

# THE FUNCTIONAL STRUCTURE OF THE SENTENCE: EVIDENCE FROM NON-FINITE CLAUSES

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## ABSTRACT

Non-finite clauses are sentential constituents with a verbal head that lacks a morphological specification for tense and agreement. In this paper I contend that these clauses are defective not only morphologically but also syntactically, in the sense that they all lack some of the functional categories that make up a full sentence. In particular I argue that *to*-infinitive clauses, gerund(ive) clauses and participial clauses differ among themselves, and with respect to other subordinate clauses, in the degree of structural defectiveness they display, which goes from the almost complete functional structure of the infinitive to the maximal degree of syntactic truncation of participial clauses (analyzed here as verbal small clauses). I also show the significant parallelism that exists in this respect between English and Spanish non-finite clauses, pointing to the implication this may have for a cross-linguistic approach to the cartography of syntactic structures.

**KEY WORDS:** functional structure, non-finite clauses, syntactic defectiveness, cartography of syntactic structures, contrastive grammar: English/Spanish.

## RESUMEN

Las cláusulas no finitas son constituyentes oracionales en los que el núcleo verbal carece de la especificación morfológica de tiempo y de concordancia. En este artículo argumento que la defectividad de estas cláusulas es no sólo morfológica sino también sintáctica, en el sentido de que carecen de algunas de las categorías funcionales que conforman la oración plena. En concreto defendiendo que las oraciones de infinitivo con *to*, las de gerundio y las de participio se diferencian entre ellas, y con respecto a otras cláusulas subordinadas, en el grado de defectividad estructural que presentan, que iría desde la casi completa estructura funcional de las de infinitivo, al grado máximo de defectividad de las de participio (que se analizan aquí como cláusulas reducidas). También demuestro el paralelismo que existe entre las cláusulas no finitas del inglés y del español, señalando las implicaciones que esto puede tener para el estudio de la cartografía de las estructuras sintácticas en las distintas lenguas.

**PALABRAS CLAVE:** estructura funcional, cláusulas no-finitas, defectividad sintáctica, cartografía sintáctica, gramática contrastiva: inglés/español.

## 1. INTRODUCTION

The analysis of the hierarchical structure of constituents has been one of the programmatic issues of Chomskyan generative grammar from its start. From the adoption of the so called X-bar theory after Chomky's seminal work ("Remarks"), the current assumption has been that syntactic structures are binary, cross-categorially uniform and endocentric (with a head or zero-level category projecting into a phrase). These restrictions initially applied to lexical projections (NP, VP, PP etc.) but later they generalized to other categories whose heads encode the grammatical information that "glues" the different lexical categories in the sentence: the functional categories. From then on, the sentence has been seen to comprise at least three layers, two of which are functional:<sup>1</sup>

- a) The illocutionary layer (CP), which connects the propositional content of the clause to other superordinate clause or to the discourse.
- b) The inflectional layer (TP), which places the event with respect to the utterance time or another reference time.
- c) The thematic layer (VP), the lexical projection that hosts the verb and its arguments and adjuncts.

During the first years of the Principles and Parameters approach a good number of functional categories were identified and employed in the analyses; this eventually lead to a fruitful line of research on the cartography of syntactic structures whose aim is to draw maps, as precise and detailed as possible, of syntactic configurations. These cartographic studies have always run parallel to the Minimalist Program (vid. Chomsky, *Minimalist*, and subsequent work) and in a sense they are complementary, since Minimalism centers on the mechanisms of computation (basically external and internal Merge, and Agree), and the cartographic project on the inventory of categories involved in those mechanisms. Consequently, the Minimalist Program has paid special attention to the uninterpretable features in the functional projections, that is, those that are said to drive computations under the assumption that Movement (i.e. internal Merge) is triggered by the need to check and delete them. On the contrary, cartographic studies focus on the interpretable features that relate those syntactic computations to meaning and use, and they are primarily concerned with the number of functional categories relevant for the grammatical characterization of the sentence, their ordering and the possibilities of linguistic variation they allow for (both, within a language and across languages).

