Basque non-interrogative nola as a (de dicto) factive complementizer

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4.1 Introduction

Basque is an SOV (1) and *wh*-movement language (2)-(3) where the *wh*-phrase moves to the left periphery of the clause and is accompanied by movement of the verb to the position immediately following it. The pattern in general is the same for both argument (2a) and adjunct (3a) questions, and lack of verb movement generates ungrammaticality (2b)-(3b), see *i.a.* de Rijk (1969); Ortiz de Urbina (1989); Irurtzun (2016):

(1) Jonek gaur ura edan du.
Jon today water drink AUX
Jon drank water today.

(2) a. Nork edan du gaur ura?
who drink AUX today water
Who drank water today?

b. * Nork gaur ura edan du?
who today water drink AUX
Who drank water today?

(3) a. Noiz edan du Jonek ura?
when drink AUX Jon water
When did Jon drink water?

b. * Noiz Jonek ura edan du?
when Jon water drink AUX
When did Jon drink water?

Furthermore, this property generalizes to both embedded and matrix interrogative clauses, and just as in (2a) or (3a), in example (4) we observe a leftmost

position of the interrogative phrase (the O of the embedded clause) which is followed by the matrix verb (S-V inversion) but we also observe O-V inversion in the embedded clause. These movements of the verb are taken to be T-to-C movements, derivative of the *wh*-movement to Spec-CP which renders 'residual V2'.[1] In point of fact, failing to display residual V2 in either embedded (5), matrix (6), or both clauses (7) produces ungrammaticality (and the pattern is the same for focalizations):[2]

(4) Nork esan du Jonek [edan duela ura]?
who say AUX Jon drink AUX.C water
Who did Jon say that drank water?

(5) * Nork esan du Jonek [ura edan duela]?
who say AUX Jon water drink AUX.C
Who did Jon say that drank water?

(6) * Nork Jonek esan du [edan duela ura]?
who Jon say AUX drink AUX.C water
Who did Jon say that drank water?

(7) * Nork Jonek esan du [ura edan duela]?
who Jon say AUX water drink AUX.C
Who did Jon say that drank water?

4.1.1 (Non-)interrogative Subordinate (Wh-)clauses

However, a longstanding observation in Basque linguistics is that not all *wh*-phrases necessarily require adjacency to the verb. In particular, researchers such as Mitxelena (1981); Uriagereka (1992, 1999) or Etxepare & Ortiz de Urbina (2003) observe that "the operator-verb adjacency is occasionally absent, especially with *zergatik* "why" and other causal *wh*-words" (Etxepare & Ortiz de Urbina, 2003, 465). For instance (8b) without V2 is grammatical, just like the more canonical verb movement construction of (8a):

(8) a. Zergatik hil zuen zaldunak herensugea?
why kill AUX knight dragon
Why did the knight kill the dragon?

[1] Rizzi (1996, 64) defines residual V2 as "such construction-specific manifestations of I-to-C movement in a language (like English and the modern Romance languages except Rætho-Romansch) which does not generalize the V2 order to main declarative clauses".

[2] See Irurtzun (2016) for an overview of the syntax of interrogatives and focalizations in Basque.

b. Zergatik zaldunak herensugea hil zuen?
why knight dragon kill AUX
Why did the knight kill the dragon?

That is, in contrast to (8a), in (8b) we do not observe O-V inversion. However, contrary to what we saw in examples such as (3a) and the following, the result is grammatical with a *why*-question. There is a range of syntactic and semantic properties that tease appart the construals in (8), which Irurtzun (2021) links to the different first-merge position of *zergatik* and the divergent derivational dynamics of each construction.

In this chapter, I will analyze the behavior of another *wh*-word –*nola* 'how'– that can also surface without V2 effects. As I will be arguing, beyond being a *wh*-adjunct in matrix (9a)-(10a) and embedded questions (9b)-(10b), this element can also serve as a complementizer in embedded declarative clauses, where it does not trigger any movement of the verb.This type of construal is illustrated in examples (9c) and (10c).[3]

(9) a. Nola lortu du saria irabaztea?
how achieve AUX prize win.NMLZ
How did they manage to win the prize?

b. Peiok esan du nola lortu duen saria irabaztea.
Peio say AUX how achieve AUX.C prize win.NMLZ
Peio said how he managed to win the prize.

c. Peiok esan du nola saria irabaztea lortu duen.
Peio say AUX how prize win.NMLZ achieve AUX.C
Lit. Peio said how he managed to win the prize.

[3] *Nola* also appears in other constructions such as the protasis of correlatives (i) (see Rebuschi (2009)), in subordinate causal complements (ii) (see Ortiz de Urbina (1989, 263, fn. 2)), or in exclamatives (iii) (see Castro (2019) for similar data in Spanish).

(i) Nola bizi, hala hil.
how live thus die.
One dies the way one has lived.

(ii) Nola heldu berria naizen…
how arrive new be-C
Since I have just arrived…

(iii) Nola ez zarela etorriko?!
how NEG AUX.C come.FUT
How come you will not come?

(10) a. Nola prestatu du legatza?
how prepare AUX hake
How did they prepare the hake?

b. Anek azaldu du nola prestatu duen legatza.
Ane explain AUX how prepare AUX.C hake
Ane explained how she prepared the hake.

c. Anek azaldu du nola legatza prestatu duen.
Ane explain AUX how hake prepare AUX.C
Lit. Ane explained how she prepared the hake.

Euskaltzaindia (1999, 77) describes this use of *nola* as particularly employed in storytelling, with verbs like *esan* 'say', *kontatu* 'tell', *entzun* 'hear/listen' etc. but that it can also appear with other verbs such as *ikusi* 'see', *gogoratu* 'remember', *jakin* 'know' and verbs that denote 'knowledge'. However, as we will see below, the set of verbs allowing such construals is not restricted to that particular set.

Also, it should be mentioned that the special behavior of *nola* as a complementizer is no innovation, as it is attested already in Ancient and (Post-)Classical literature. This can be observed for instance in (11), taken from the first book printed in Basque (Etchepare's *Lingvæ Vasconum Primitiæ* (1545))[4], in (12) from a 1609 poem by M. de Aldaz[5]; or in (13), one of the abundant examples in Axular's (1643) *Gvero*[6]:

(11) [...] miraz nago iauna nola batere ezten aſſayatu bere lengoage
wonder be lord how no.one NEG.AUX.C try their language
propriaren fauoretan heuſcaraz cerbait obra eguitera eta ſcributan
own.of favour.in Basque some work do.to and written.in
imeitera [...]
put.to
[...] I am amazed my Lord, how none, for the good of his own language, has attempted to undertake or write some work in Basque [...]

(12) Ian baño len, oroyt çaite nola bertce ortçegunean, onen
eat than before remember AUX how other Thursday.in good.in
artean eman çuen gaysto bati oguian.
between give AUX evil one.to bread.in
Before eating, remember how the other Thursday they gave bread to an evil one among the good ones.

[4]English translation by M. Morris in Etxepare (1995, 193).
[5]This text is published in Michelena (1964, 115).
[6]Ch. 1, §3.

(13) Çuhaitzec ere erran ahal deçaquete. Eztacuſaçue nola gu ezcauden
trees too say can AUX see.not how we be.NOT.C
behin ere gueldiric eta ez alferric?
once too stopped and not lazy
Lit. The trees could also say: Don't you see how we are never still nor lazy?

Besides, rather than a Basque particularity, this construction is in many respects similar to the English embedding *how* constructions, as those analyzed in Legate (2010). Compare (14) with its Basque equivalent in (15):

(14) They told me how the tooth fairy doesn't really exist.

(15) Esan zidaten nola Perez sagutxoa ez den benetan existitzen.
say AUX how Perez small.mouse NEG AUX.C really exist
Lit. They told me how the small mouse Perez (=the tooth fairy) does not really exist.

And similar constructions can also be found in other languages such as French (16), from Defrancq (2009), or its equivalent in Spanish (17) (*cf.* also Legate (2010); Nye (2013); Umbach et al. (2021) and Corver (2022), Grønn (2022), and Umbach et al. (2022) in this volume for more cross-linguistic data):

(16) Sartre raconte dans *Les mots* comment il a fait enfance commune
Sartre narrate in the words how he AUX do infancy commune
avec le cinéma.
with the cinema
Sartre tells in *The Words* how he grew up with cinema.

(17) Sartre cuenta en *Las palabras* cómo hizo infancia común con el
Sartre narrate in las palabras how AUX infancy commune with the
cine.
cinema
Sartre tells in *The Words* how he grew up with cinema.

Also, like English *how* (*cf.* Liefke (2022)), *nola* can have both eventive and factive readings, and can be embedded under both perception (13) and report verbs (15).

In this paper I analyze the structure and interpretation of these *nola*-headed constructions arguing that they involve displaced embedded clauses which bring about factive interpretations. In the next section I outline the structure of the chapter.

4.1.2 Structure of the chapter

The chapter is divided as follows: in Section 4.2 I address the semantic interpretation of *nola*-headed non-V2 clauses, discussing their declarative nature. Furthermore, I argue that the *de dicto* reading that they have been associated with is not essential to them. What is essential is that these are factive constructions whereby the speaker is committed to the proposition expressed by the embedded clause. In Section 4.3 I analyze the internal and external structure of these clauses. In Section 4.4 I propose a possible analysis of the syntax-semantics interface that ties their postverbal position to their essentially factive interpretation. Last, Section 4.5 closes the chapter with the conclusions.

4.2 Interpretation of *nola*-headed embedded clauses

The three main interpretive characteristics of *nola*-headed non-V2 constructions are (i) that they are declarative (rather than interrogative), (ii) that they tend to be associated with *de dicto* readings, and (iii) that they are factive. I address each of these features in the next three subsections.

4.2.1 Declarativity

The first thing to note on this construction is that contrary to the V2-generating construction, sentences containing non-V2 *nola*-clauses are not interrogatives, but assertions.

As an illustration, in the regular V2 construction in (18a) we observe *nola*-verb adjacency and we have an embedded manner question interpretation. In consequence, these constructions are perfectly grammatical with verbs like *galdetu* 'ask' in the matrix clause, a question-embedding verb (18b):

(18) a. Begira nola estali du-en Jonek oparia.
look how wrap AUX-C Jon present
Look in which way John wrapped the present.

b. Galdetu nola estali du-en Jonek oparia.
ask how wrap AUX-C Jon present
Ask how John wrapped the present.

On the contrary, the non-V2 construction in (19a) does not have a manner-question interpretation but a completive (declarative) one. Therefore, this type of construal cannot be combined with a question-embedding verb, as witnessed by (19b):

(19) a. Begira nola Jonek oparia estali du-en.
look how Jon present wrap AUX-C
Lit. Look how Jon wrapped the present.

b. * Galdetu nola Jonek oparia estali du-en.
ask how Jon present wrap AUX-C
Lit. Ask how Jon wrapped the present.

