirrojo 'red-haired', like any other *lexical compound*, is usually characterized as a morphological construction, in contrast to *phrasal compounds* like *oro negro*, lit. 'gold black', 'oil', which more frequently receive a syntactic treatment (Rainer & Varela 1992; Val Álvaro 1999). The tradition of Spanish morphological studies has favored exhaustive descriptions of compound patterns by themselves (Bustos 1986; Buenafuentes 2007) and, for that reason, their properties have been frequently considered independently from the properties of related phrasal constructions. In this paper, it is shown that even the behavior of *lexical compounds* like *pelirrojo* can be explained by appealing to syntactic properties, which apply similarly to both phrasal and word syntax.

An old and well-known controversy exists between those who defend the idea that word and phrase generation require distinct grammatical components or rules (Di Sciullo & Williams 1987; Lieber & Scalise 2006) (lexicalist approaches) and those who think that syntax is responsible for both word and phrase generation, without the need for either a specific morphological component or morphological rules (Harley 2009; Fábregas 2016) (neoconstructionist approaches). The data analyzed in this work supports the latter theoretical framework.

It would follow from the syntactic nature of compounding rules that the internal structures of *red-haired* and *pelirrojo* can be differentiated by appealing to the nature of their non-head projection, which is an Adjective Phrase in the first case and a Noun Phrase in the second case. Additionally, *pelirrojo* contains a relational category provided with semantic-functional content (*i*), which makes its projection more complex and its denotation more restricted than that of its English N+ADJ correlates (*color-blind*). The more common morphological approaches assume that *i* is a *linking vowel* without structural significance.

Our analysis will even include a potential violation of one lexicalist's prediction,¹ as the kind of mandatorily inalienable relationship between the Noun Phrase outside the compound (*Juan* 'John') and the one located inside it (*pelo* 'hair') in constructions like *Juan es pelirrojo* is explained more straightforwardly with the help of syntactic rules.

The paper is organized as follows. In section two, I provide different syntactic structures for certain classes of constructions discussed by the literature on compounding. Those are related to *pelirrojo* compounds as they present both noun and adjective² constituents, the latter introducing an attributive relationship in the sense of Bisetto & Scalise (2005). However, they differ significantly from *pelirrojo* in syntactic, semantic and/or phonological terms.

I will make three relevant assumptions about the structure of *pelirrojo* compounds (1), all of which can be found in the previous literature (we will comment on them later). The first assumption is that the head of the compound is the simple adjective (*rojo* 'red', *alegre* 'happy' or *difuso* 'vague', etc., in the examples below). The second one is that the adjective establishes a subject-predicate relationship with a Noun Phrase located *outside* the compound (e.g., *Juan* 'John' in *Juan es pelirrojo*.; *me* 'I' in *Me dejaste patidifusa*. 'You left me astounded.'). On the other hand, I assume that the nominal projection inside the compound functions as a restrictive complement of the adjective itself – it is not predicated of *Juan* to be *rojo*, but only to be *rojo regarding his hair*. Finally, I assume that the nominal non-head establishes a mandatory inalienable relationship with the subject outside the compound. I will explain what inalienable relationships are later. In a nutshell, inalienability implies that the nouns inside *pelirrojo* compounds, such as *pelo*, can be understood only in relation to the entity that possesses them (*Juan* in *Juan es pelirrojo's* case).

- (1)
- | | | | |
|------------------------|------------------|---------------------|-----------------------|
| pel-i-rroj-o | car-i-alegre | pat-i-difus-o | boqu-i-suci-o |
| hair + I + red + M | face + I + happy | leg + I + vague + M | mouth + I + dirty + M |
| 'red-haired' | 'smiling' | 'astounded' | 'foul-mouthed' |
| piqu-i-tuert-o | | | |
| peak + I + crooked + M | | | |
| 'crossbill' | | | |

Being endocentric and adjective-headed constructions, *pelirrojo* compounds must be distinguished from the agglutinated phrases shown in (2). Their categorial head is the noun element, which shows gender agreement with the adjective non-head, as well as number agreement in the less agglutinated cases. Nevertheless, the phrases in (2) are exocentric from the semantic point of view, as the body part nouns (*cara* 'face', *cabeza* 'head' and *piel* 'skin' in the examples below) are used to refer metonymically to whole individuals.³

¹ There are different formulations of the idea that syntactic rules operate on words in a restricted way, or do not operate at all. Therefore, each lexicalist theory produces stronger or weaker predictions of the degree of syntactic manipulation/access to word structure. This paper is especially concerned with the violations of the *Generalized Lexicalist Hypothesis* of Lapointe (1980: 8). We expect the proposal to be compatible with those lexicalist approaches that predict that the internal constituents of a compound remain visible to sentence-level phenomena.

² I will focus on constructions with adjectives, but frequently those structures present adverbs and prefixes as well.

³ In some cases, those examples can be considered morphologically exocentric as well. *Pelirrojo* compounds usually experiment adjective-to-noun conversion. When the resulting nouns refer to humans, they display either masculine or feminine agreement (*el pelirrojo/la pelirroja*). With that in mind, examples such as *el/*la cabecita negra* lit. 'the-M small + head-FEM + black-FEM', 'goldfinch', where the noun refers to a bird, are in my opinion more clearly morphologically exocentric than the phrases referring to humans, which allow both genres even if they are attested more frequently in the masculine (*un/una cabeza loca* lit. 'a-M/a-FEM head-FEM crazy-FEM' 'a dim wit man/woman').

- (2) cara-dura cabeza-s loca-s
 face-FEM + hard-FEM head + FEM + PL + crazyFEM + PL
 ‘cheeky’ ‘dim wit’
 piele-s roj-a-s cara-pintad-a
 skin-FEM + PL + red + FEM + PL face-FEM + painted-FEM
 ‘redskin’ ‘extreme right wing’

Pelirrojo compounds can be further distinguished from constructions where it is the adjective which acts as the *modifier* of the noun (as opposed to (1)). *Alto* ‘high’ modifies *Aragón* ‘Aragon’, *libre* ‘free’ modifies *cambio* ‘change’ and *bajo* ‘low’ modifies *medievo* ‘Middle Ages’ in (3). The modifier + head constituents are turned into adjectives by the adjectivizing suffixes afterwards.

- (3) altoaragonés librecambista bajomedieval
 high + Aragón + IAN free + change + IST low + Middle Ages + AL
 ‘from north Aragón’ ‘free trader’ ‘from the late Middle Ages’
 (English examples: red-haired, quick-tempered, high-pitched)

Finally, *pelirrojo* compounds differ from other adjective-headed compounds with nominal non-heads or *complements* – (4) – where inalienable relationships are not established – e.g., in a sentence such as *Juan es videoaficionado* ‘John is video fan’, it is not understood that John possesses all the videos he fancies.⁴

- (4) man-i-larg-o pisc-i-forme videoaficionado
 hand + I + long-M fish + I + form video + fan
 ‘light-fingered’ ‘fish-shaped’ ‘video fan’
 (English examples: color-blind, stone-cold, home-made)

The reason why the above compounds with modifiers and complements are exemplified in Spanish and English is that we will make use of the latter language throughout the paper as a reference for structural variation. I have observed that, whereas the modifier-head compounds are constructed similarly in both languages, the complement-head ones present some non-trivial semantic and phonological differences that will be related to the characteristics of their non-heads.