In this respect there is ample consensus that the core projections CP and TP can be divided into smaller categories which group in domains that share contextual information (termed "Prolific Domains" by Grohmann). In particular:

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<sup>1</sup> From the seminal work of Abney's, nominal projections are also customarily analyzed as comprising a lexical structure and a higher functional structure.

- a) The discourse domain: after the influential work of Rizzi (“Fine”), the illocutionary layer has been split into two obligatory categories: ForceP, which encodes the illocutionary force of the sentence, and FiniteP, which signals its tense/mood features. In between these, two optional categories can be projected: TopicP and FocusP, where topicalized or focalized phrases, respectively, are located.
- b) The inflectional domain: Pollock was the first to argue for the need of more than a single inflectional head; in this respect there have been different proposals to articulate not only what Comrie (5) calls the “situation-external time” of the event (TP), but also its aspectuality or “situation-internal time”; see Demirdache y Uribe Etxebarria’s work, and references therein, for details.
- c) The thematic domain: After Larson’s work, the VP has adopted a shell-like structure with at least two categories: vP, where the external argument of the verb is placed, and VP for the internal arguments. One should also include here the optional functional category VoiceP which, when headed by the feature [-active], forces the suppression of vP.

A full sentence will then consist of these three domains with at least these functional categories:<sup>2</sup>

- (1) [ForceP [FiniteP [TP [AspP [vP [VoiceP [VP

The functional categories in (1) encode the basic grammatical information that makes up a full proposition; note that the order Modality-Tense-Aspect-Voice that follows from the hierarchical organization of these categories has been defended as universal by linguists like Tesnière, and is the one obligatorily displayed by sequences of auxiliaries in languages like English or Spanish:<sup>3</sup>

- |     |                         |                            |                              |                      |             |
|-----|-------------------------|----------------------------|------------------------------|----------------------|-------------|
| (2) | Aux <sub>Modality</sub> | Aux <sub>Anteriority</sub> | Aux <sub>Progr. aspect</sub> | Aux <sub>Voice</sub> |             |
|     | may                     | have                       | been                         | being                | blackmailed |
|     | debe                    | haber                      | estado                       | siendo               | chantajeado |

But to assume that the syntactic structure of sentences includes a number of functional projections as in (1), ordered in a precise way, also brings about two important additional predictions.

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<sup>2</sup> The number of functional categories defended in different works runs from 40 to 400, but here I only consider the core grammatical information in the sentence. For a comprehensive description of the numerous functional categories that have been posited in the relevant literature see Cinque and Rizzi, and references therein.

<sup>3</sup> This order of the grammatical information in the sentence may follow from certain semantic conditions. For example, modality must be evaluated over a complete proposition, including the tense specification, and this is why ForceP and FiniteP dominate TP; as regards TP, it must dominate AspP since tense is measured with respect to the assertion time, that is, the time interval over which the event takes.



The first is that, contrary to what is sometimes defended from other linguistic perspectives, all languages share a functional sentential structure and only vary in predictable ways, as stated in Chomsky's "Uniformity Principle" ("Derivation" 2). The strongest position one may take in this respect is that the order and the hierarchy of the functional categories is universal and, therefore, that languages only vary in terms of the particular features that make up those categories. Since, as noted (see footnote 2), a good number of functional projections seem to be required to express the relevant grammatical information, this strongest position will imply that all those functional projections are present in every language, even when there does not exist a morphological correlate for them. At the other end of the scale, the weakest position would assume that languages differ precisely in the particular functional projections they select from the universal inventory (and codify morphologically), or in the order these functional categories adopt. Of course, to determine which of these two positions is correct is a matter of empirical research, but much of the work done in the cartographic project has adopted the first one as the initial working hypothesis. For simplicity, in this work I will just focus on the core projections in (1) and assume, on line with the strongest position, that they are universal and have the following feature specification in both, English and Spanish:

- (3) [ForceP<sub>±assertion</sub> [FiniteP<sub>±realis</sub> [TP<sub>±past</sub> [AspP<sub>±perfective</sub> [vP [VoiceP<sub>±active</sub> [VP

The second prediction has to do with the possibilities opened in (1) to express a state of affairs (i.e. a proposition). One would expect that in the unmarked case propositions will be syntactically realized as full clauses with all the categories in (1), but that it could also be possible to have defective (i.e. truncated) clauses lacking one or more of these core projections. Here, as in every other aspect of syntactic computation, the working hypothesis cannot be that "anything goes," but that the syntactic instantiation of a proposition must be either as in (1) or as a proper subset of (1). This means that, together with (1), configurations like (4) or (5), but not (6), should be (universally) possible:

- (4) [TP [AspP [vP [VoiceP [VP  
 (5) [AspP [vP [VoiceP [VP  
 (6) \*[ForceP [FiniteP [SAsp [vP [VoiceP [VP

In (4) the two categories in the discourse domain (i.e. ForceP and FiniteP) are missing, and in (5) not only these, but also TP; the structure in (6) is ruled out since it does not constitute a proper subset of a full clause.

In what follows, I will set to test this prediction on non-finite sentences in English. I will show how they conform to the structures (1) (4) and (5), respectively, and how some of the defining differences among them follow from the fact that they exhibit different degrees of structural defectiveness. In section 3 I will briefly consider Spanish non-finite clauses to show how, despite their surface differences, they have the same basic cartography than their English counterparts, thus provid-

ing some empirical evidence in favor of the Uniformity Principle. Section 4 offers some conclusions.

## 2. THE FUNCTIONAL STRUCTURE OF NON-FINITE SENTENCES IN ENGLISH

The idea I would like to defend here is that non-finite clauses are not only morphologically defective (i.e. lack a morphological specification for tense and agreement) but also syntactically defective, and that they differ among themselves, and with respect to finite subordinate clauses, in the degree of structural defectiveness they display. In particular I would like to propose that: a) *to*-infinitive clauses constitute full clauses with the core functional structure in (1) but with no optional functional categories in the discourse domain b) *-ing*-clauses can have the substructure in (4) (i.e. lack the discourse domain altogether and project up to TP) or that in (6) (i.e. project just to AspP), and c) participial clauses always have the substructure in (6).<sup>4</sup> Figure (1) schematizes the options:

FIGURE 1 FUNCTIONAL PROJECTIONS IN NON-FINITE CLAUSES

	Force P	FiniteP	TP	AspP	vP	VoiceP	VP
Full clauses							
<i>To</i> -infinitive clauses							
Gerund(ive) clauses							
Present/Past participle clauses							

### 2.1. *TO*-INFINITIVE CLAUSES VS GERUNDIVE CLAUSES

I have discussed elsewhere (Ojea, “Feature”) that *to*-infinitive sentences possess a discourse domain with [±assertive] illocutionary force and [-realis] modality.<sup>5</sup> Syntactically, this implies that they can be introduced by a complementizer, under-

<sup>4</sup> I use the neutral term *-ing*-clause to group the three types of structurally different constructions I’ll discuss below: gerundives, gerund clauses and present participle clauses. Note that my goal here is not to offer an exhaustive description of the syntactic properties of non-finite clauses, but just to highlight some relevant structural/semantic differences among them which can be adequately handled under a theory of syntactic defectiveness from the core clause structure in (1); exemplification will thus be restricted to non-finite clauses in verbal domains.