Besides, given that V2 *nola* is employed for the generation of interrogative clauses, it can co-occur with interrogative particles such as *ote* (20a) –which adds a *wondering* interpretation (*cf.* Farkas (2022) on 'non-intrusive' questions with *oare* in Romanian).[7] This contrasts sharply with non-V2 *nola*, which is ungrammatical when combined with *ote* (20b):

(20) a. Galdetu zigun nola etorri ote zen Ane.
ask AUX how come PRT AUX.C Ane
They asked us how Ane may have come.

b. * Azaldu zigun nola Ane etorri ote zen.
explain AUX how Ane come PRT AUX.C
Lit. They explained us how Ane may have come.

This, again, bears testimony to the fact that non-V2 *nola*-headed clauses are declarative, rather than interrogative.

Finally, (interrogative) V2-*nola* clauses give rise to scope ambiguities that are absent from (declarative) non-V2 clauses. In (21a), the scopal interaction between the embedded interrogative phrase and the universal quantifier can be interpreted with either surface scope (*how*»∀) or inverse scope (∀»*how*), *i.e.* either with a collective or with a distributive interpretation. In (21b), on the other hand, there is no such scopal interaction, for as I will argue later, *nola* is a complementizer, rather than an interrogative element:

(21) a. Aipatu didate nola abestu duten guztiek.
mention AUX how sing AUX.C all
They told me how all of them sang.
how»∀ / ∀»*how*

b. Aipatu didate nola guztiek abestu duten.
mention AUX how sing AUX.C all
Lit. They told me how (≈that) all of them sang.

Besides, non-V2 *nola*-clauses tend to be associated with *de dicto* readings. This is further explored in the next section.

[7] See also Monforte (2020) for a syntactic analysis of Basque *ote*.

4.2.2 *De dicto* readings

In their brief mentions of such structures, Uriagereka (1992) and Ortiz de Urbina (1999) conjecture that *nola*-headed clauses introduce *de dicto* readings.[8] However, they do not engage in a discussion on the interpretation and the *de dictoness* of such clauses is left without proper justification, and it is not formalized either.

Following Frajzyngier & Jasperson (1991, 136), I will take it that

> "A clause is in the domain de dicto only when it is presented to the hearer as such, i.e., not as a direct description of an event but rather as a fragment of speech, or a fragment of linguistic representation which may contain a description of an event. Thus a proposition is in the domain de dicto when it has a metalinguistic function, viz., when it is presented as an object of discourse (cf. Dubois et al. (1973))."

Now, it is certainly true that non-V2 *nola*-headed clauses can be naturally introduced with verbs of saying (as we just saw in (21), or in (9c) and (10c), repeated here as (22) and (23) for convenience):

(22) Peiok esan du nola saria irabaztea lortu duen.
Peio say AUX how prize win.NMLZ achieve AUX.C
Lit. Peio said how he mannaged to win the prize.

(23) Anek azaldu du nola legatza prestatu duen.
Ane explain AUX how hake prepare AUX.C
Lit. Ane explained how she prepared the hake.

However, *nola*-headed non-V2 clauses can also be introduced by other types of verbs such as visual-perceptual *ikusi* 'see' (24), psychological *kezkatu* 'worry' (25), emotive-factive *gorroto* 'hate' (26) or doxastive factive *ohartu* 'realize' (27):[9]

(24) Ikusi dut nola mendi-puntan borda bat dagoen.
see AUX how mountain-top.in hut one be.C
Lit. I saw how there is a hut at the top of the mountain.

(25) Kezkatzen nau nola ekonomiak ez duen hobera egiten.
worry AUX how economy NEG AUX.C better.to do
Lit. It worries me how the economy doesn't improve.

[8] Defrancq (2009, 89) also employs the term *comment narratif* for French because "il semble résumer une série de procès faisant partie dun récit" [it seems to summarize a series of processes constituing a narration].

[9] See Djaerv (2019) for discussion on emotive *vs.* doxastive factives.

(26) Gorroto dut nola beti besteen gainetik gelditu nahi duzun.
hate AUX how always others.GEN over stop want AUX.C
Lit. I hate how you always want to be over the rest.

(27) Ohartu naiz nola bi gehi bi lau den.
realize AUX how two plus two four be.C
Lit. I realized how two plus two is four.

Likewise, the fact that *nola*-headed clauses do not inherently constitute *de dicto* environments can also be seen in that the sentence is deviant in environments that could accommodate speech entities (such as 'be obscure' (28a), 'be full of truths' (28b) and 'translate' (28c)).[10] On the contrary, it is perfectly grammatical in environments that explicitly deny any such previous speech act ('not saying' (29a), 'being a taboo' (29c), or 'silencing' (29b)):

(28) a. ? Iluna da nola bihar etorriko den.
obscure be how tomorrow come AUX.C
Lit. It is obscure how they will come tomorrow.

b. * Egiz josita dago da nola bihar etorriko den.
truth sewn be how tomorrow come AUX.C
Lit. It sewn of truths how they will come tomorrow.

c. * Jonek itzuli zuen nola bihar etorriko den.
Jon translate how tomorrow come AUX.C
Lit. Jon translated how he will come tomorrow.

(29) a. Ez du esan nola bihar etorriko den.
NEG AUX say how tomorrow come AUX.C
Lit. They did not say how they will come tomorrow.

b. Tabu bat da nola bihar etorriko den.
taboo one be how tomorrow come AUX.C
Lit. It is a taboo how they will come tomorrow.

c. Isildu du nola bihar etorriko den.
silence AUX say how tomorrow come AUX.C
Lit. They silenced how they will come tomorrow.

Also, even if *nola*-headed non-V2 constructions are very natural with *de dicto* interpretations, they can certainly also be interpreted as *de re*. In (30) Jon could entertain the thought that he wanted to talk to a specific singer he had in

[10] As a matter of fact, substitution of the *nola*-headed clause with discursive entities such as "John's joke" or "their discourse" in the examples in (28) the examples become fully grammatical.

mind (say, Benito Lertxundi), or to an unspecific person characterized by being a singer):

(30) Jonek esan zuen nola abeslari batekin hitz egin nahi zuen.
Jon say AUX how singer one.with word do want AUX
Lit. Jon said how he wanted to talk with a singer.
- *De dicto*: ∃x. singer(x)
- *De re*: B. Lertxundi.

Furthermore, *nola*-headed non-V2 clauses are also compatible with *de se* interpretations:

(31) Jonek aitortu du nola hautatua izan nahi duen.
Jon admit AUX how elected be want AUX.C
Lit. Jon admitted how he wants himself (*de se*) to be elected.

Besides, another fact that clashes with the idea that non-V2 *nola*-headed clauses are essentially *de dicto* is that they can be employed in presentative 'headline news' environments. Imagine a *Eureka!* moment such as the one reported by F. Crick on the discovery of DNA structure.[11] In such a situation, an assertion with non-V2 *nola* like (32) would be perfectly natural:

(32) Deskubritu dugu nola bizitzaren sekretua DNAren helize bikoitz
discover AUX how life.GEN secret DNA.GEN helix double
egituran dagoen.
structure.in be-C
Lit. We discovered how the secret of life lies in the double helix structure of DNA.

Crucially, in this situation the *nola*-headed embedded clause cannot be represented as "a fragment of speech", it does not involve any "metalinguistic function" (*cf.* Frajzyngier & Jasperson's (1991) quotation above). Nevertheless, the sentence is fully grammatical.

Likewise, *nola*-headed non-V2 clauses cannot constitute declaration speech acts. This is illustrated in (33), where a sharp grammaticality contrast can be observed between the declarative complement clause (33a) and the *nola*-headed clause in (33b):

[11] According to Watson (1968) on the 28 February 1953 Francis Crick "winged into the Eagle to tell everyone within hearing distance that we had found the secret of life".

(33) a. Honenbestez ebazten dut senar-emazte zaretela.
hereby rule AUX husband-wife be.C
I hereby declare you are husband and wife.

b. * Honenbestez ebazten dut nola senar-emazte zareten.
hereby rule AUX how husband-wife be.C
Lit. I hereby declare how you are husband and wife.

Last, unlike *bona fide de dicto* complementizers like those available in Chadic languages like Masa (34) or Buduma (35), Basque *nola* cannot be employed for the introduction of direct speech. This is shown by the ungrammaticality of (36) and (37), in contrast to (34) and (35):[12,13]

(34) ā? pūrkūm gə̀rō-nā v-ā? ká d-ā lā sūnù
3F Purkum child-PL-GEN PREP-3F INCH say-3F COMP mother-1SG
nāk bùr̄ kāy bàlāk-ŋā v-āk dî [Masa]
2F sleep on bed-GEN PREP-2F NEG
She Purkum, her children told her: Mother, you are not going to sleep in your bed.

(35) na-ca gé woli-ane genaa ma ga: "ma!" [Buduma]
3SG-say to son-3SG.POSS small DEM COMP stand
He said to his young son: "stand up!"

(36) * Mireni bere haurrek esan zioten nola ama, ez duzu zure ohean
Miren.to her children say AUX how mother NEG AUX your bed.in
lo egingo.
sleep do
To Miren, her children told her: Mother, you are not going to sleep in your bed.

(37) * Esan zion bere seme txikiari nola jaiki zaitez!
say AUX their son small.to how stand AUX
They said to their young son: "stand up!"

In consequence, even if *nola*-headed non-V2 clauses can be compatible with *de dicto* readings, I will conclude that such a reading is not inherent to them.[14]

[12]Example (34) is taken from Frajzyngier (1996, 102), whose source is Caitucoli (1986, 169–171); example (35) is taken from Frajzyngier (1996, 116), who in turn cites Lukas (1939, 83) as its source.

[13]To keep the Basque data the closest to the Chadic ones I did not add the subordinator *-n* here, but adding it the result is still plainly ungrammatical.

[14]As Frajzyngier (1996, 146) puts it, it also seems to be the case that "[c]ross-linguistic studies of de dicto complementizers indicate two potential sources for this grammatical category: verbs

Instead, in line with the suggestion in Uriagereka (1999), I would like to propose that rather than *de dicto* readings, *nola*-headed clauses introduce *factive* (presuppositional) readings.[15]

4.2.3 Factivity

Here I would like to make the case that such constructions are factive in the sense that they give rise to the projective inference that the speaker is committed to *p* of the embedded clause. With the use of the term 'factive' here I do not mean that these constructions are restricted to occur with the set of "factive verbs" but that the complement clauses themselves are presupposed; taken as part of the common ground.[16] Thus, whereas the simple complement clause with *-ela* in (38a) is agnostic as to whether Jon is a spy or not, the non-V2 *nola*-headed variant in (38b) can only be coherently uttered when the speaker believes ⟦that Jon is a spy⟧:

(38) a. Haur batek esan du Jon espioia dela.
child one say AUX Jon spy BE.C
A child said that Jon is a spy.

b. Haur batek esan du nola Jon espioia den.
child one say AUX how Jon spy BE.C
Lit. A child said how Jon is a spy.

The emergence of the factive reading can be observed when contrasting the following pair: in (39) with *nola*-V word order, the reading obtained is the embedded manner question reading, however in (40) with *nola*-X^n-V word order, it is the factive reading that is available:

(39) Anek azaldu du nola funtzionatzen duen Gödel-en frogak.
Ane explain AUX how work AUX.C Gödel-GEN proof
Ane explained how works Gödel's proof.