In section three, some previous morphological analyses of *pelirrojo* are summarized. We will focus on the proposals questioning the head status of the adjectives in the Spanish *pelirrojo*, such as Rainer and Varela’s (1992) approach. It will be demonstrated that there is no convincing evidence to deprive the adjective *rojo* of its head status. On the contrary, it behaves as a head following the usual syntactic, semantic and morphological criteria, as several previous analyses of the compound have demonstrated (see Val Álvaro 1999 for a review). According to these criteria, *pelirrojo* is endocentric – headed by the adjective – because the compound is a singular, masculine adjective like *rojo* and denotes the property *rojo*, despite being applied to an individual.

Section four is concerned with the most noticed feature of Spanish (complement-head) *pelirrojo* compounds, which is the fact that they only codify *inalienable* possession relationships between possessors and possessors (5a). This is the reason why the Spanish example in (5b) is ill-formed. Inalienability is not obligatory in the English counterpart

⁴ Spanish constructions in (3) are usually treated as *parasyntetic* (a process of both prefixation and suffixation). However, as far as I am concerned, the merge of the modifier and the head in (3) is a compounding process, as both constituents can be considered lexical units.

(5b). The term *inalienable* usually refers to the fact that certain kinds of nouns, such as *pierna/leg*, imply the existence of the entity to which they belong, whereas *non-inalienable* ones, such as *alfombra* ‘carpet’, do not.⁵

- (5) a. **Juan es piernilargo** porque (él) tiene las piernas largas.
‘**John is long-legged** because he has long legs.’
- b. *tenemos un **salón alfombrilargo** porque tiene las alfombras largas.⁶
‘We have a red-**carpeted living-room** because it has long carpets.’

A brief presentation of possession constructions is provided with the aim of locating *pelirrojo* compounds in the whole context of possession relationships. Spanish syntax has other inalienable-only possession structures (6a–b), which are codified differently from those which are not (6c).

- (6) a. **Juan se** cortó el pelo. (The hair can only be John’s)
John himself cut the hair
‘John cut his hair.’
- b. **María le** golpeó la cabeza **a Juan**. (The head can only be John’s)
Mary him kicked the head to John
‘Mary hit John on the head.’
- c. Juan trajo **el coche**. (The car can be John’s or anybody’s)
John brought the car
‘John brought the car.’

In a sentence such as the one in (6a), some authors have identified a *binding* relationship between *Juan* ‘John’ and *el pelo* ‘his hair’ (Guéron 1985). Binding is the term used to describe how a Noun Phrase or pronoun, called the antecedents, are related to others of their kind, called anaphors, because of their reference. I suggest that a similar kind of relationship could be established in *Juan es pelirrojo* ‘John is red-haired’.

2 Complement-head versus modifier-head compounds and attributive phrases

Pelirrojo is classified as an *attributive* compound in the more accepted typologies, since the relationship established between the adjective and the noun inside the compound is characterized as one of attribution (Bisetto & Scalise 2005). In (7) I exemplify the kind of compounds usually treated as attributive.

- (7) palabra clave agridulce pelirrojo piel roja
key word bitter-sweet red-haired redskin

The aim of this section is to put *pelirrojo* inside a classification of the attributive compounds according to structurally relevant criteria. Although previous literature pays attention to the grammatical category of the constituents (Buenaftuentes 2007; Moyna 2011) or to their internal relationships (Castronovo & Gariano 1997; Padrosa 2011), their observations are not intended to capture the existing contrasts between constructions regarding inalienable possession. I will distinguish three classes of constructions, complement-head compounds, modifier-head compounds and attributive phrases.

⁵ Apart from body parts, the noun classes that participate in inalienable possession more frequently are said to be kinship terms, clothes (Bally 1926: 68) and inanimate part-whole relations (Heine 1997: 11–12).

⁶ All the grammatical judgements are my own. I have consulted several Spanish native speakers in the most dubious cases.

2.1 The complement-head structure

From a morphological point of view, it is possible to identify in Spanish different classes of compounds where a noun in the internal position behaves as the complement of an adjectival head. For instance, there are compounds headed by simple adjectives (8), and compounds headed by derived adjectives (9).⁷ In both groups it is possible to identify the *native* inalienable-only Spanish constructions of the *pelirrojo* class – (8a) and (9a) – which are the focus of this paper, and to distinguish them from the Classical ones of (8b) and the Latin/English-influenced ones of (9b–c).⁸ In (9) we could further differentiate the more numerous participial compounds from the denominal ones.

- (8) a. pel-i-rroj-o man-i-larg-o
 hair + I + red + M hand + I + long + M
 ‘red-haired’ ‘light-fingered’
- b. punt-i-forme islam-ó-fob-o
 point + I + form Islam + O + fearful + M
 ‘point-shaped’ ‘islamophobic’
- (9) a. al-i-quebrad-o boqu-i-conej-un-o
 wing + I + broken + M mouth + I + rabbit + UN + M
 ‘crestfallen’ ‘with a mouth rabbit-like’
- b. man-i-obrad-o drog-o-dependiente man-u-facturad-o
 hand + I + created + M drug + O + dependent hand + U + made + M
 ‘maniouvred’ ‘drugaddict’ ‘manufactured’
- foto-mecánic-o
 light + mechanic + M
 ‘photomechanical’

As we can see, *pelirrojo* compounds share the use of *i* as a theme vowel with the other complement-head structures. However, the latter make use of alternative vowels, whereas the presence of *i* in Spanish *pelirrojo* compounds is mandatory. There are a few ancient examples among *pelirrojo* compounds that lack *i* (e.g., *manvací-o* lit. ‘hand empty-M’, ‘empty-handed’; *cabizbaj-o/cabezcaído/cabizcaído* lit. ‘head lowered-M’, ‘depressed’; *bocabierto-o* lit. ‘mouth opened-M’ ‘open-mouthed’). As Moyna (2011: 143) points out, these cases exist because *pelirrojo* compounds underwent a period of formal instability, but their current characteristics became established around the 16th century. She suggests that the old examples were tied to different prosodic constraints on monosyllabic and three-syllabic nouns; monosyllabic nouns are now forbidden (I would create the neologism *manivendado* ‘hand + vandaged’, not **manvendado*), whereas three-syllabic nouns (*cabeci*) are preferred over *i*’s absence (*cabiz*) since the 15th century. To account for their appearance

⁷ This distinction is in line with Moyna’s (2011: 133), who differentiates between *integral* and *deverbal* compounds. The notion of *integral* nicely characterizes the *pelirrojo* type, as it contains both simple and deverbal adjectives (e.g., *al-i-quebra-d-o* lit. ‘wing + I + break + PP + M.’ ‘discouraged’).

⁸ The Classical *puntiforme* ‘point-shaped’ and the English-influenced *drogodependiente* ‘drug addict’ are usually treated as *subordinative* from the point of view of the internal relationships (*drug* is an argument of *addict*), but in this paper they are also regarded as attributive. This decision is justified because the relationship between the adjective heads *forme/shaped* and *dependiente/dependent* and their required subjects, which are outside the compound, is one of attribution (external predication). In a phrase like *John is tired of listening*, *tired of listening* would be considered an attribute of *John*. The phrase would not be referred to as “subordinating” because it has a complement inside (*of listening*). There is no logical reason why the structure of a compound should be considered otherwise. It is chosen the general term attributive because the term possessive is often used to treat unrelated compounds such as *craftsman* or Turkish *kadin doktoru* ‘gynecologist’ (Yükseker 1987).

in synchronic Spanish, it is possible either contemplate these compounds as stored, monomorphemic historical compounds, or to explain the selection of stem allomorphs from a framework with competing constraints such as *Stratal Optimality Theory* (Bermudez Otero 2013), where a prosodically unmarked solution could be favored over a morphologically marked one, and *vice versa*.

From a semantic point of view, the noun complements of (9b) can be understood as adjuncts with different kinds of thematic roles (e.g., instruments ‘made **with hands**’, locations ‘made **at home**’), whereas the ones in (8) can be understood only as themes ‘red **of hair**’, ‘with the shape **of a cancer**’).