<sup>5</sup> To simplify, I adopt the traditional distinction realis/irrealis as the parameter that regulates mood selection (see Giannakidou for a detailed discussion of this division). Note, incidentally, that the nonrealis nature of infinitive sentences relates them, both semantically and syntactically, to subjunctive sentences.



stood as the lexical realization of FiniteP (*for*, in English), or by a WH-constituent which, in the standard analyses, moves into ForceP:

- (7) I'd prefer for you to stay there
- (8) I wonder where to leave the dog

To assume that *to*-infinitive clauses possess the three Prolific Domains that make up a full clause apparently contradicts my proposal that all non-finite clauses exhibit some degree of defectiveness. This defectiveness does nonetheless exist and is manifested in that *to*-infinitive clauses lack the optional projections in the discourse domain, that is those which host topicalized or focalized constituents, namely TopicP and FocusP; accordingly, topicalizations or focalizations will be possible in *that*-clauses but not in *to*-infinitive clauses:

- (9) \*He wanted during the holidays to write a book  
(cf. I promise that during the holidays I will write a book)
- (10) \*He told me on no account to write such a book  
(cf. He told me that on no account should I write such a book)

With respect to *-ing*-clauses, they lack a discourse domain altogether and this is why they are incompatible not only with topicalized or focalized phrases, but also with any complementizer or WH-phrase:

- (11) \*He remembers during the holidays / on no account leaving the dog in the kennel
- (12) \*He remembers that/whether/for leaving the dog in the kennel
- (13) \*He remembers where leaving the dog

They nonetheless possess a full inflectional domain, with specification of tense, aspect and voice. The projection of the former could be put into question given that *-ing*-clauses do not codify any tense distinction morphologically, but it should be noted that they do have a temporal reading (anterior, simultaneous or posterior to the temporal information of the matrix sentence and very much constrained by the meaning of the main verb), and, therefore, they can be said to possess a specific tense-chain and, accordingly, TP<sup>6</sup>:

- (14) I remember leaving the door in the kennel (anterior reading)
- (15) She enjoys reading books aloud (simultaneous reading)
- (16) Mary worried yesterday about coming to dinner tonight (posterior reading)

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<sup>6</sup> The example in (16) has been taken from Pires (71)

The fact that *-ing*-clauses only project up to TP (as in (4)) makes them sentential structures with an unmodalized reading which is clearly evident in the contexts in which they compete with the *to*-infinitive:

- (17) a. I like going to the coast in July (= actual habit)  
b. I'd like to go to the coast in July (= potentiality)
- (18) a. He tried hiding the letter (= actual fact)  
b. He tried to hide the letter (= attempt)

There is one point to consider here. Argument-positions (i.e. subject and object positions) are canonically occupied by nominal constituents (DPs) or full clauses. One would then expect that *-ing*-clauses, defective as they are, should not be a possibility here. Arguably *-ing*-clauses can function as subjects or objects in English because the *-ing* form in this language is a descendant of both, the Old English present participle and the verbal noun, eventually collapsed into a single form (vid. Denison; Fanego). This is why in present day English one can still find *-ing*-clauses which do have clear nominal properties together with others that don't. I'll use the term "gerundive clauses" (in the sense of Milsark 611) to refer to the former, and I'll assume that they constitute mixed categories where the TP constituent eventually projects into a DP (specific proposals in this respect can be found in Baker; Abney; Milsark; Panagiotidis and Grohmann; Ojeda, "Propositional").

As expected, these gerundive clauses exhibit a complete DP-like behaviour, and not only allow their subjects to be in the genitive Case (typical of nominal specifiers; cf. *his* in (19)), but also invert with the auxiliary in direct questions (20), contrary to what happens in the case of other sentential subjects (21):

- (19) His writing the book so rapidly has been astonishing
- (20) a. Finding a cage for all those birds will be difficult  
b. Will finding a cage for all those birds be difficult?
- (21) a. To find a cage for all those birds will be difficult  
b. \*Will to find a cage for all those birds be difficult?  
c. Will it be difficult to find a cage for all those birds?)