(40) Anek azaldu du nola Gödel-en frogak funtzionatzen duen.
Ane explain AUX how Gödel-GEN proof work AUX.C
Lit. Ane explained how Gödel's proof works.

For (39) to be true, Ane has to have engaged in an explanation of the logic under the proof, showing its internal premises and mechanisms. As a matter of

of saying and demonstratives (*cf.* Lord, 1976, 1993; Frajzyngier, 1984, 1991)." Basque *nola* does not fit in this general pattern.

[15] Uriagereka (1999) terms the readings as "pseudofactive".

[16] See Liefke's (2022) discussion of 'positive presuppositional verbs'.

fact, sentence (39) could actually be true, even if Gödel's proof were wrong. (40) on the other hand expresses that Ane explained that Gödel's proof (actually) works, and it presupposes its validity. (40) does not require for Ane to have engaged in an analysis of the structure of Gödel's proof, it suffices if she has expained that it *does* work.

Then, given their factive nature, the content of *nola*-headed clauses cannot be negated coherently. This is illustrated by the deviance of (41) and (42):

(41) Azaldu du nola gero etorriko den (# baina ez da etorriko).
explain AUX how later come AUX.C but NEG AUX come.FUT
Lit. They explained how they will come later (# but they will not come really).

(42) Aipatu zuen nola Ane Lyongoa den (# baina ez da egia).
mention AUX how Ane Lyon.from be.C but NEG be true
Lit. They mentioned how Ane is from Lyon (# but it is not true).

Likewise, following the pattern we saw above, (43) with *nola* left-adjacent to the verb can only be interpreted as an embedded *manner*-question. As such, the *wh*-construction is incompatible with focus (which also targets the preverbal position):

(43) * Anek azaldu du nola doan [ekonomia]$_F$.
Ane explain AUX how goes economy
Lit. Ane explained how [the economy]$_F$ goes.

However a minimal variant of (43) can be construed with the *nola*-X^n-V word order, and therefore with a factive reading (44a). Interestingly, the *nola*-initial non-V2 constructions are compatible with foci (44b). In these constructions, there is no restriction on *nola*-V adjacency and hence a focal element can intervene between them in in its canonical preverbal position. Alternatively, if we want to focus on the fact that the economy *is* working, synthetic verb *joan* 'go' has to be preceded by the positive polarity marker *ba-* (44c), which suggests that preceding *ekonomia* is topicalized (see Laka's (1990) ΣP).

(44) a. Anek azaldu du nola doan ekonomia.
Ane explain AUX how go.C economy
Lit. Ane explained how the economy goes.

b. Anek azaldu du nola [ekonomia]$_F$ doan.
Ane explain AUX how economy go.C
Lit. Ane explained how [the economy]$_F$ goes.

c. Anek azaldu du nola ekonomia ba-doan.
Ane explain AUX how economy POL-go.C
Ane explained how the economy is indeed working.

Besides, factivity in these constructions seems to be a property of the complement, as it arises independently of the verb used. Non-factive verbs (verbs that are not inherently factive) such as *esan* 'say' can take *nola* complements in the two construals: if there is no *nola*, the reading will be a plain declarative with no presuppositional implication (45a). Alternatively, if we have a non-V2 *nola*-construction, the reading will be factive, even with verbs that do not lexically require factive complements as is the case of (45b).[17] That is, even if the main verb in this example is a simple verb of saying (hence, not a factive verb), the construction itself is factive, presupposing that Bayonne is in Labourd:

(45) a. Anek esan du Baiona Lapurdin dago-ela.
Ane say AUX Bayonne Labourd.in be-C
Ane said that Bayonne is in Labourd.
(⊭ *that Bayonne is in Labourd.*)

b. Anek esan du nola Baiona Lapurdin dago-en.
Ane say AUX how Bayonne Labourd.in be-C
Lit. Ane said that Bayonne is in Labourd.
(⊨ *that Bayonne is in Labourd.*)

And, as could be expected, the factive presupposition survives under negation: example (46a) is a plain negative statement (with complementizer *-enik*) which is agnostic as to the truthfulness of the complement clause (it could be that Bayonne is in Labourd or not). In contrast, (46b) displays *nola* non-adjacent to the V and is therefore factive. The presupposition that Bayonne is in Labourd escapes negation, and (46b) presupposes it:

(46) a. Anek ez du esan Baiona Lapurdin dago-enik.
Ane NEG AUX say Bayonne Labourd.in be-C
Ane did not say that Bayonne is in Labourd.
(⊭ *that Bayonne is in Labourd.*)

b. Anek ez du esan nola Baiona Lapurdin dago-en.
Ane NEG AUX say how Bayonne Labourd.in be-C
Lit. Ane did not say how Bayonne is in Labourd.
(⊨ *that Bayonne is in Labourd.*)

[17] Cross-linguistically, verbs like *esan* 'say' are non-factive when they take a declarative complement, but 'veridical' when they take an interrogative complement (*cf.* Lahiri, 2002; Sharvit, 2002).

A non-trivial consequence of the factive nature of *nola*-complements is that analytic truths can be derived from syllogisms composed with *nola*-headed clauses. Observe the data in (47)-(48), where both in (47a) and in (48a) the premises are embedded under non-factive verb *esan* 'say'.

(47) a. Peiok esan du nola Sokrates gizakia den, eta nola gizaki guztiak
Peio say AUX how Socrates human be.C and how human all
hilkorrak diren.
mortal be.C
Lit. Peio said how Socrates is human and how all humans are mortals.

b. ∴ Socrates is mortal.

(48) a. Peiok esan du Sokrates gizakia dela, eta gizaki guztiak hilkorrak
Peio say AUX Socrates human be.C and human all mortal
direla.
be.C
Peio said that Socrates is human and all humans are mortals.

b. ∴ Socrates is mortal.

In (47a) both premisses are headed by *nola* and the conclusion in (47b) –*that therefore Socrates is mortal*– is derived analytically from them (*i.e.*, independently of world knowledge). This contrasts sharply with what we find in (48a), where the declarative complementizer *-ela* does not imply the truth (factivity) of its complement, and hence, the conclusion is not granted from the premisses (48b), as they are embedded under a verb of saying and, hence, could be false (even if sentence (48a) may still be true).

Also, given that *nola*-headed non-V2 clauses are factive, we should expect contrafactivity to generate clashes in these constructions. Observe the difference between the neutral *pentsatu* 'think' in (49), and the semantically loaded *imajinatu* 'imagine' (50), which is very close in meaning but implies the contrafactivity of its complement:

(49) a. Ainarak pentsatu du atzo euria egin zuela.
Ainara think AUX yesterday rain do AUX.C
Ainara thought that it rained yesterday.

b. Ainarak pentsatu du nola atzo euria egin zuen.
Ainara think AUX how yesterday rain do AUX.C
Lit. Ainara thought how it rained yesterday.

(50) a. Ainarak imajinatu du atzo euria egin zuela.
Ainara imagine AUX yesterday rain do AUX.C
Ainara imagined that it rained yesterday.

b. * Ainarak imajinatu du nola atzo euria egin zuen.
Ainara imagine AUX how yesterday rain do AUX.C
Lit. Ainara imagined how it rained yesterday.

While (49a) expresses that Ainara (mistakenly or not) thought that it rained yesterday, (49b) can only be uttered in a situation where it actually rained the day before. *Imajinatu* in (50a) brings about the reading where Ainara entertained the thought that it rained yesterday in a world distinct from the actual world (whichever it is), and then (50b) is directly ungrammatical for the clashing restrictions imposed by the factive complement and the depictive intensional verb (*cf.* Parsons, 1997; Larson, 2002).

Likewise contrafactual complement verbs like *espero* 'hope' (51), *uste* 'believe' (52), or *eskatu* 'demand' (53) can take regular declarative (*-ela*) complements (51a), (52a), (53a), but not *nola*-headed clauses (51b), (52b), (53b):

(51) a. Espero dut bihar euria egingo du-ela.
hope AUX tomorrow rain do AUX-C
I hope that tomorrow it will rain.

b. * Espero dut nola bihar euria egingo du-en.
hope AUX how tomorrow rain do AUX-C
Lit. I hope how tomorrow it will rain.

(52) a. Jonek uste du bihar euria egingo du-ela.
Jon believe AUX tomorrow rain do AUX-C
Jon believes that tomorrow it will rain.

b. * Jonek uste du nola bihar euria egingo du-en.
Jon believe AUX how tomorrow rain do AUX-C
Lit. Jon believes how tomorrow it will rain.

(53) a. Jonek eskatu du gauzak ongi egin daitez-ela.
Jon demand AUX things well do AUX-C
Jon demanded that things be done well.

b. * Jonek eskatu du nola gauzak ongi egin behar dir-en.
Jon demand AUX how things well do have AUX-C
Lit. Jon demanded how things have to be done well.

Furthermore, *nola*-headed non-V2 clauses cannot be embedded under subordinating verb *egon*, which has a conjecturing lexical value, requiring –at least for some speakers– the presence of the particle *ote* that we saw above:

(54) a. Nago ez ote den bihar laburpenak bidaltzeko azken
be NEG ote AUX-C tomorrow abstract submit.to last
eguna.
day
I suspect that the deadline for abstract submission is tomorrow.

b. * Nago nola ez ote den bihar laburpenak bidaltzeko azken
be how NEG ote AUX-C tomorrow abstract submit.to last
eguna.
day
I suspect how the deadline for abstract submission is tomorrow.

In (54a), embedding verb *nago* takes a bare embedded clause and the sentence is perfectly grammatical. However, if the subordinate is headed by *nola* (54b) the result is plainly deviant.

Also, they cannot co-occur with negative response-stance verbs. Observe the contrast between *azaldu* 'explain' in (55), and *gezurtatu* 'refute' (from *gezur* 'lie') in (56) and *ukatu* 'deny' in (57):

(55) Jonek azaldu du nola txikitan tiroketa bat ikusi zuen.
Jon explain AUX how child.in shooting one see AUX
Lit. Jon explained how he saw a shooting when he was a child.

(56) * Jonek gezurtatu du nola txikitan tiroketa bat ikusi zuen.
Jon refute AUX how child.in shooting one see AUX
Lit. Jon refuted how he saw a shooting when he was a child.

(57) * Jonek ukatu du nola txikitan tiroketa bat ikusi zuen.
Jon deny AUX how child.in shooting one see AUX
Lit. Jon denied how he saw a shooting when he was a child.

Last, works like Ormazabal & Uribe-Etxebarria (1996) have argued that there is a connection between factivity and the phenomenon of sequence of tense (SoT) or the lack thereof, to be precise. Their observation is that in environments where non-factive predicates like *believe* or *think* require SoT in the embedded clause, factive predicates like *point out* or *forget* do not require it. This is illustrated in (58) in English and (59) in Basque:

(58) a. * Mary believed/thought [that John will arrive tomorrow].
b. Mary pointed out/forgot [that John will arrive tomorrow].