Even if the non-heads in Classical compounds and native ones in (8) are provided with the same thematic role, a structurally relevant semantic contrast between them is still at work. Nouns like *color* and *air* appearing in the Classical constructions (10a) are absolutely prohibited in the *pelirrojo* structure (10b). There are in English some examples of compounds constructed with simple adjectival heads plus noun complements (11), and they allow that kind of nouns as well.

- (10) a. **aeriforme** **arboriforme**
 air + I + shaped tree + I + shaped
 ‘air-shaped’ ‘tree-shaped’
- b. ***coloriciego** (color-blind), ***aerimareado** (airsick), ***arborilibre** (tree-free),
 ***piedrifrío** (stone-cold)

- (11) **color-blind**, **airsick**, **sugar-free**

Pelirrojo compounds are tied to special restrictions regarding the selection of complements. Authors such as García Lozano (1993) or Sánchez López (2003) have claimed that the nouns appearing in the compound are always among those classifiable as inalienable (12), which include integral parts of humans (*barba* ‘beard’), animals (*pico* ‘peak’), objects (*punta* ‘point’) and some clothes (*capa* ‘cape’). These authors consider that nouns such as *color*, *air*, *tree* or *stone* cannot be interpreted as inalienable possessions and that that fact alone explains why these nouns do not appear in the *pelirrojo* pattern.

- (12) **barb-i-can-o** **cap-i-pard-o** **piqu-i-tuert-o**
 beard + I + grey + M cape + I + brown + M peak + I + twisted + M
 ‘grey-bearded’ ‘brown + caped’ ‘wry-mouthed’
 punt-i-agud-o
 point + I + sharp-M
 ‘pointed’

But we would leave the truly crucial issue unanswered, namely how and why the Spanish construction, and not the others, is tied to the inalienability restriction. This question will be addressed in sections three and four.

2.2 The modifier-head structure

Apart from the complement-head compounds, it is possible to find in Spanish some examples of compound parasynthetic constructions, that is, structures formed merging two lexical units plus a derivative morpheme. Overall, these structures are much more productive in Spanish with prefix modifiers and quantifiers (13a), and there is also a considerable number of Classical examples (13b), but there are very few examples that contain “proper” adjectives, such as the ones in (14).

- (13) a. pre-colomb-in-o anticonstitucion-al des-lengua-d-o
 before + Colon + IN + M against + law-AL without + tongue + PP + M
 ‘pre-Columbian’ ‘anticonstitutional’ ‘foul-mouthed’
 multi-millon-ari-o bi-mens-ual siete-mes-in-o
 many + million + ARI + M two + month + UAL seven + month + IN + M
 ‘multimillionaire’ ‘bimonthly’ ‘premature’
- b. diversiforme curvilíneo equilátero
 diverse + I + shaped curved + I + linear + M same + I + sided + M
 ‘with diverse form’ ‘curvilinear’ ‘equilateral’
- (14) **alto**-aragon-és **libre**-camb-ista **bajo**-mediev-al
high + Aragón + IAN **free** + change + IST **low** + Middle Ages + AL
 ‘from the north of Aragón’ ‘free trader’ ‘from the late Middle Ages’

The resemblance between the Spanish modifier-head constructions and the English ones is apparent, as we can deduce from the examples and their corresponding translations in (13). Nevertheless, the structure with proper adjectives is much more productive in English (15) than in Spanish (14).

- (15) left-handed, kind-hearted, good-natured, wide-eyed, short-sleeved

The complement-head structure of *pelirrojo* seems to be the default one in Spanish to create attributive-descriptive compounds with nouns and adjectives, whereas it is the modifier-head one in English. In fact, the semantic counterparts of a considerable number of *pelirrojo* compounds can be found in the class represented in (15), but they are not attested in the complement-head structure of *airsick* and *stone-cold*.

Nevertheless, the modifier-head structure does not seem to force an inalienable relationship in either Spanish or English. We can attribute the property of being *ill-fated* to *a family* and we can also attribute the property of being *altoaragonesas* to *costumbres* ‘traditions’. But neither *families* possess *fate* nor *costumbres* possess *Aragon*.

We can conclude that inalienability is not mandatorily codified in modifier-head structures. Therefore, there are empirical grounds to propose that *red-haired* and *pelirrojo* must be treated as different structures, which will be discussed in section three.

2.3 Attributive phrases

We would like to comment on a last kind of attributive constructions, those exemplified in (16), although they would not be considered compounds, but agglutinated phrases (see also Moyna 2011: 118).

- (16) cara-dura cara-pintada cabezas locas
 face-FEM + hard-FEM face-FEM + painted-FEM head-FEM.PL + crazy-FEM.PL
 ‘cheeky’ ‘extreme right wing’ ‘dim wit’
 piele-s roja-s
 skin-FEM.PL + red-FEM.PL
 ‘redskin’

The main reason to exclude them from compounding is the fact that they show agreement between members, or traces of it, even when the agglutination process has resulted in monographic and/or single-stressed words. I follow Rainer & Varela (1992), among many others, in considering that, whenever we find internal agreement, we are dealing with

phrases and not with compounds. Agreement relationships indicate that the constituents in (16) establish a different syntactic relationship between them (an internal subject-predicate relationship, against the complement-head one of *pelirrojo*).

But there are other reasons to exclude these constructions from the *pelirrojo* class, even if the noun heads in these constructions are certainly inalienable possessions of their referents.

First, the morphophonological instability in N + ADJ agglutinated phrases continues in synchronic Spanish (Buenafuentes 2007), but, as we indicated previously, it finished long ago for *pelirrojo* compounds. Second, there is an obvious relation between the constructions in (16) and others such as *el Pirata Barbarroja* ‘Barbarrosa the Pirate’, *Margarita seis dedos* ‘Marguerite six-fingers’, *(ser un) cuatro ojos* ‘to be a four-eyes’, or *(ser un) manos de árbol* lit. ‘to be hands of tree’, ‘butter-fingered’. All these constructions reveal the two main functions of phrasal metonymies: to form epithets and/or to insult people. The function of *pelirrojo* construction is, on the contrary, mainly descriptive (García Lozano 1993).

2.4 Variation in complement-head structures

In section 2.2, we saw that *pelirrojo* compounds differ from Classical, English/Latin-influenced and English complement-head compounds because they are the only ones that always codify inalienable relationships and select a *i* theme vowel. The aim of this section is to propose differentiated structures for them in order to capture those differences.

Pelirrojo is the most complex of the structures because it contains a two-layered complement, *pele*, the result of merging the noun *pelo* with a relational category *i* called *inalienable Possession* (henceforth *iPoss*) (17).⁹ The starting point of my analysis is Myler’s (2016) approach to possession constructions. The author proposes that the codifying of possession relationships varies depending on the functional categories that introduce them (their category, the size they allow for their complements, whether they take possessors or modified possessors, and so on). It departs from it slightly, however, as I assume that the possibility of codifying inalienable possession is dependent on the presence of the *iPoss* head, that is, it does not originate in the lexical information of nouns like *pelo* (Adger 2013).

The head of the compound, *rojo*, is a predicate that must take a subject (e.g., *Juan*), but not a complement. In that sense, it differs from other adjectives such as *próximo* ‘close’, which requires both a subject and a complement. So, from the point of view of *rojo*, the complement *pele* is an adjunct and not an argument – John is red *regarding his hair*. Be that as it may, both *pelo* and *rojo* must be present for the compound to be possible: that fact distinguishes *pelirrojo* from other possession structures such as the derived with *-ado* and *-udo* (*barbado/barbudo*, ‘bearded’, *deslenguado* ‘foul-mouthed’); *-ado* constructions may or may not have a modifier, *-udo* constructions cannot (see Myler 2016: 370-ss. for a more detailed analysis of this contrast).