Also note that gerundive clauses can function as complements of a preposition, a syntactic position restricted to DPs (and forbidden to full clauses) in English:

- (22) Mary escaped before Peter / telling the story
- (23) \*Mary escaped before that she told the story / to tell the story

Therefore, *-ing*-clauses in English can be syntactically characterized as defective structures which project up to TP but may in some cases be recategorized into DPs due to the nominal origin of the suffix *-ing* in this language.

## 2.2. GERUND CLAUSES VS PAST PARTICIPIAL CLAUSES

With respect to past participial clauses, I will contend here that they exhibit a still bigger degree of structural defectiveness. On the one hand, they are unmodalized structures which lack a discourse domain and do not constitute full clauses. This means that they will be restricted to non-argumental positions; they can, for example, function as external adjuncts, a position that can also be occupied by non-nominalized *-ing*-clauses (I'll term these "gerund clauses" to distinguish them from the gerundives above):<sup>7</sup>

- (24) Shocked by Peter's attitude towards the issue, they fired him  
(25) Disapproving Peter's attitude towards the issue, they fired him

Apart from the difference in voice between the past participle and the gerund clause (passive in the former), these two constructions also exhibit a difference in their temporal specification that offers an interesting clue of which can be the functional structure in each case.

As non-finite clauses, tense is not morphologically codified in any of them, but gerund clauses allow for a temporal reading (anterior, simultaneous or posterior to the matrix sentence) which suggests a tense-chain whose operator is distinct from that of the matrix tense, though dependent on it (i.e. constrained by the meaning of the main verb and the temporal information of the matrix sentence):

- (26) Walking down the main street, I saw an impressive building (simultaneous reading)  
(27) Reaching a sunny spot, we got ready for lunch (anterior reading)  
(28) She closed the book, leaving it on the table (posterior reading)

Gerund clauses may then be said, as gerundive clauses above, to project the category TP, and therefore to have the structure in (4), repeated here as (29):

- (29) [TP<sub>±past</sub> [AspP<sub>-perfective</sub> [vP [VoiceP [VP

It is precisely the fact that gerund clauses project TP that makes them compatible with the perfect auxiliary *have*, currently understood as a modifying element inside a T-chain (Gueron and Hoekstra 87):

- (30) Not having read that book, I cannot comment on it

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<sup>7</sup> Gerund clauses (vs. gerundives) do not project a DP layer, and therefore they do not have the external distribution of DPs or allow for subjects in the genitive Case (cf. \*Their disapproving Peter's attitude towards the issue, they fired him).



Contrary to this, the temporal reading of past participle clauses is always strictly connected to the aspectuality of the construction, understood both in terms of the lexical aspect of the verb and of the [+perfective] grammatical aspect of the form. In this respect, when the participial verb is telic, the perfective aspect focuses the limits of the event which will then be understood as complete (i.e. it has reached its limit before the event in the main clause takes place) and therefore anterior to the main clause:

- (31) Once cooked, the food must be kept in the refrigerator  
Persuaded by our arguments, they voted for the proposal

On the contrary, if the participial verb is atelic there is no limit to be reached, and the event can be seen as simultaneous to that of the main clause:

- (32) Accompanied by her mother, she entered the concert hall  
Located in the city centre, the new cinema is very popular

Therefore, past participle clauses cannot be said to have a T-chain of their own since it is just their internal temporality (i.e. aspect) that determines the final reading that will be obtained with respect to the matrix tense. If one takes the existence of a distinct T-chain as a requirement to project TP, this means that past participle clauses are structurally more defective than gerund clauses and have the functional structure in (6), repeated here as (33), with the values [+perfective] in AspP and, when construed on transitive verbs, [-active] in VoiceP (the latter forcing the suppression of the external argument):

- (33) [AspP<sub>+perfective</sub> [VoiceP<sub>-active</sub> [VP

As expected, the lack of a T-chain in the case of past participial clauses prevents the presence of the auxiliary *have* in the construction, and therefore one must resort to a gerund clause to obtain a perfect passive reading:

- (34) \*Had been warned by his attitude...  
(cf. Having been warned by his attitude...)