(59) a. * Mirenek uste zuen [Jon bihar etorriko dela].
Miren believe AUX.PAST Jon tomorrow arrive AUX.PRES
Mary believed/thought that John will arrive tomorrow.

b. Mirenek gogoratu zigun [Jon bihar etorriko dela].
Miren point.out AUX.PAST Jon tomorrow arrive AUX.PRES
Mary pointed out to us that John will arrive tomorrow.

Now, as I said before *nola*-headed non-V2 clauses can be combined with predicates like *esan* 'say', which are not factive. In such constructions, SoT is not required, as shown in (60a), which contrasts with what happens with simple complement clauses, which require SoT (60c), as shown by the ungrammaticality of (60b):[18]

(60) a. Mirenek esan zuen nola bihar etorriko den.
Miren say AUX.PAST how tomorrow come AUX.PRES
Lit. Miren said how she will come tomorrow.

b. * Mirenek esan zuen bihar etorriko dela.
Miren say AUX.PAST tomorrow come AUX.PRES
Lit. Miren said that she will come tomorrow.

c. Mirenek esan zuen bihar etorriko zela.
Miren say AUX.PAST tomorrow come AUX.PAST
Lit. Miren said that she would come tomorrow.

Having established the factive semantic import of *nola*-headed non-V2 clauses, in Section 4.3 I analyze the external and internal structure of these constructions.

4.3 Structure of *nola*-headed embedded clauses

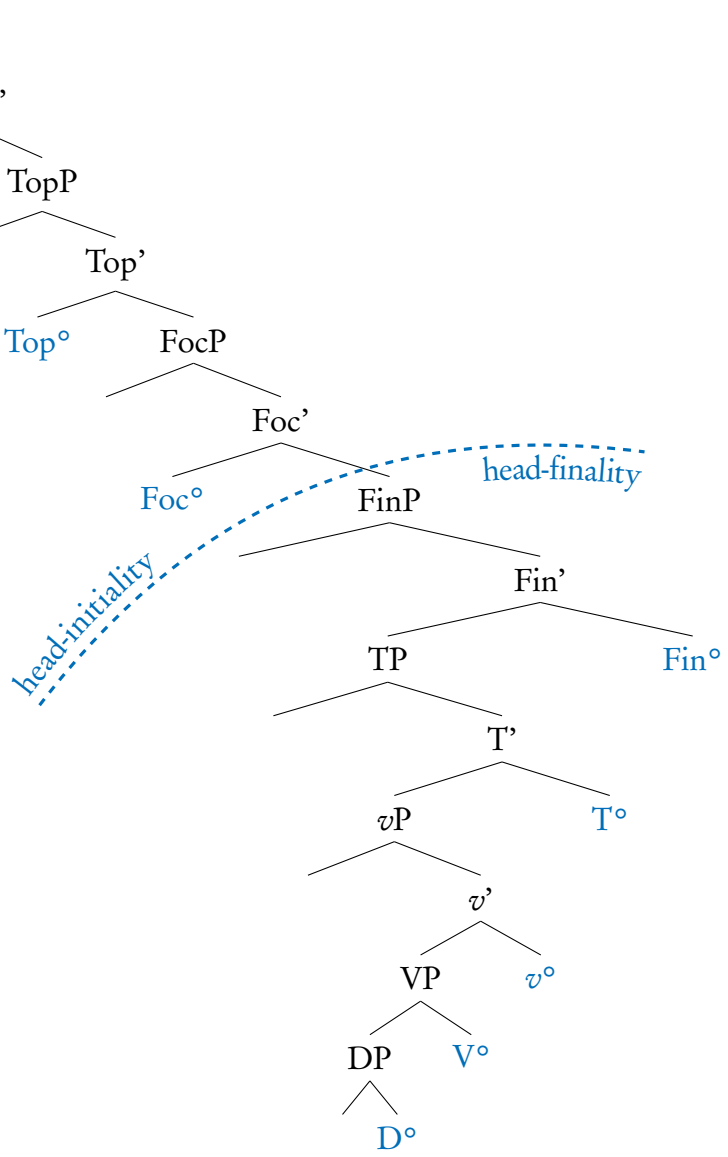
In this section I analyze the complementizer nature of *nola* (Section 4.3.1), and the syntactic structure above (Section 4.3.2) and below it (Section 4.3.3).

4.3.1 *Nola* as a complementizer

Decompositional analyses of the Basque clausal spine converge on the idea that it is consistently right-headed up to FinP, but that structure layers above FinP (such as FocP, TopP and ForceP) are left headed (see, among others Ortiz de Urbina (1999); Elordieta (2013); Duguine (2021)). This structure is represented in (61):

[18] According to the analysis in Ormazabal & Uribe-Etxebarria (1996), the future tense of non-factive complement clauses like (60b) is c-commanded by the past matrix tense and therefore it is not licensed (see also Higginbotham (2002, 2009) on SoT). In contrast, factive clauses like (60c) (and –I would add– (60a)) are displaced to a higher position in LF, which places their tenses out of the scope of the matrix tense specifications. See below for further discussion.

(61)



As I advanced, the *nola* which does not generate V2 patterns is a complementizer, rather than a manner *wh*-item. As such, it appears in the same position as other complementizers. For instance, Basque has an initial subordinator *ezen* (with allomorphs *eze, ezi*, and *ze*) which combines with *-ela* the same way that *nola* combines with *-en*. Observe the parallelism in (62a) and (62b):[19]

[19]Besides, both *nola*-headed and *ezen*-headed embedded clauses are restricted to postverbal position, see below.

(62) a. Esan du ezen bihar lana du-ela.
say AUX C tomorrow work AUX-C
They said that they have work tomorrow.

b. Esan du nola bihar lana du-en.
say AUX how tomorrow work AUX-C
Lit. They said how they have work tomorrow.

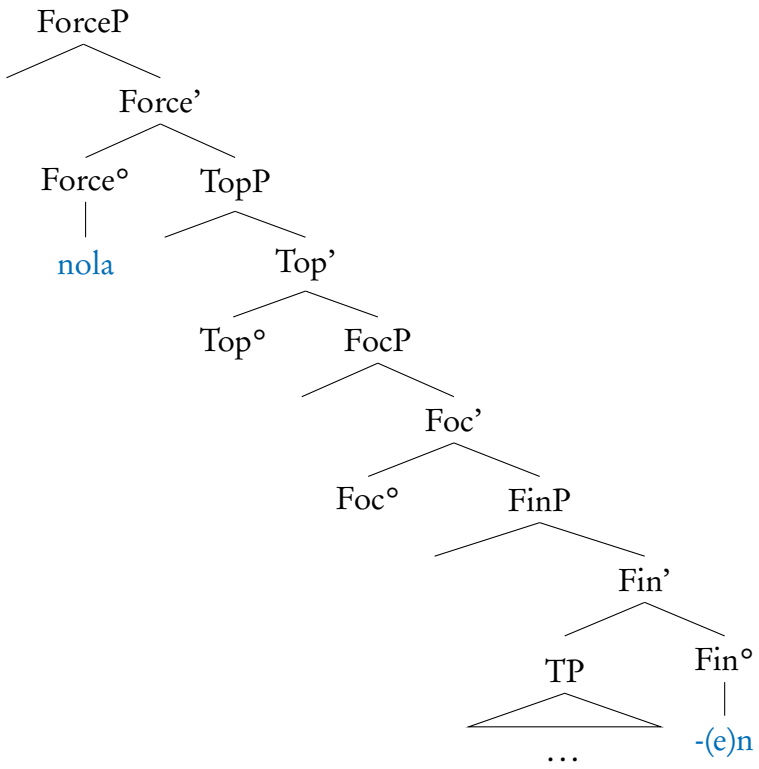
This is also the same position as the one occupied by embedded interrogative force head *ea* which –like *nola*– combines with *-en*, which according to the analysis by Ortiz de Urbina (1999) is a Fin°:

(63) Galdetu du ea bihar lanik du-en.
say AUX C tomorrow work.PART AUX-C
They asked whether they have work tomorrow.

My proposal is therefore that in *nola*-headed non-V2 constructions such as (64a) *nola* is a Force head which takes the whole embedded clause as its complement, where *-en* is the Fin head. This configuration is represented in the tree-structure in (64b):

(64) a. Jonek esan du nola bihar euria egingo du-en.
Jon say AUX how tomorrow rain do AUX-en
Lit. Jon said how tomorrow it will rain.

b.



Besides accounting for the positions of *nola* and *-en*, this articulated architecture of the split-CP explains the aforementioned fact that non-V2 *nola*-headed clauses can be combined with left peripheric topicalizations and focalizations, which are restricted to appear below *nola* (see Section 4.3.3).

4.3.2 Structure above *nola*

The first thing to note –and one that has already been mentioned– is that *nola*-headed clauses are severely degraded in preverbal position. This is a remarkable fact because even if the unmarked word order in Basque is SOV, when the verbal complement is an embedded clause it can surface either preverbally or postverbally quite freely (see Euskaltzaindia (1999); Ormazabal et al. (1994); Eguzkitza (2003); Artiagoitia (2003); Elordieta (2008) among many others). As an illustration, consider the paradigms in (65) and (66), taken from Ormazabal et al. (1994). In (65) we observe a simple statement with the neutral SOV order (65a). Then, the SVO order (65b) is deviant as such for an informationally neutral statement (it is rather the word order corresponding to a focalization of the subject). In contrast, when the O is a simple embedded clause as in (66), both the SOV (66a) and the SVO (66b) constructions are grammatical as all-new, informationally neutral:

(65) a. Mirenek egia esan zidan. [SOV]
Miren truth say AUX
Mary told me the truth.

b. * Mirenek esan zidan egia. [SVO]
Miren say AUX truth
Mary told me the truth.

(66) a. Mirenek [$_{CP}$ Parisera joango zela] esan zidan. [SOV]
Miren Paris.to go AUX.C say AUX
Miren told me that she was going to Paris.

b. Mirenek esan zidan [$_{CP}$ Parisera joango zela]. [SVO]
Miren say AUX Paris.to go AUX.C
Miren told me that she was going to Paris.

However this is not the case for non-V2 *nola*-headed clauses. Consider the paradigm in (67):

(67) a. Jonek [Ane nola etorriko den] aipatu du.
Jon Ane how come AUX mention AUX
Jon mentioned how Ane will come.

b. ?? Jonek [nola Ane etorriko den] aipatu du.
Jon how Ane come AUX mention AUX
Lit. Jon mentioned how Ane will come.

c. Jonek aipatu du [nola Ane etorriko den].
Jon mention AUX how Ane come AUX
Lit. Jon mentioned how Ane will come tomorrow.

Example (67a) displays V2 and the embedded manner-question interpretation of *nola*; this structure is perfectly grammatical with the OV order. However, the OV order is ungrammatical with non-V2 *nola*-headed clauses, as shown in (67b). Placing the non-V2 *nola* clause in postverbal position makes the structure grammatical, as shown in (67c).

Besides, so far we have only discussed constructions where *nola*-headed clauses are in object position. In point of fact, they cannot appear as the subject of unergative verbs (even postverbally):

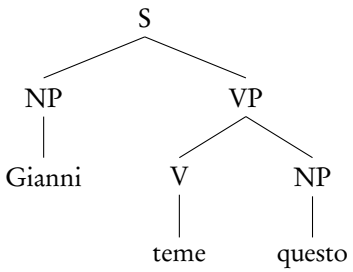
(68) * Funtzionatzen du nola isilik egon behar dugun.
function AUX how silent be need AUX.C
Lit. It works how we have to be silent.