To solve this puzzle (why the adjunct of *rojo*, *pele*, is obligatory), I propose that the inalienable possession head merges with *rojo* forming a second predicate or co-predicate with it, which is the same analysis that Myler proposes for obligatorily modified possessors.

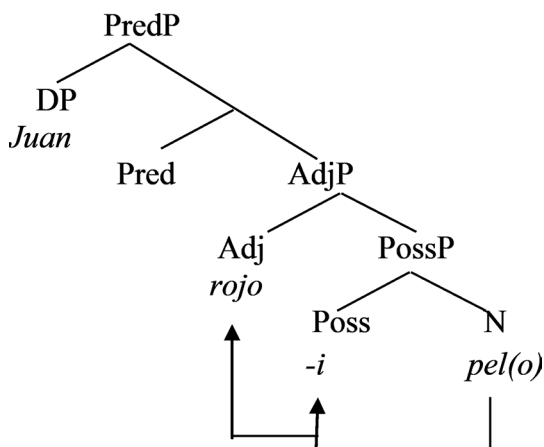
The *iPossP* introduces a relation in need of a possessor, but this possessor is not provided directly in the specifier position of *iPoss*., but later in the specifier position of

⁹ Some authors focus on the phonological function of *i* (Menéndez Pidal 1966: 240; Val Álvaro 1999: 4817); others on its relational nature (Fábregas 2004; Gil Laforga 2014). I assume the distinction between it and the homophonous nexus appearing in coordinative compounds *blanquiazul* ‘blue and white’. Coordinate compounds would present a different (homonym) relational head, *coordination*.

another relational projection, PredP, introduced by *rojo* itself.¹⁰ This phenomenon is called *Delayed Gratification* (Myler 2016: 444): It happens whenever an element is the semantic argument of a low projection (iPossP), but it is the syntactic argument of a higher one, which saturates its thematic role. When the projections coincide, we speak of *instant gratification* instead.

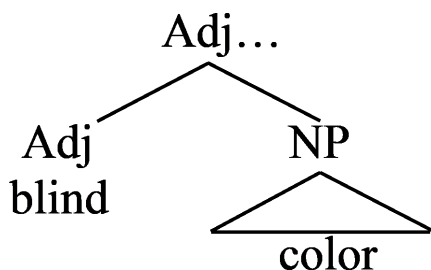
I assume that iPoss is spelled-out by *i* in the Spanish compounds of the *pelirrojo* type. In other languages, such as Catalan, there exist *pelirrojo* compounds, but they have no *i* (except for Spanish borrowings) (Padrosa 2011). I suggest that the structure of Catalan compounds is the same, but it lacks a specific exponent for lexicalizing it. IPoss may be lexicalized by noun vocabulary entries if we accept the nanosyntactic lexicalization principle of *Phrasal Spell-out* (lexical entries can lexicalize non-terminal nodes) (Fábregas 2016), or we can simply propose a null iPoss head. The specifics about iPoss will be developed in section four. The focus will be on how *i* introduces inalienable relationship and determines why certain classes of nouns, and not others, are treated as inalienable possessees.

(17) Structure for inalienable-only complement-head compound *pelirrojo*



The complement *color* in English projects an NP that can be merged with the adjective head as any non-head does in a typical *root compound*, that is, without explicit relational material or significant meaning restrictions (there are alternative readings to the theme interpretation of *color* in *color blind*, for example, *air* can be interpreted as the cause of *sickness* in *airsick*) (18).

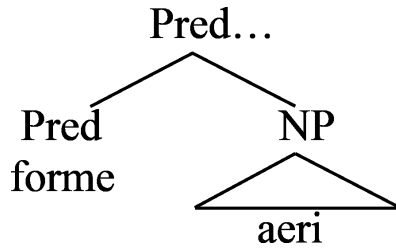
(18) Structure for English complement-head compound *color blind*



¹⁰ It is widely-assumed in the literature that adjectival predicates (*pelirrojo* in *Juan es pelirrojo*) are always related to their subjects (*Juan*) through a relational projection called *PredP* (Bowers 1993), which introduces these subjects in its specifier position.

The complement *aeri* in Latin projected a PP/KaseP (Svenonius 2010) but it does not now, as case-marking of nouns in Spanish is no longer active.¹¹ This fact would make the structure of *aeriforme* as simple as *color-blind*'s, although *forme* is not an existing adjective in Spanish – we capture that fact considering *forme* a predicative category-less head that introduces the external subject – and the theme vowel *i* has remained, together with the theme-only interpretation of the noun complement (19).¹²

(19) Structure for Classical compound-head compound *aeriforme*



Summing up, throughout this section it has been shown that the morphological traditions of languages do not by themselves justify the variation inside compounding, as the modifier-head structure is attested both in Spanish and English sharing their main characteristics, whereas the complement-head structures vary regarding their semantic interpretation and their morphophonological shape.

3 *Red-haired* and *pelirrojo*'s structure cannot be the same

3.1 *Similar structures, different morphophonologies?*

Red-haired and *pelirrojo* are prototypical examples of productive patterns of compounding with adjectives in their respective languages. The fact that they denote the same kind of individual with the same lexemes may reasonably lead us to conclude that they are formed equally. Serrano (1996) states that, despite their common denotation, compounds formed in the Germanic pattern of *red-haired* are quite distinct from *pelirrojo*. The key of his differential analysis is the noticeable absence of true parasynthesis in Spanish compounding, which leads the author to conclude that *pelirrojo* cannot be endowed with a parasynthetic structure such as the one of *red-haired*.

More recently, however, Gil Laforga (2014: 269) maintains that *red-haired* and *pelirrojo* only differ because of the position of the possessive morpheme: The English *-ed* is a suffix, whereas the Spanish *i* is a medial affix. She suggests that the analysis proposed for *pelirrojo* compounds in her work can be successfully implemented in the *red-haired* type. Both compounds would be paraphrased as in (20).

- (20) Juan es *pelirrojo*. → Juan **es de pelo rojo**.
 John is *red-haired*. → John **has red hair**.
 Italics: Possessive predication
 Bold: Attributive predication

As in (20), these compounds would establish two predications. About *pelo/hair*, the property of being *rojo/red* is predicated. About *Juan/John*, the possession of *pelo/hair* that

¹¹ Although we may consider *i* to be a true case-marker in direct Latin borrowings (Castronovo & Gariano 1997: 315), this consideration cannot be taken for granted when we deal with contemporary coined constructions such as *crateriforme* 'crater-shaped'.

¹² *Pred* in (19) means predicate and it alludes to the fact that *forme* is a predicative lexical unit without inflection. It is not to be confused with prior uses of *Pred*.

is also *rojo/red* is predicated. This interpretation of the structure of *pelirrojo* is not shared by other authors. Moyna (2011: 137–140), among many others (Alonso Cortés 1987; Sánchez Lopez 2003), maintains that the structure is headed by the adjective and that the noun is a complement of it. This structure allows the paraphrasing in (21).