(69) * Preskribatu du nola iruzur fiskala egin zenuen.
prescribe AUX how fraud fiscal do AUX.C
Lit. It prescribed how you committed fiscal fraud.

However, this is not due to a violation of a requirement on the overt externalization of the ergative case, as non-V2 *nola* clauses can appear as the subject theme/stimulus of psych verbs (a class of psych verbs in Basque that admit both a transitive (causative) and an itransitive (inchoative) construal). In general, in the transitive the stimulus surfaces as the ergative subject of the clause, as shown in the patterns in (70), adapted from Etxepare (2003):[20]

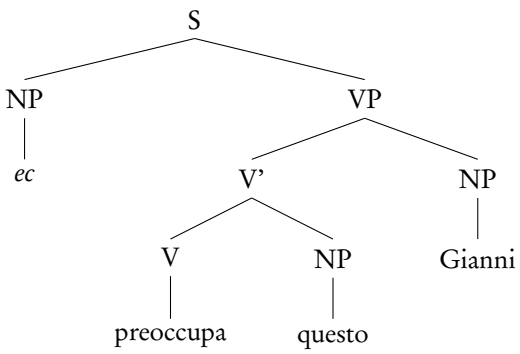
[20] According to Belletti & Rizzi's (1988) analysis of psych verbs, transitive verbs such as *temere* in (ia) derive from transitive D-Structures where the subject is the EXPERIENCER and the object is the THEME (ib):

(i) a. Gianni teme questo.
Gianni fear this
Gianni fears this.

b.


In contrast, other verbs such as *preoccupare* in (iia) are double object unaccusatives which take the THEME as their sister and the EXPERIENCER is higher up, conforming thus D-Structures like the one in (iib) with a nonthematic subject position:

(ii) a. Questo preoccupa Gianni.
this worry Gianni
This worries Gianni.

b.


(70) a. Kezkek zoratuko naute.
worries madden AUX.3PLERG.1SGABS
The worries will madden me.

b. Zoratuko naiz.
madden AUX.1SGABS
I will become mad.

(71) a. Garrasiek beldurtu naute.
screams frighten AUX.3PLERG.1SGABS
The screams frightened me.

b. Beldurtu naiz.
frighten AUX.1SGABS
I became frightened.

As I said, *nola*-headed non-V2 clauses can appear as the subject in these constructions (72a)-(73a) provided that –like the objects that we saw so far– they surface in postverbal position. However, in these constructions *nola*-clauses do not bear regular ergative case, even if they seem to control ergative agreement on the verb, as shown in (72b)-(73b):

(72) a. Zoratzen nau nola beti dena lurretik uzten duzun.
madden AUX how always all floor leave AUX.C
It maddens me how you always leave everything on the floor.

b. * Zoratzen nau nola beti dena lurretik uzten duzun-ek.
madden AUX how always all floor leave AUX.C-ERG
It maddens me how you always leave everything on the floor.

(73) a. Beldurtzen nau nola Peiok ez duen ezer egiten.
frighten AUX how Peio NEG AUX.C nothing do
It frightens me how Peio doesn't do anything.

b. * Beldurtzen nau nola Peiok ez duen ezer egiten-ek.
frighten AUX how Peio NEG AUX.C nothing do-ERG
It frightens me how Peio doesn't do anything.

Actually, conjoined *nola*-headed clauses are also grammatical in this position, where the matrix verb shows singular agreement (74a), plural agreement being deviant (74b):

Belletti & Rizzi (1988) argue that the verb assigns (inherent) accusative case to the EXPERIENCER under government, and since this is the only one Case that is assigned by the verb, the THEME moves to subject position, where it gets nominative.

(74) a. Beldurtzen nau nola Peiok ez duen ezer
frighten AUX.3SGERG.1SGABS how Peio NEG AUX.C nothing
egiten eta nola denei berdin zaizuen.
do and how all.DAT equal be.C
Lit. It frightens me how Peio doesn't do anything and how you all do not mind.

b. ?? Beldurtzen naute nola Peiok ez duen ezer
frighten AUX.3PLERG.1SGABS how Peio NEG AUX.C nothing
egiten eta nola denei berdin zaizuen.
do and how all.DAT equal be.C
Lit. It frightens me how Peio doesn't do anything and how you all do not mind.

Besides, *nola*-headed non-V2 clauses are grammatical as the only argument of unaccusative verbs:

(75) Hedatu da nola liburu bat idatzi duzun.
spread AUX how book one write AUX.C
Lit. It spread how you wrote a book.

But they can also appear as adjuncts specifying such elements, either with a contentful DP (76a), or with a dummy pronoun like *zera* (76b):

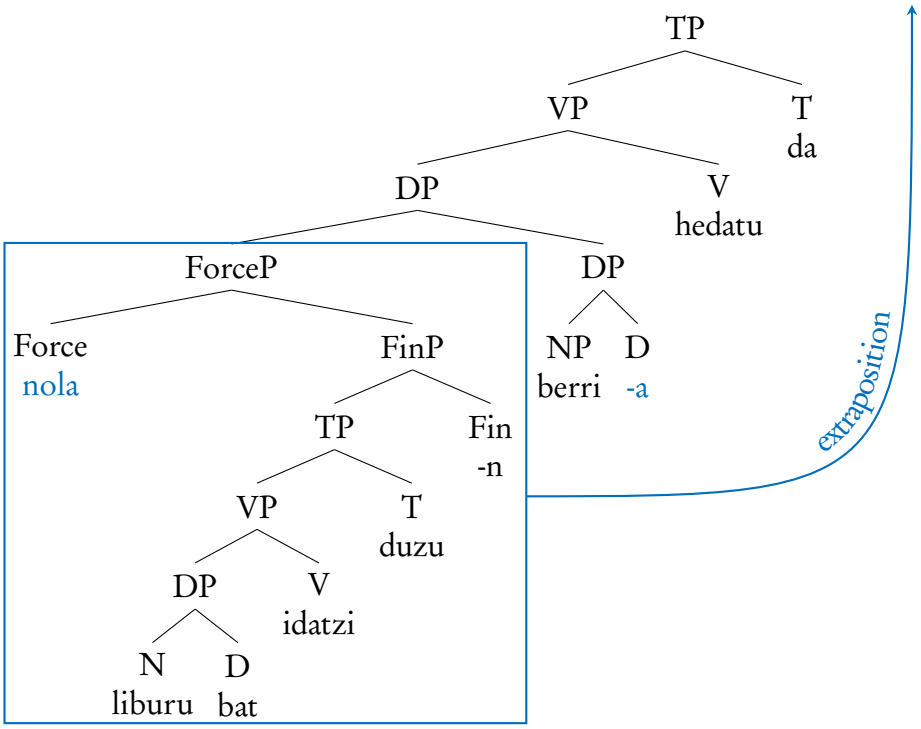
(76) a. Berri-a hedatu da nola liburu bat idatzi duzun.
news-DET spread AUX how book one write AUX.C
Lit. It spread the news how you wrote a book.

b. Zera hedatu da nola liburu bat idatzi duzun.
EXPL spread AUX how book one write AUX.C
Lit. It spread that, how you wrote a book.

This looks similar to an appositive relative clause where the pivot (*berria*) would be *in situ* and the relative extraposed to a postverbal position, as represented in (77) for sentence (76a):[21]

[21]For simplicity, here and henceforth I omit irrelevant structure in the tree representations.

(77)



As a matter of fact, the *nola*-headed clause functions like a modifier of the DP, just like the relative clause in (78):[22]

[22]These constructions may be a bit marked, given that Basque has alternative strategies for adnominal modification (see, among others, Eguzkitza (1993); de Rijk (2008)). Nevertheless, naturally occurring examples can be found in corpora. For example, (i) –taken from the newspaper *Lea-Artibai eta Mutrikuko Hitza*–, (ii) –adapted from the official synopsis of the movie *Eutsi!*–, or (iii) –from newspaper *Bizkaiko Hitza*.

(i) Proiektua lehiaketara aterako duten albistea iritsi zaigu.
project competition get.out AUX.C news arrive AUX
We got the news that they will open the project for competition.

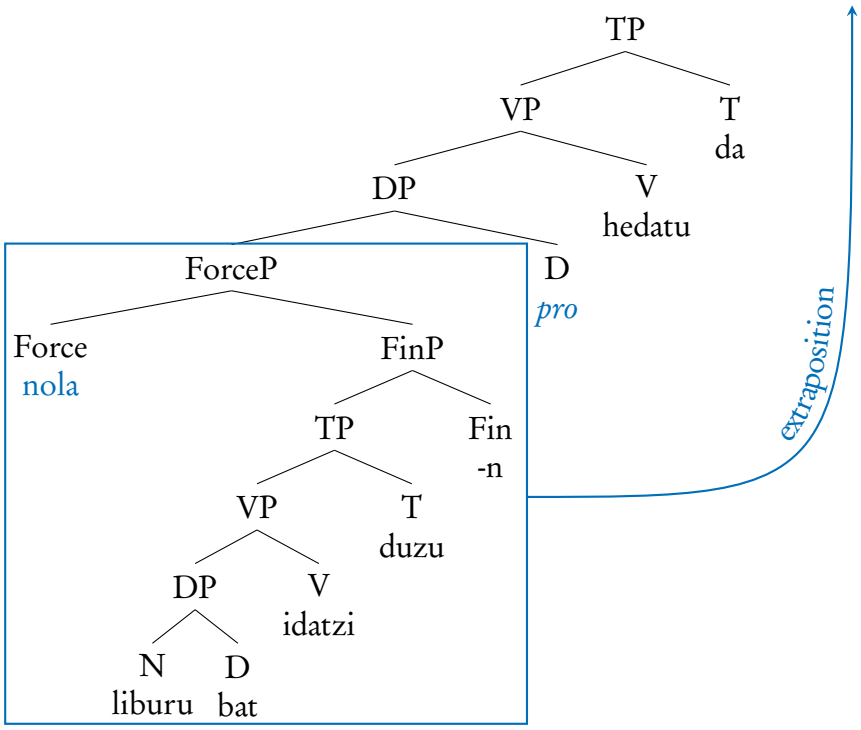
(ii) Lan egiten duten enpresa beste nonbaitera eramango duten zurrumurrua zabaldu da.
work do AUX.C company other somewhere take AUX.C rumour spread AUX
It spreaded the rumour that they are going to take the company where they work to somewhere else.

(iii) Gainontzeko taldeei indartsu gauden mezua helduko zaie.
other teams strong be.C message arrive AUX
It will arrive the message to the other teams that we are strong.

(78) Liburu bat idatzi duzun berria hedatu da.
book one write AUX.C news spread AUX
It spread the news that you wrote a book.

Thus, it could be conceived that in constructions like (75) an empty cataphoric pronoun sits in the preverbal object position, while the *nola*-headed clause is extraposed to a postverbal position:[23]

(79)



As I said, such a null cataphoric pronoun would be restricted to be singular, as plural agreement renders ungrammaticality. This is illustrated in the examples in (80) to (82):

(80) Jonek zurrumurruak entzun zituen nola lehen punky
Jon rumour hear AUX.3SGERG.3PLABS how before punk
itxurak zenituen.
appearance AUX.2SGERG.3PLABS
Lit. Jon heard the rumours how you had a punk appearance before.

[23] This is in line with Legate's (2010) analysis of English *how*-embedded clauses, where on independent grounds she proposes a DP headed by a null determiner taking the *how* clause as its complement.

(81) * Jonek *pro* entzun zituen nola lehen punky itxurak
Jon hear AUX.3SGERG.3PLABS how before punk appearance
zenituen.
AUX.2SGERG.3PLABS
Lit. Jon heard (the rumours) how you had a punk appearance before.

(82) Jonek *pro* entzun zuen nola lehen punky itxurak
Jon hear AUX.3SGERG.3SGABS how before punk appearance
zenituen.
AUX.2SGERG.3PLABS
Lit. Jon heard how you had a punk appearance before.

In (80) plural *zurrumurruak* 'rumours' agrees with the auxiliary in number, hence its form *z*-it-*uen* with plural object agreement marker *-it-*. However, plural agreement on the auxiliary is unavailable with an empty pronoun (81); only singular agreement is available, as shown in (82).

On a different plane, a range of syntactic tests have been employed in the literature on English syntax to tease apart non-factive *vs.* factive complements (see *i.a.* Kastner (2015)). For instance, it has been argued that factives in English constitute weak islands because both non-factives and factives allow extraction of complements, as illustrated in (83a) and (84a), but only non-factives allow extraction of subjects and adjuncts, as shown in the contrast between (83b)-(83c) and (84b)-(84c):

(83) a. *What* do you think that John stole ____?
b. *Who* do you think ____ stole the cookies?
c. Why do you think that John stole the cookies ____?

(84) a. *What* do you remember that John stole ____?
b. * *Who* do you remember ____ stole the cookies?
c. # Why do you remember that John stole the cookies ____?

In non-V2 *nola*-headed clauses in Basque neither objects (85a), nor subjects (85b) or adjuncts (85c) can be extracted:[24]

[24] According to Uriagereka (1992), these domains in English constitute islands for extraction, whereas in Basque extraction would be possible:

(i) Nori esan du Jonek [eman diotela saria]?
who.DAT say AUX Jon give AUX.C prize
Lit. Who did Jon say that they gave the prize to?

(85) a. * Zer esan zuen Jonek nola utzi zuen ____ Anek?
what say AUX Jon how leave AUX.C Ane
Lit. What did Jon say how Ane left it?

b. * Nork esan zuen Jonek nola ____ utzi zuen liburua?
who say AUX Jon how leave AUX.C book
Lit. Who did Jon say how left the book?

c. * Zergatik esan zuen Jonek nola utzi zuen Anek liburua ____?
why say AUX Jon how leave AUX.C Ane book
Lit. Why did Jon say how Ane left the book?

The pattern is similar in English *how*-headed clauses, which constitute strong islands for extraction (Legate, 2010). This behavior is also similar to English clauses prefaced by *the fact that*, where not even objects can be extracted:

(86) * *What* do you remember the fact that John stole ____?

A further property of English factive constructions is that they do not allow fronting to their left edge (87), as opposed to non-factive ones (88):

(87) a. John thinks that [this book, Mary read].
b. I can assure you that [that film, I dont want to ever see again].

(88) a. * John regrets that [this book, Mary read].
b. * John remembers that [this book, Mary read].

The behavior of *nola*-clauses is interesting in this respect, since they allow fronting within them below *nola* (see examples (101)-(103) below), but not crossing it, as shown here in (89a) and (89b):[25]

(ii) * Nori esan du Jonek nola saria eman dioten?
Jon say AUX Jon how prize give AUX
Lit. Who did Jon say how they gave the prize to?

(iii) ?? Nori esan du Jonek nola eman dioten saria?
Jon say AUX Jon how prize give AUX
Lit. Who did Jon say how they gave the prize to?

Uriagereka (1992) reports data like (ii) as grammatical, but other speakers judge them as clearly deviant. Maybe (iii) could be marginally acceptable but it is difficult to tease appart factive *nola* from interrogative *nola* with O-V inversion. However, (iv) could be a better example to avoid the *manner*-question interpretation of *nola* and it is clearly deviant:

(iv) * Zer esan du Jonek nola den handia?
what say AUX Jon how be.C big
Lit. What did Jon say how it is big?

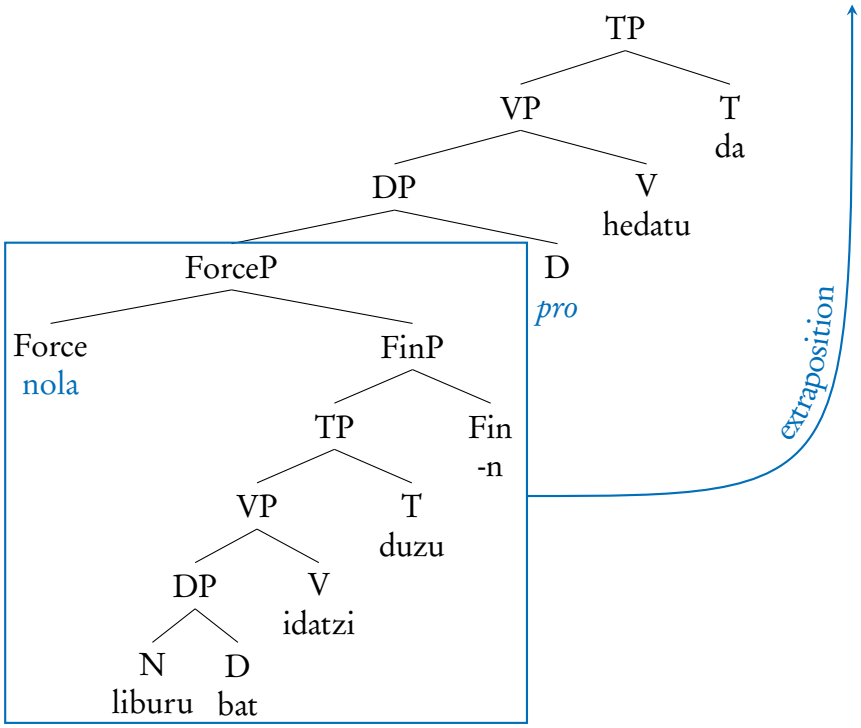
[25] A fact already noted by Rebuschi (1989).

(89) a. * Aipatu dut [margoa, nola lurrean zegoen].
mention AUX paint how floor was
Lit. I mentioned how the paint, it was on the floor.

b. * Aipatu dut [Jonek, nola margoa isuri duen].
mention AUX Jon how paint pour AUX
Lit. I mentioned how Jon, he poured the paint.

All in all, the syntactic properties and restrictions displayed by non-V2 *nola* headed clauses can be captured if we assume that these constructions are articulated CPs composed of a left headed Force°*nola* and a right headed Fin°*-(e)n* (and possibly Topics and Foci in between), which are in turn dominated by a DP layer. The ForceP will then be extrapossed to the right of the V as in (90), repeated from (79) form convenience:

(90)



In the next subsection I analyze the structure below *nola*.

4.3.3 Structure below *nola*

That complementizer *nola* sits very high in the structure can be observed in the fact that it can be followed by all sorts of elements. For instance, it can be followed by high adverbs such as modals like *seguruen* 'probably', evaluatives like

zorionez 'fortunately', conjunctives like *nolanahi ere* 'nevertheless' or pragmatic (speaker oriented) adjuncts like *egia esateko* 'frankly' (propositional), or *laburbilduz* 'briefly' (formal):[26]

(91) Azalduko dut nola seguruen bihar joango naizen.
explain.FUT AUX how probably tomorrow go.FUT AUX.C
Lit. I will explain how probably I will go tomorrow.

(92) Aipatu du nola zorionez Jonek liburu asko dituen.
mention AUX how fortunately Jon book many have.C
Lit. They mentioned how fortunately Jon has many books.

(93) Esan du nola nolanahi ere horrek ez duen garrantzirik.
say AUX how nevertheless that NEG AUX.C importance.PART
Lit. They said how nevertheless that is no important.

(94) Ikusi nuen nola egia esateko dena aldatu behar zen.
see AUX how frankly all change need AUX.C
Lit. I saw how frankly everything had to change.

(95) Esplikatu zuten nola laburbilduz Anek marrubiak jan zituen.
explain AUX how briefly Ane strawberries eat AUX.C
Lit. They explained how, briefly, Ane ate strawberries.

Interestingly, these types of 'high' adverbs tend to be degraded in polarity questions (and in general, in downward entailing contexts) as shown in (96) to (100) (*cf.* Bellert (1977); Nilsen (2003); Payne (2018)):

(96) * Jan al ditu seguruen Anek marrubiak?
eat Q AUX probably Ane strawberries
Lit. Did Ane probably eat the strawberries?

(97) * Jan al ditu zorionez Anek marrubiak?
eat Q AUX fortunately Ane strawberries
Lit. Did Ane fortunately eat the strawberries?

[26] Languages like English do not accept the introduction of high adverbs that freely, but analogous examples can also be found. See for instance (i) from Azzouni's (2020), or (ii) and (iii) from parliamentary debates of New Zealand and Australia:

(i) It should be realized that nevertheless Stanley is right.

(ii) I must confess that probably my experience in regard to matters financial has not been so varied.

(iii) I know that fortunately some go home and are welcomed by the mother.

(98) * Jan al ditu nolanahi ere Anek marrubiak?
eat Q AUX nevertheless Ane strawberries
Lit. Did Ane nevertheless eat strawberries?

(99) * Jan al ditu egia esateko Anek marrubiak?
eat Q AUX frankly Ane strawberries
Lit. Did Ane frankly eat strawberries?

(100) * Jan al ditu laburbilduz Anek marrubiak?
eat Q AUX briefly Ane strawberries
Lit. Did Ane briefly eat strawberries?

This, again, teases apart interrogative –V2 generating– *nola* from declarative complementizer *nola*, which does not generate V2 patterns.

Besides, high adverbs tend to be 'frame setting topics' (Féry & Krifka, 2008), but other types of topics are also allowed after *nola*. Examples (101), (102), and (103) provide evidence that left dislocated topics (subjects, objects, or direct objects) are perfectly grammatical in that position (outscoping the following foci, which appear in the immediate preverbal position):[27]

(101) Azaldu dut nola [Gödel-en frogak]$_T$ [erabateko kontsistentzia]$_F$
explain AUX how Gödel-GEN proof complete consistency
du-en.
have-C
Lit. I explained how Gödel's proof has [a complete]$_F$ consistency.

(102) Aipatu zuten nola [marrubiak]$_T$ [Anek]$_F$ jan zitu-en.
mention AUX how strawberries.ART Ane eat AUX-C
Lit. They mentioned how the strawberries, it was [Ane]$_F$ that ate them.