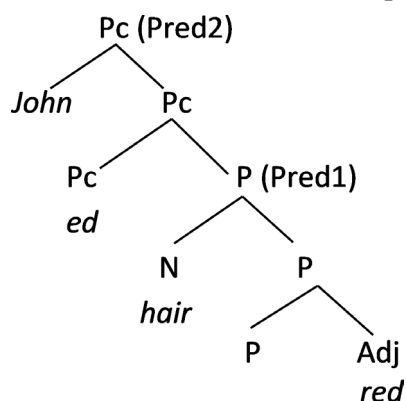
(21) Juan es rojo de pelo → *John is red of hair*

In the previous section, a structure was proposed that favors the paraphrase in (21), since it represents a complement-head structure.¹³

Even if Gil Laforga and Moyna do not (explicitly) adopt syntacticist approaches to compound formation, both accept the presence of *small clauses* (subject-predicate structures) in the internal structure of *pelirrojo*, a necessary apparatus to support their predication hypotheses, but hard to conciliate with the idea that compounds are constructed differently than phrases (an idea they support).

According to the former author, an adjective such as *rojo/red* needs relational structure to predicate from its subject *pelo/hair* (Pred1), and more relational structure is needed to predicate the possession of the complex *rojo + pelo* from a subject like *Juan/John* (Pred2), (22).

(22) Structure for *red-haired* (and *pelirrojo*), adapted from Gil Laforga (2014: 270)



¹³ Nevertheless, there are some non-trivial differences between *pelirrojo* and *red of hair*. For that reason, the parallelism should be kept to a minimum. For example, **ser azul de ojos* ‘to be blue of eyes’ is said to be ill-formed, whereas the compound *ojiazul* is not. Español Echevarria (1997) states that the structure ‘to be blue of eyes’ requires using gradable adjectives that, when applied to the *possessee*, affect to the *possessor* extensively: *ancha de cadera* ‘wide of hip’ would be well-formed because the width of the hip contributes to the overall width of the possessor. The compound does not have to fulfill this condition because any adjective can appear and *i* is responsible for the choice of the possessee. In contrast, *de* has no responsibility at all over the possessee: *corto de entendederas* ‘short of understanding’ has an abstract noun that is inconceivable as possessee inside the compound (**entendedericorto*).

Despite these facts, we can safely maintain that *pelirrojo* most resembles to the one-predicate structure *ser ancha de cadera* ‘to be wide of hip’ than to the double-predicate structure *tener los ojos azules* ‘to have the eyes blue’: the first one only codifies inalienable possession, the second one does not (*Juan tiene la copa vacía* ‘John has the cup empty’). The first one forbids the article in the complement projection (**ser ancha de la cadera* ‘*be wide of the hip’), the second one does not (*have the cup empty*); In the first one, the complement is introduced by a relational category (*de/of*), in the second one is not. Finally, the adjective agrees with the possessor in the first one (*María es ancha...* ‘Mary is wide.FEM...’), but with the possessee in the second one (*Juan tiene la copa vacía* ‘John has the.FEM cup empty.FEM’). *Pelirrojo*, then, share four characteristics with ‘to be wide of hip’: It is inalienable, it does not introduce the possessee with an article, but does introduce it with a relational category and, finally, it displays possessor-head agreement.

Hebrew adjectival constructs such as *yalda yefat* ‘*eynayim* lit. ‘girl + beautiful + eyes’ ‘a girl with beautiful eyes’ also present noteworthy similarities with complement-head compounds (Siloni 2002). They are adjective-headed, they present a phonological weak allomorph in the left constituent, they only codify inalienable possession, they, like *pelirrojo*, allow “extended” inalienable possesseees such as part-whole inanimate objects (*the mast of a boat*), (*tejado punt-i-agudo* lit. ‘roof + point + I + sharp-M’ ‘pointed roof’), but never kinship terms (**madríorgulloso* ‘proud of his mother’). Unlike *pelirrojo*, they are clearly phrasal, for instance, they allow coordinate possesseees.

But if we expect (22) to be the structure of both *red-haired* and *pelirrojo*, we lose the possibility of explaining the differences between them appealing to the medial affix (*i*) as opposed to the suffix (*-ed*) condition of the possessive morphemes, which was Gil Laforga's original intention.

The structure in (22) predicts an asymmetry between semantic and phonological representations in the Spanish case, because if the possession relationship dominates the syntactic constituent [pelo rojo], the isomorphic phonetic spell-out of the possessive morpheme *i* should occur over the whole, delivering a non-existent **pelorroji*. The term *spell-out* describes the translation of the syntactic construction into phonological substance.

Anyway, the proposal in (22) seems to be less troublesome for *red-haired* than for *pelirrojo*, as it clearly states that the noun behaves as the subject/external argument of the adjective. We cannot find a single unambiguous case of a lexical compound with a noun behaving like a subject/external argument in Spanish (23).

- (23) **robamaridos** 'Woman who steals other woman's **husbands**.' (husbands is the stolen thing, the theme)
 *'Husbands who steal women.' (husbands would be the external argument/the burglars)
castellanohablante 'speaking the language of Castilians' (**Castilian** is the spoken thing, the theme)
 *'Castilian person who speaks.' (Castilian would be the external argument/the speaker)

Gil Laforga already notices some of the paradoxical aspects of her analysis and suggests that the non-availability of structurally-isomorphic forms like **pelorrojado/pelorroji* lit. 'hair-redde'd is an ad hoc prohibition against Spanish possessive suffixes merging with complex stems (Gil Laforga 2014: 117).¹⁴ But this is not true, because the Spanish *-ado* can merge with complex stems,¹⁵ such as the ones in (24):

- (24) malhumorado deslenguado
 bad + temper + PP without + tongue + PP
 'bad-tempered' 'foul-mouthed'

An alternative answer, which was provided in the previous section, is that a word such as *deslenguado* exists, and not **pelirrojado*, precisely because the examples in (24) share the modifier-head structure of *red-haired* (not *pelirrojo*). In fact, Nevins & Myler (2014) and Myler (2016) propose an analysis of *red-haired* which is more akin to the modifier-head analysis put forward in the previous section. According to these authors, *-ed* is an adjectival head that takes a complement of compound size (*red-hair*) and not bigger (**John is lovely big blue-eyed*).¹⁶

¹⁴ The author assumes that these structures are morphologically different.

¹⁵ In these examples, the modifiers (*mal, des-*) merge with the nouns (*humor, lengua*) and the resulting phrases merge with *-ado* afterwards. The suffix establishes the possessive relationship between *temper/lengua* and the external possessor "having" *temper* and "not having" *lengua*. Gil Laforga assigns to *deslenguado* the pattern [des + N + ado] (Gil Laforga 2014: 133), illustrating that she believes it to be complex. It is true that *deslenguado* and *foul-mouthed* are different in the sense that **deslengua* is not attested in Spanish and *foul mouth* is in English. But this fact only evidences that **deslengua* is not a well-formed phrase in Spanish, not that *-ado* cannot adjoin complex stems.

¹⁶ According to Myler (2016: 345), *-ed* would differ from suffixes such as *-yoq* in the Quechua language because of the size of its complement. The latter takes a bigger complement than *-ed*, one including a *Possessor Phrase* (PossP) projection; on the contrary, the complement of *-ed* is considered a root; as such, it does not contain a PossP, which is a head in the extended projection of Noun Phrases. This implies that in the English language the inalienable relationship would depend on the selection of nouns such as *hair* and not on the presence of *Poss*.

We should remember that the semantic-phonological asymmetry simply arises if the structure proposed for *pelirrojo* is the same as the one proposed for *red-haired*. Therefore, we think it is advantageous to assume that only *pelo* (and not *pelo + rojo*) is within the scope of the possession relationship introduced by *i*. In my proposal, this is predicted by the fact that *i* only takes *pelo* as its complement.