(103) Esan dit nola [Aneri]$_T$ [gurasoek]$_F$ erosi diote-n autoa.
tell AUX how Ane.DAT parents buy AUX-C car
Lit. They told me how to Ane, it was [her parents]$_F$ that bought her the car.

They can also be followed by contrastive topics.[28] As an illustration, the general question in (104A) can be answered with a series of propositions, each one answering a sub-question in a question-tree. In (104B), the first conjunct with

[27] Basque seems to lack 'hanging topics' of the Italian type (see Benincá & Poletto (2004) for an analysis of different types of foci).

[28] See Büring (1999); Umbach (2005) for discussion on the notion of contrast and contrastive topic.

gorriak 'the red ones' as contrastive topic and *dantzariek* 'the dancers' as focus provides an answer to the question *Who will wear the red dresses?*, whereas the second conjunct with *berdeak* 'the green ones' as contrastive topic and *musikariek* 'the musicians' as focus provides an answer to subquestion *Who will wear the green dresses?*:

(104) A. Azkenean, nork jantziko ditu jantzi horiek?
finally who wear.FUT AUX dress those
Lit. Finally, who will wear those dresses?

B. Jonek esplikatu zuen nola $[\text{gorriak}]_{CT}$ $[\text{dantzariek}]_{F}$ jantziko
Jon explain AUX how red.ART dancers wear
dituzten, eta $[\text{berdeak}]_{CT}$ $[\text{musikariek}]_{F}$.
AUX.C and [green.ART musicians
Lit. Jon explained how $[\text{the red ones}]_{CT}$, it's $[\text{the dancers}]_{F}$ that will wear them, and the $[\text{green ones}]_{CT}$, $[\text{the musicians}]_{F}$.

Furthermore, non-V2 *nola* can be combined with negation (105a), as opposed to interrogative *nola* (105b) and (105c):[29]

(105) a. Begira nola Jonek ez duen oparia estali.
look how Jon NEG AUX present wrap
Lit. Look how Jon did not wrap the present.

b. * Galdetu nola ez duen Jonek oparia estali.
ask how NEG AUX Jon present wrap
Lit. Look how Jon did not wrap the present.

c. * Nola ez du Jonek oparia estali?
how NEG AUX Jon present wrap
Lit. How did not Jon wrap the present?

All this suggests that a complete embedded clause underlies the *nola*-complements. Further evidence in this regard is provided by the fact that they cannot be infinitival clauses, as explained below.

4.3.3.1 *Tenselessness

As can be seen below, interrogative *nola* can appear with nonfinite clauses (106a), whereas non-V2 *nola* cannot (106b):

[29] See Rizzi (1990) or Kuno & Takami (1997) on negative islands.

(106) a. Esplikatu zidan nola egin etxeko lana.
explain AUX how make house.GEN work
Lit. They explained me how to do the homework.

b. * Esplikatu zidan nola etxeko lana egin.
explain AUX how house.GEN work make
Lit. They explained me how to do the homework.

Besides, the complement clause cannot be in subjunctive, as shown in the paradigm in (107)-(110):

(107) Jonek esan du gauzak ongi egin ditzate-la.
Jon say AUX things well do AUX.SUBJ-en
Jon said that they (should) do things right.

(108) Jonek esan du nola gauzak ongi egin behar dituzt-en.
Jon say AUX how things well do have AUX-en
Lit. Jon said how they should do things right.

(109) * Jonek esan du nola gauzak ongi egin behar ditzat-en.
Jon say AUX how things well do have AUX.SUBJ-en
Lit. Jon said how they should do things right.

(110) * Jonek esan du nola gauzak ongi egin behar ditzat-ela.
Jon say AUX how things well do have AUX.SUBJ-ela
Lit. Jon said how they should do things right.

In a nutshell, a fully specified tense specification is required in *nola*-headed non-V2 clauses. This may be tied to another particularity of these clauses which has been already advanced: they require selection of complementizer (Fin°) *-(e)n*. This is further explored in the next section.

4.3.3.2 Selection of complementizer *-(e)n*

As already advanced, non-V2 *nola*-headed clauses necessarily require subordinator *-(e)n*. This subordinator –lacking any other complementizer element– is generally employed for embedded polar (111a) and content (111b) interrogatives, as well as in relative clauses (112):[30]

(111) a. Ez dakit [ekarriko duzu-n].
NEG know bring AUX-C
I don't know whether you will bring it.

[30] Also for subjunctive clauses (*cf.* Artiagoitia, 2003; Oyharçabal, 2003).

b. Ez dakit [non utziko duzu-n].
NEG know where leave AUX-C
I don't know where you will leave it.

(112) Irakurri duzu-n liburua erori da.
read AUX-C book fall AUX
The book that you read fell down.

This is not the only subordinator complementizer available in Basque; this language also has declarative and negative complementizers (see (113a)-(113b) for an illustration). However combination of the non-V2 *nola* construction with either declarative complementizer *-ela* (114a) or with negative complementizer *-enik* (114b)-(114c) renders ungrammaticality:

(113) a. Begira Jonek oparia estali du-ela.
look Jon present wrap AUX-C
Look that Jon wrapped the present.

b. Ukatu du Jonek oparia estali du-enik.
deny AUX Jon present wrap AUX-C(NEG)
They denied that Jon wrapped the present.

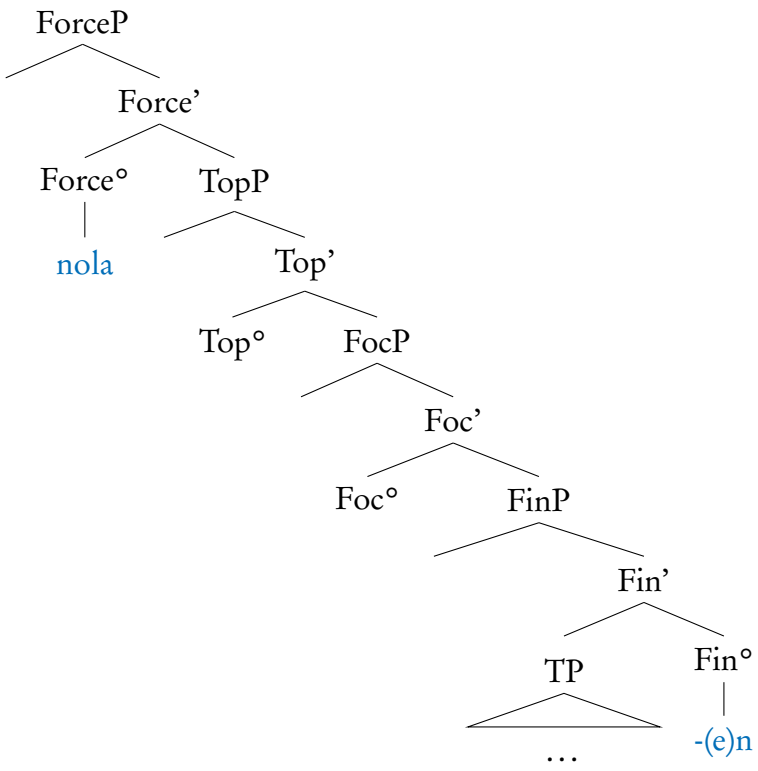
(114) a. * Begira nola Jonek oparia estali du-ela.
look how Jon present wrap AUX-C
Lit. Look how Jon wrapped the present.

b. * Begira nola Jonek oparia estali du-enik.
look how Jon present wrap AUX-C(NEG)
Lit. Look how Jon wrapped the present.

c. * Ez begira nola Jonek oparia estali du-enik.
NEG look how Jon present wrap AUX-C(NEG)
Lit. Do not look how Jon wrapped the present.

That is why I proposed an internal structure such as (64b), repeated here as (115); an articulated split CP combining Force° *nola* and Fin° *-(e)n*:

(115)



In the next section I analyze the syntax-semantics interface mapping of these constructions.

4.4 Syntax-Semantics interface

In a nutshell, so far I argued for the following main points:

1. *Nola*-headed non-V2 clauses are clausal modifiers of DPs.
2. They are factive.
3. They are obligatorily postverbal.

In what follows I will suggest a possible route of analysis of the syntax-semantics interface that ties these properties together, even though due to space limitations, I will have to leave a detailed analysis for future work.

4.4.1 Phrase structure and the postverbal position

The first piece of the puzzle is the obligatory postverbal position of non-V2 *nola*-headed clauses. The paradigm in (67b)-(67c), repeated here as (116a)-(116b) illustrates this point. (116a), with the canonical or neutral OV word order is deviant whereas the VO construction of (116b) is perfectly grammatical:

(116) a. ?? Jonek [nola Ane etorriko d-en] aipatu du.
Jon how Ane come AUX-C mention AUX
Lit. Jon mentioned how Ane will come.

b. Jonek aipatu du [nola Ane etorriko d-en].
Jon mention AUX how Ane come AUX-C
Lit. Jon mentioned how Ane will come tomorrow.

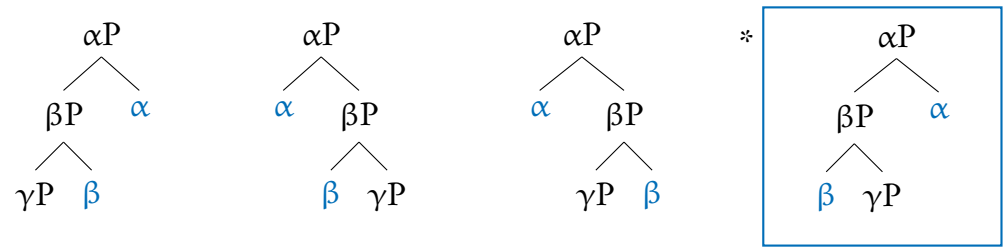
I would like to propose that a natural way of understanding these patterns is in terms of the *Final-over-Final Condition* (FOFC), a derivational phrase structure condition proposed in works like Biberauer et al. (2014) and Sheehan et al. (2017); or in Etxepare & Haddican (2017) and Duguine (2021) in the realm of Basque linguistics. The definition of FOFC is provided in (117):[31]

(117) THE FINAL-OVER-FINAL CONDITION: A head-final phrase αP cannot immediately dominate a head-initial phrase βP, if α and β are members of the same extended projection.

[31] Evidence for such a condition comes from a detailed comparative syntax of all sorts of structures (PPs, DPs, VPs, TPs, CPs…) of a wide range of languages (see Biberauer et al. (2017), or Sheehan et al. (2017) in general).

[from Holmberg (2017, 1)]

That is, even if harmonic Final-over-Final (a) and Initial-over-Initial (b) configurations, as well as disharmonic Initial-over-final (c) configurations are convergent, the FOFC rules out disharmonic configurations composed of a head-final projection immediately dominating a head-initial projection such as (d) in Figure 4.1 below:

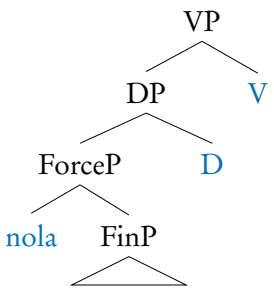


a. Harmonic: Final-over-Final | b. Harmonic: Initial-over-Initial | c. Disharmonic: Initial-over-Final | d. **Disharmonic: Final-over-Initial**

Figure 4.1: Logically possible complementation combinations among head-initial and head-final categories (adapted from Biberauer et al. (2014, 171)).

Precisely, this is what we have in a *nola*-headed non-V2 construction: a configuration with a *nola*-initial embedded clause dominated by a head-final D element (like expletive *zera* or the contentful *zurrumurruak* 'the gossips' or *berria* 'the news' that we saw above) constitutes a FOFC-violating configuration (*cf.* Biberauer et al., 2014). The structure is illustrated in (118), where the head-initial ForceP appears dominated by the head-final DP (and VP):

(118) *



What we observe in the Basque data is that such an illicit configuration is avoided *via* movement of the embedded CP to the right of the verb. It is this displacement that explains the obligatory postverbal position of non-V2 *nola*-clauses. Furthermore, we can observe that the requirement on a postverbal

position is not a mere surface condition but a structural one. It is the FOFC that explains the grammaticality of (119a) *vis-à-vis* the ungrammaticality of (119b):

(119) a. * Zuk zeuk eman zenuen [nola lana lortu zenu-en] berria.
you yourself give AUX how job achieve AUX-C news
Lit. It's you that gave the news how you got a job.

b. Zuk zeuk eman zenuen berria [nola lana lortu zenu-en].
you yourself give AUX news how job achieve AUX-C
Lit. It's you that gave the news how you got a job.

In both examples in (119) we observe a focalization of the matrix subject (which is composed with the emphatic pronoun *zuk zeuk* 'you yourself'). As mentioned in the introduction, in Basque focalizations are syntactically encoded with leftward movement of the focus to Spec-FocP, which is followed by movement of the inflected verb to Foc°(T-to-C movement); just like in *wh*-questions. Hence the SVO order in subject-focus constructions. What the paradigm in (119) shows is that having a surface V-O word order after a focalization of the subject where the O is a non-V2 *nola*-clause does not suffice for convergence; rather, the embeded clause has to evacuate its (FOFC offending) position. Thus, in (119a) we have focalization of the subject *zuk zeuk* of the matrix clause, which triggers movement of the verb to its immediate following position. The complex O is left in its base word order (*nola*... *berria*), and the result is ungrammatical. As I said, this is due to the fact that in this construction a FOFC-violating configuration underlies (118). However, displacement of the embedded *nola*-phrase (ForceP) to the right of *berria* dissolves the FOFC-violating configuration, and the sentence is perfectly grammatical.

What is more, the movement of the *nola*-phrase cannot be local; it has to be an extraposition to the right periphery of the clause, as shown by the contrast between (120a) and (120b):

(120) a. * Zuk zeuk eman zenion berria [nola lana lortu zenu-en]
you yourself give AUX news how job achieve AUX-C
Aneri.
Ane.to
Lit. It's you that gave the news to Ane how you got a job.

b. Zuk zeuk eman zenion berria Aneri [nola lana lortu zenu-en].
you yourself give AUX news Ane.to how job achieve AUX-C
Lit. It's you that gave the news to Ane how you got a job.

In the examples in (120) we have dative *Aneri* which shows that extraposition of the *nola*-clause has to be to a rightmost position (120b), as local displacement renders ungrammaticality (120a).

An interesting fact is that the postverbal displacement of the ForceP is correlated with interpretive consequences, as we will see next. The DP layer that dominates the *nola*-phrase adds the presuppositional reading typically associated to these structures, but I would like to point out that the movements that we observe in Basque motivated by FOFC are equivalent to covert displacements that have been proposed on the literature as responsible of generating the factive readings.

In his analysis of factive *vs.* non-factive clausal complements in English, Ormazabal (1995) proposed that contrary to non-factive complements, factive complements undergo right adjunction in Logical Form, then

> "Consequently, the different interpretation is not directly associated with the internal structure of the CP-complement, but it derives from the structural position that CP occupies with respect to the matrix predicate in propositional and factive contexts, a difference that ultimately will determine whether the fulfillment of the event denoted by the embedded TP is to be evaluated with respect to the mental model of the subject of the propositional predicate or it is bound in the discourse model, and therefore presupposed."
>
> [Ormazabal (1995, ch 4, p. 10)]

This is represented in Figure 4.2:[32]

[32]Furthermore, appositive relative clauses are similar to non-V2 *nola*-headed clauses also in this respect, for they have also been argued to undergo covert extraposition movements which provide them with their characteristic dual integrated/orphan nature (*cf.* Demirdache, 1991; Del Gobbo, 2007).

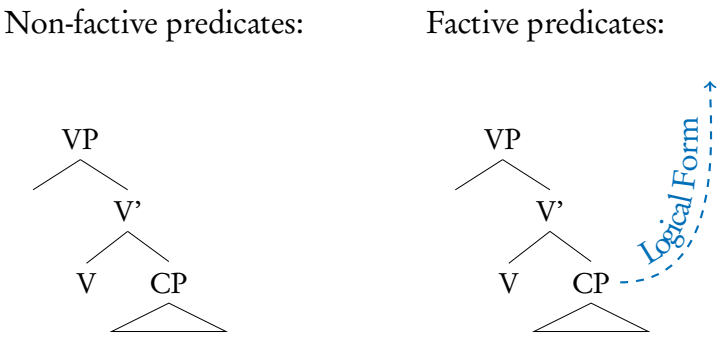
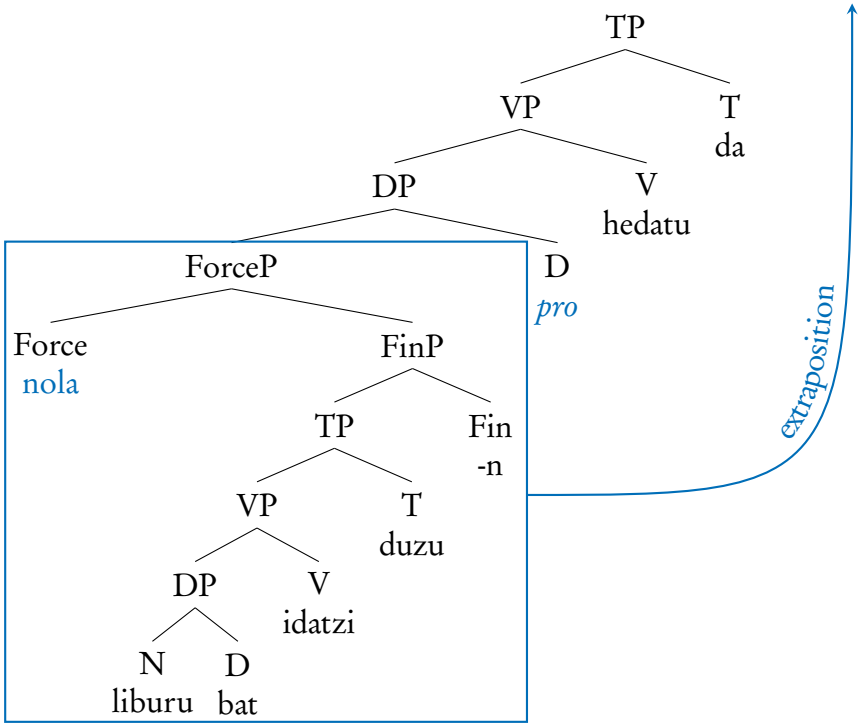


Figure 4.2: Structure of propositional and factive complements (adapted from Ormazabal (1995)).

In the case of Basque non-V2 *nola*-headed clauses like (121), the overt movement which avoids the FOFC violation (122) is correlated with the LF movement associated to factive readings. Both overt and covert movements render the embedded clause in a very high position to the right of the main clause:

(121) Hedatu da nola liburu bat idatzi duzun.
spread AUX how book one write AUX.C
Lit. It spread how you wrote a book.

(122)



4.4.2 Further evidence

There is in fact further evidence in favor of the FOFC-based proposal from cross-dialectal comparison. In Western Basque (and in broader Basque-speaking areas until recently) there is an alternative factive construction employing complementizer *-(e)na*, which is conceivably composed by *-(e)n* + the determiner *-a* (see Eguzkitza (1988); see also Artiagoitia (2003) and de Rijk (2008)).[33]

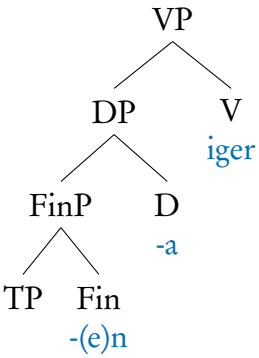
Interestingly, contrary to *nola*-headed clauses which are always postverbal, these *-na* factive clauses can appear preverbally. Thus, alongside the postverbal (123a), preverbal (123b) is also perfectly grammatical:[34]

(123) a. Iger dot [kanpoko sara-na].
notice AUX outsider be-C
I noticed that you are an outsider.

b. [Kanpoko sara-na] iger dot.
outsider be-C notice AUX
I noticed that you are an outsider.

Assuming a basic structure like (124) –adapted from Eguzkitza (1988)–, in the absence of a clause-initial subordinator like *nola* there is no need to resort to a displacement operation to avoid violating FOFC, since FOFC is observed in a thoroughly harmonic sequence of head-final structures $[_{VP}\,[_{DP}\,[_{Fin}\,\ldots$FinP] D] V]:

(124)



Therefore, the convergence of preverbal *-(e)n* factives like (123b) –unlike that of *nola*-headed non V2 clauses– is assured even in their base position. Then, movements to the postverbal position (123a) would not be triggered by any FOFC

[33] Both elements *nola* … *-ena* could also be combined (*cf.* Lazarraga's (16 c.) "noxbait noxbait acordaçatez çurea nola naxana" (*Lit.* 'remember once and for all how I am yours').

[34] Examples from Eguzkitza (1988, 338). I keep the Western Basque dialectal spelling of the original.

calculation, but would be mere instances of the general possibility of complex object displacement, as we saw above.

In consequence, unlike what we can observe in non-V2 *nola*-constructions, movement in these cases does not strand the D (125a), but it is the whole DP that is displaced to the postverbal position (125b) whenever the movement takes place:

(125) a. * A iger dot [kanpoko sara-n].
ART notice AUX outsider be-C
I noticed that you are an outsider.

b. Iger dot [kanpoko sara-na].
notice AUX outsider be-C.ART
I noticed that you are an outsider.

4.5 Conclusions

In this chapter I have proposed an analysis of the syntax and semantics of non-V2 *nola*-headed embedded clauses in Basque. Such structures have a particular behavior in three main respects: (i) Contrary to its appearance, *nola* does not behave like a manner *wh*-item; it is rather a complementizer; (ii) contrary to other types of embedded clauses, *nola*-headed clauses have to appear in a postverbal position; and (iii) they bring about a factive reading. I have proposed a derivational analysis that ties these properties together: analyzing *nola* as a complementizer (a Force head), the structure will be nonconvergent if it stays *in situ*; as we would have a configuration violating the Final over Final Condition (FOFC), given that a head-last structure would immediately dominate a head-first structure. The alternative configuration with extraposition of the embedded clause, however, evades any violation of FOFC.

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