3.2 Exocentric *pelirrojo* versus endocentric *red-haired*?

At least since Bloomfield (1933) the lack of head in constructions from the semantic point of view is called *semantic exocentricity* (e.g., the fact that a *petirrojo* lit. ‘breast-I-red’ is not a kind of ‘red’ but a ‘robin’). Other authors also take into account *categorial exocentricity*, for instance, the absence of an affix head *-ed* in cases such as *grey beard* (Olsen 2001). Rainer & Varela (1992) propose that *pelirrojo* compounds are exocentric in both senses. The idea is controversial because in *pelirrojo* there is a plausible candidate to be the head of the structure: The adjective agreeing in number and in gender with the external argument of the constructions in (25).

- (25) Los chico-s so-n pelirroj-o-s.
 DET.M.PL boy.M.PL BE.PL hair-red.M.PL
 ‘The boys are red-haired’
 La chic-a es pelirroj-a
 DET.F.S girl.F.S be.s hair-red.F.S
 ‘The girl is red-haired’

The authors find one interesting argument to support the categorial exocentricity, which is the fact that the structure apparently cannot be affixed (26).¹⁷

- (26) cuell-i-larg-o > *cuellilargura
 neck + I + long + M > *neck + I + length
 ‘long-necked’ > ‘long-neckedness’

But the affixations in (27) are perfectly fine for Spanish speakers, so the weirdness of *cuellilargura* should be related to stylistic reasons.

- (27) pelirrojaza ‘gorgeous red-haired woman’
 pelirrojillo ‘little red-haired’
 pelirrojez ‘redhairedness’
 pelirrojitis ‘obsession that some men have with red-haired women (or vice versa)’

Summing up, Rainer and Varela (1992: 133) and Gil Laforga (2014) share the assumptions that the noun in the compound satisfies the external argument of the adjective and that the adjective is not the head in the compound. They differ because the former consider that the compound has no head and the latter thinks that the affix *i* is the head.

I have argued against these approaches. Additionally, my proposal of the complement-head structure presented in section two is reinforced by the fact that the more convincing pieces of evidence used to argue the non-head status of *rojo* or the subject condition of *pelo* do not actually justify the intended structure, because they also work nicely with the complement-head one.

The first piece of evidence offered by Gil Laforga (2014: 74) is that, in a compound like *ojizarco* (30), the selection of the adjective *zarco* depends on the internal noun *ojo*

¹⁷ They also consider that a compound must be a co-hyponym of its head to be endocentric, but we do not agree with this because the head of a compound should not be identified with this criterion.

(28a) and is independent from the external one *people* (28b). That would justify the subject-predicate relationship between *ojo* and *zarco*.

- (28) a. oj-i-zarc-o
 eye + I + **blue** + M
 ‘with blue eyes’
 People are not “zarcos”, their eyes are.
- b. People can be ojizarcos

This evidence is weak because the selection of the adjective when it is complemented by a noun can also be influenced by the complement, as in (29). That phrase is headed by the adjective *zurdo* and the internal noun *pie* acts as its complement (29a). When we change the noun *pie* with the noun *nariz* in (29b) the choice of the adjective *zurdo* becomes strange.

- (29) a. zurdo **de pie**
 left **of foot**
 ‘left-footed’
 Ficharon un futbolista zurdo de pie
 ‘They signed up a left-footed footballer.’
- b. Existen zurdos **de nariz** (que solo respiran por el orificio izquierdo).
 ‘There are left-nosed people (they only breathe through the left nostril).’

The piece of evidence that could demonstrate that the adjective is not the head of the compound is that its distribution changes in the compound. *Roto* ‘broken’ functions with the copula *estar* ‘be’ in phrases (30a), but the same adjective can function with *ser* ‘be’ in compounding (30b) (Gil Laforga 2014: 66–67). If the adjective was the head, the copula would be the same it normally selects.

- (30) a. El juguete **está** roto.
 The toy **was.ESTAR** broken
 ‘The toy is broken.’
- b. Juan **es** un man-i-rrot-o.
 John **was.SER** a hand + I + break + PP + M
 ‘John is a spendthrift.’

But in (31) we can check that the change of copula is not related to headness. *Cerrado* ‘closed’ typically functions with *estar* in the syntax, like in (31a), but it can function with *ser* when the adjective is complemented (31b). If the change of copula can be related to a complement-head structure, as in (31b), then the complement-head structure for *pelirrojo* could be supported instead.

- (31) a. Juan *era/**estaba** cerrado al amor.
 John **was.ESTAR** closed to love
 ‘John was not willing to fall in love ever again.’
- b. Juan *estaba/**era** cerrado de mollera.
 John **was.SER** closed of brain
 ‘John was dim-witted.’

3.3 Interim conclusions and prospects

Throughout this section, I have argued against unifying *red-haired* and *pelirrojo* structures. I have proposed instead that *pele* is a complement of *rojo* in Spanish, whereas *red* is a modifier of *hair* in English. From this perspective, several analytical problems were avoided.

The relationship between *red* and *hair* in *red-haired* was conceived as a modifier-head structure and not as a subject-predicate one (small clause approaches). Among other reasons, we should expect agreement relationships inside compounding if we choose the subject-predicate approach, even if English does not exhibit them. Agreement is hardly a property to expect from lexical compounds. Besides, *red-haired* displays the default modifier-head order of English syntax. The subject-predicate proposal will predict *hair-redded*, since subjects precede predicates in English (Cinque 2014).¹⁸

Pelirrojo's order, being a complement-head structure, remains problematic, as it is not attested in Spanish syntax (32).

- (32) English head + complement order: the book of **Mary**
 English complement + head order: **Mary's** book
 Spanish head + complement order: el libro **de Maria**
 Spanish complement + head order: ***de Maria** libro

As a matter of fact, every noun + adjective combination of (33a) is a right-headed complement-head structure. These constructions are in no reasonable way linkable to the left-headed noun + adjective constructions of (33b). Constructions in (33a) have only one main stress, are semantically compositional and their constituents do not display noun + adjective agreement. Constructions in (33b) have two main stresses, are semantically idiosyncratic and their constituents agree.

- (33) a. videoaficionado pelirrojo canceriforme
 video + fan + M red + I + hair + M cancer + I + shaped
 'video fan' 'red-haired' 'canceriform'
- b. prensa amarilla ensaladilla rusa
 press + FEM yellow + FEM salad + small + FEM russian + FEM
 'gutter press' 'yellow' 'Russian salad'

The more plausible explanation for *pelirrojo*'s order is found in the Latin-imitating Humanistic origin of the compound. Although the right-headed deverbal compounds such as *videoaficionado* can be related to the contemporary cultural influence of English-speaking countries, that is not the case of *pelirrojo* constructions. *Pelirrojo* compounds are not borrowed from any language, but began to be productive in the Humanist period, when Classical languages had a powerful and even increasing influence.¹⁹ In (34) we provide examples of the kind of Classical compounds that would have served as models for *pelirrojo*.²⁰

- (34) Meyer Lübke (1895: 72)
 barb-i-rras-us al-i-pes
 beard + I + shaved wing + I + footed
 'without a beard' 'wing-footed'

¹⁸ An adjective functioning as a predicate appears on the right hand of its subject in English (*The paper is red*) whereas a modifier appears on its left, exactly as in the compound (*the red paper*). Perhaps it is convenient to think that the structure contained in a compound is the simplest possible, so, as there is a lesser structure in a modifier-head phrase than in a subject-predicate one, the former is favored anyway.

¹⁹ A cultural influence that promotes lexical borrowing, compounds included, and provides models for neologisms, especially in a written register. The Classical influence on *pelirrojo* could be understood as an argument against rule-based compound formation, that is, as analogy. Nevertheless, analogy cannot explain why *pelirrojo* and *rojo de pelo*, sharing a structure that is nearly identical, have distinct orders. To explain that fact, the synchronic rules of Syntax-Phonology interface are necessary.

²⁰ However, we should consider that the most common Latin compounds are like *red-haired*, such as *longimanus* lit. 'long + handed' (Bustos 1986: 324).

We cannot discard the possibility of the default noun+adjective order of Spanish attributive structures influencing the noun+adjective compounding. That idea might be supported by the fact that the first attested (unproductive) compounds, between the twelfth and fourteenth centuries, have no *i* (35a), although *i* was absent, too, in the Greek Accusative constructions of (35b), which has been said to influence *pelirrojo*.

- (35) a. sanguinemixto tiest herido cuello albo cabeztuerto
 ‘blood + mixed’ ‘head + wounded’ ‘neck + white’ ‘head + twisted’
 b. Sánchez López (2003: 165)
 desnuda el brazo, el pecho descubierta
 ‘naked the arm, the breast uncovered’

4 Inalienable possession

Throughout the previous sections, it has been shown that the only compound that forces one of its constituents to behave as an inalienable possessee is the *pelirrojo* type. It was anticipated that the reason why this happens is that *pelirrojo* contains a non-head provided with more complexity, more concretely, a Noun Phrase plus the relational category spelled out as *i*. This point will be developed further along the section. Additionally, we will link the inalienable specificity in compounding to similar phrasal phenomena.

4.1 Inalienable vs non-inalienable possession

A typical or non-inalienable possession relationship is never entailed by the possessee (bolded). We understand that there is a possession relationship in (36a), but a location one in (36b).

- (36) a. el **coche** de mi primo (possession) ‘my cousin’s **car**’
 b. el **coche** de la esquina (location) ‘the **car** on the corner’

If we search for similar non-inalienable relationships on compound patterns, we find that *head* would be in a possession relationship with *woman* in *a wrongheaded woman* (as women possess heads), but not with *policies* in *wrongheaded policies* (as policies do not possess heads).

Regarding *inalienable* possession, it is usually said that the relationship is entailed by the selection of the possessee. This fact can be syntactically represented making the possessee select the possessor as its argument (Vergnaud & Zubizarreta 1992; Alexiadou 2003) (37a). Thus, inalienable relationships are on a par with the ones between deverbal nouns and their complements (Barker 2008) (37b).

- (37) a. la boca del paciente (patient is the argument of mouth)
 the mouth of.the patient
 ‘the patient’s mouth’
 b. la decisión del presidente (president is the argument of decide/decision)
 the decision of.the president
 ‘the president’s decision’

These “possessee-selecting-the-possessor-from-the-lexicon” approaches are supported by the seemingly universal preference to perceive specific classes of nouns, such as body parts of humans, animals, or kinship terms (38), as inalienable possesseees.²¹

²¹ It is possible that there are better candidates to be considered as inherently inalienable, such as *afueras* ‘outskirts’ in *las afueras de la ciudad* ‘city outskirts’ or *lado* ‘side’ in *el lado positivo de la vida* ‘the bright side

- (38) las **manos** de Paula la **cola** del león el **padre** de María
 the hands of Paula the tail of lion the father of Mary
 ‘Paula’s **hands**’ ‘The lion’s **tail**’ ‘Mary’s **father**’

But some problems remain with lexically specifying the “special inalienable condition” of any of the nouns in (38): All of them allow non-inalienable uses, however metaphoric, (39), since *manos/hands* are not possessed by *cartas/cards*, *colas/queues* are not possessed by *metros/undergrounds* and *padres/fathers* are not possessed by *vidas/lives*.

- (39) una **mano** de cartas la **cola** del metro la vida **padre**
 a **hand** of cards’ the **tail** of the underground the life **father**
 (hand = ‘play’) (tail = ‘queue’) (father = ‘good’)

If, as (39) shows, even the most typical alienable nouns allow non-inalienable uses, we cannot codify them in the lexicon as always taking possessors as arguments, as it would overgenerate inalienability (see also Adger 2013).

An alternative is to maintain that there are indeed conceptual classes of nouns that favor inalienable uses, but that these uses are only compulsory in specific inalienable-only constructions.

An argument supporting this idea is that the conceptual noun classes treated as inalienable are variable among constructions, so we cannot predict the conceptual classes of the possessees that will appear inside them.

For example, the conceptual restrictions imposed by Spanish *pelirrojo* on possessees are quite severe, since a much wider amount of noun classes can be treated as inalienable possessees (Moyna 2011: 88). In the Italian dialects of Sardinian, for instance, we can find compounds translatable as *tronqu-i-blanc-o* lit. ‘trunk + I + white + M’ or *manill-i-larg-o* lit. ‘handle + I + long + M’ (Pinto, Paulis & Putzu 2011), whereas the conceptual classes to which the possessees *trunk* and *handle* belong are absent in the Spanish *pelirrojo*.

Furthermore, Spanish derivatives with suffix *-udo* (meaning roughly *with*) share the conceptual classes of possessees with *pelirrojo* (40a) plus a much wider range of them (40b–c): Neither **lan-i-fin-o* lit. ‘wool + I + thin + M’ nor **sañ-i-roj-o* lit. ‘rage + I + red + M’ exist as *pelirrojo* compounds.

- (40) a. cabezudo narigudo peludo
 head + with nose + with hair + with
 ‘stubborn’ ‘big-nosed’ ‘hairy’
- b. lanudo campanudo
 wool + with bell + with
 ‘woolen’ ‘bell-shaped’
- c. suertudo forzudo sañado
 luck + with strength + with fury + with
 ‘very lucky’ ‘tough’ ‘enraged’

Summing up, it does not suffice to say that *pelirrojo* codifies inalienable possession relationships because the nouns that appear in its internal position, such as *pelo* ‘hair’, are inalienable nouns. Although that constitutes a widely-held view, we need to supplement it with structural conditions. I argue that the access to the inalienable-only interpretation of nouns is structurally, not lexically, provided.

of life’. The problem is that they do not constitute homogenous conceptual classes.

Not even in the clearly polysemic pairs of (39) do we consider a good option to characterize the difference between alienable and inalienable uses through different lexical entries (see Vergnaud & Zubizarreta 1992: 596).

Some authors have proposed that affixes such as *-(c)ión* determine the argument-taking condition of derived nouns like *decision* in phrases like *the president's decision* (Borer 2013). The reason is that event nouns without suffixes like *war* never take arguments. If we generalized that analysis to our data, we would say that it is the relational head *i*, which we named *inalienable possession*, that forces its complement (the possessee) to take an argument (the possessor). That would result in the obligatorily inalienable interpretation of the relationship. It would be the relational category spelled out as *i* the responsible for making its complement *pe* be an inalienable possessee, not its noun class.²²

A consequence of that kind of approach is that it allows us to *explain* why the complement-head structures of *videoaficionado* and *color-blind* are not inalienable, since there is no relational category *i*. In addition to this, the *I* in *canceriforme* or *maniobrado* compounds, which it is not an *iPoss*, but a likely old case marker, determines the interpretation of the thematic role of the complement, but does not impose inalienability.

In this section, I have focused on why some compounds codify inalienable-only relationships and why the others do not. In the following section, I try to answer the question of how the relationship between possessor and possessee is established.

4.2 The syntactic distinctiveness of inalienability

Let us consider the behavior of *pelirrojo* in the context of inalienable phrasal phenomena.

We can find inalienable-only constructions in different kinds of languages, such as the double accusative constructions in Korean (41), in which alienable relationships are not codified (42) (Tomioka & Sim 2007: 2).²³

(41) Chelswu-ka Sunhee-lul **son**-ul cap-ass-ta.
Chelswu.NOM Sunhee.ACC **hand**.ACC grab.PAST.DECL
lit. 'Chelswu Sunhee hand grabbed'
'Chelswu grabbed Sunhee's hand.'

(42) *Chelswu-ka Sunhee-lul **cha**-lul cha-ass-ta.
Chelswu.NOM Sunhee.ACC **car**.ACC kick.PAST.DECL
lit. 'Chelswu Sunhee car kicked'
'Chelswu kicked Sunhee's car.'

The literature has paid special attention to Romance *external* possession structures (43). The possessor in these constructions tends to be the subject or the indirect object and it can be both nominal and pronominal. The possessee is a DP direct object. The contrast between (43) and (44) illustrate the different interpretations available for the inalienable-only constructions in (43) and the ones in (44).

- (43) a. Juan se cortó las venas. ('John cut *the/his veins.')
- b. Pluto se perseguía el rabo. ('Pluto went after *the/its tail.')
- (44) a. Juan se llevó al padrino. ('Juan took his/their/the best man.')
- b. María me trajo el coche. ('Mary brought my/Mary's/anybody's car.')

²² I would like to clarify that I differentiate the syntactically relevant aspects of meaning (e.g., alienable vs. inalienable contrast) from those that are not syntactically relevant (e.g., if the inalienable possessee is part of a human, an animal or an object, if it is material or immaterial, etc.). For that reason, I am not concerned with the variety of concepts appearing as internal nouns in *pelirrojo*, which can be treated as a purely conceptual phenomenon.

²³ See Gebregziabher (2012), who offers a review of Tigrinya, an Afroasiatic language of the Ethiopian Semitic branch, mainly spoken in Eritrea and northern Ethiopia. In that language, the syntactic differential behavior between inalienable and alienable constructions is rather striking.

The more remarkable fact about the inalienable constructions in (43) is, in fact, that their English equals with the intended meaning are constructed as *internal* possession structures: the possessor (determiner) is in the same phrase as the possessee noun, not outside like in the Spanish examples (see Guéron 1992: 135–138 for more details).

It is opportune to ask then if there is any relationship between this contrast and the different compounding patterns displayed by both languages.

Guéron (1992: 141) stipulates that the nature of the *external* possession constructions in Romance constructions is different from the same relationship in English. In the former language, it is an *argumental* binding (A-binding) relationship established between subjects/indirect objects and direct objects (45a). In the latter, it is not, so only binding with adjuncts (A'-Binding) is possible (45b).

- (45) a. Le golpeé **la cabeza** (A-binding)
 *I_i him_i.hit the head_i
 ‘I hit his head.’
- b. I hit John **on the head** (A'-binding)

Both Guéron and Vergnaud & Zubizarreta (1992) share the assumption that the differences involve the definite article. In rough outlines, for Guéron only the Romance definite article *la* can be *non-referential*, which makes a feature agreement relationship between *le* and *cabeza* in (45a) possible by not interrupting it. The relationship cannot cross the English (referential) *the* in *the head*, which would explain its ill-formation. For Vergnaud & Zubizarreta (1992: 635) only the Romance definite DP's can denote types (and not tokens), and being a *type* depends on the Romance article being an *expletive* in (45a), a determiner with no meaning or referential features.

However, if we accept any of these proposals, we cannot link these differences between English and Spanish with the compounding facts. The reason is that compounds do not contain a DP-possessee either in English or in Spanish (**elpelorojo*/**red-thehaired*).

Le Bruyn & Alexandropoulou (2013), on the other hand, argue that the differences should not be linked to the determiners, but to the resources available to license the relational/inalienable²⁴ interpretation of nouns. For instance, in Spanish, a word like *rebanada* ‘slice’ can be interpreted relationally in *internal* possession structures, when possessor *su* ‘his’ and possessee ‘slice’ are in the same phrase (46a), but also in the *external* ones, when the possessor (*me*) is outside the Noun Phrase and behaves as the argument of a pronominal verb (46b). As English verbs are non-pronominal, *hand* cannot license its relational interpretation as the Spanish word *mano* in (46b).

For my proposal, the crucial point is that the *external* possession constructions with PP possessives is acceptable in both languages (46c). The authors blame the preposition *on/en* for guaranteeing the linkage between *John/Juan* and *head/cabeza* (Le Bruyn & Alexandropoulou 2013: 326).

- (46) a. Comió su rebanada. ‘He_i ate his_i slice.’
 b. Me_i corté la mano_i. (*I me_i cut the hand_i) ‘I cut my hand.’
 c. Golpeé a Juan_i en_i la cabeza. ‘I hit John_i on_i the head.’

In section two, we analyzed *pelí* as a noun projection consisting of a Noun Phrase plus a relational possessive head. Thus, *i* in *pelí* was provided with relational content and it is responsible for the adjunct role of *pelí* in relation to *rojo*, the same as *en/on* in the PP *en la*

²⁴ Obviously, inalienable interpretation counts as a *relational* interpretation of a noun.

cabeza/on the head (46c). Following Den Dikken's (2006) approach to relators, we expect the relationship between *possessor* and *possessee* to be always mediated by a relational unit, no matter how it is spelled-out (as a P like *on* or as a suffix like *i*).

The binding approach assumed by Guéron could be, nevertheless, an alternative account for the fact that *i* makes *pelo* be an inalienable possessee of *Juan* in a sentence like *Juan es pelirrojo*. Forthcoming studies are welcomed to conciliate the existence of binding with the alleged absence of determiners inside compounds.

Summing up, the data analyzed through section four is intended to complement the proposals made in sections two and three in several ways. Firstly, I have characterized *pelirrojo* as an inalienable-only construction with its own conceptual profile, as opposed to non-inalienable compounds or other inalienable structures. Secondly, I have stated the correlation between the presence of the functional category *i* and the inalienable nature of *pelirrojo*.

I have showed that precisely the kind of relational categories to which *i* has been traditionally related, that is, prepositions like *de* 'of', are required to codify inalienable external possessor relationships whenever the possessee is not an argument of the verb. That happened in constructions such as *I hit John on the head*, it would be the case of *María es ancha de cadera*. 'Mary is wide of hip.' and, presumably, the adequate analysis for *pelirrojo*.

5 Conclusions

In this paper, I have argued that the structure of lexical compounds like *pelirrojo* is syntactic. As such, we can differentiate structures with different categorial projections and variable degrees of complexity. It follows from this kind of approach that compound types can be characterized according to their distributional properties and their structural semantics in unprecedented ways.

Concretely, I have argued that *pelirrojo* and *red-haired* are completely distinct from the point of view of their syntactic, semantic and phonological properties. Differences arise even when they are compared with Classical compounds such as *canceriforme* and English complement-head compounds such as *airsick*. All of them differ from *pelirrojo* because they are not inalienable-only constructions.

Even the lexicalist approaches frequently acknowledge that the grammatical relationships inside a compound are syntactic-like. What they cannot possibly explain, however, is the layered and complex structure that a lexical compound like *pelirrojo* seems to possess, according to our data, and the presence of relational categories with the properties we have attributed to *i*.

I have tried to demonstrate that the relationship between the possessor and the possessee inside *pelirrojo* may be considered as an argument against some lexicalist frameworks. Should the difference between phrases and compounds be troublesome for establishing certain kinds of long-distance relationships? The answer is no, according to Uriagereka (1999). The reason why the internal constituents of a compound do not usually participate in coreference relationships, undergo movement, or internal modification is not that they are formed using different rules, but the fact that the relevant syntactic features are absent.

Abbreviations

ACC = Accusative, ADJ = Adjective, DEC = Declarative, FEM = Feminine, IPoss = Inalienable Possession, NOM = Nominative, M = Masculine, N = Noun, P = Preposition, PP = Participle, Pred = Predication, PL = Plural, S = Singular, Sb = Somebody, Sth = Something

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Competing Interests

The author has no competing interests to declare.

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