### 2.3. PRESENT VS PAST PARTICIPIAL CLAUSES

Past participle clauses and *-ing* clauses are also syntactic alternatives when they function as integrated adjuncts, referring back to the subject or the object of the main clause:

- (35) Liz was lying by the pool reading a novel  
(36) Liz was lying by the pool surrounded by noisy children



Significantly, *-ing*-clauses always have a simultaneous reading with respect to the main event here, which, together with the impossibility to have the auxiliary *have* in these cases (cf. \*Liz was lying by the pool having read a novel), leads to the conclusion that in these contexts they do not project TP and have the same degree of structural defectiveness as past participle clauses. In other words, the two constructions are in these cases structurally equivalent, differing only in their grammatical aspect (and, with transitive verbs, also in voice); to distinguish the *-ing*-clauses in these adverbial uses from gerund(ive) clauses above, one can quite accurately label them “present participle clauses” since they constitute the [–perfective] [+active] counterpart of past participial clauses<sup>8</sup>:

- (37) [AspP<sub>+perfective</sub> [VoiceP<sub>-active</sub> [VP past participle clauses  
 (38) [AspP<sub>-perfective</sub> [vP [VoiceP<sub>+active</sub> [VP present participle clauses

It is interesting to note that the syntactic position that participial clauses occupy in (35) and (36) can also be occupied by a non-verbal predicate which refers back to one of the arguments of the main clause:

- (39) Liz left the room *angry*

This type of secondary predication constitutes the basic form of a proposition in that it is the smallest projection that contains a predicate and its subject (covert in the case of (39)). This is why constructions of this sort have been labeled Small Clauses (SCs) in the generative tradition, and a great amount of attention has been devoted to investigating their internal structure. From the seminal work of Stowell, it has been standardly assumed that the subject and the predicate of the SC form a syntactic constituent, but there is no consensus as to which is the categorial status of that constituent, that is, the syntactic node that dominates it.<sup>9</sup>

What is significant in this respect is that SCs and present/past participle clauses have exactly the same syntactic distribution. Thus, together with the position of integrated adjuncts (as in (35), (36) and (39)), they share the possibility to appear as the complement of a group of subordinators which include *if, as if, as though, once though, until, when, while* or *with* (see De Smet for details):<sup>10</sup>

- (40) With your shirt hanging out, you look quite shabby  
 (41) With the mortgage paid, they could afford to go abroad for their vacation  
 (42) With the children so sick, we weren't able to get much work done

<sup>8</sup> This distinction between the gerund and the present participle has been frequently kept in the grammatical tradition (cf. Jespersen 86; Schybsbye 61, among others)

<sup>9</sup> The idea that the SC is a syntactic constituent has been advocated by linguists like Chomsky (*Lectures; Barriers*), Kitagawa or Aarts among others; for an alternative view, see Williams.

<sup>10</sup> Examples (40) and (41) are from Quirk et al (1003), and example (42) from Huddleston and Pullum (1267)



And SCs and present/past participles may also appear in the so called absolute constructions, that is, as propositional modifiers with a subject in the Nominative Case and no subordinator connecting them to the main clause (Huddleston and Pullum 1265-1268):

- (43) His hands gripping the door, he let out a volley of curses
- (44) This done, she walked off without another word
- (45) His face pale with anger, he stormed out of the room

What the distributional equivalence of the three constructions suggests is that present/past participle clauses can be understood as a subtype of SCs, which, under this view, can be verbal ((35)-(36), (40)-(41), (43)-(44)) or non-verbal ((39), (42) and (45)). This in turn implies that, if my analysis of present/past participle clauses in (37) and (38) is correct it should generalize to non-verbal small clauses as well, that is, they should all be understood as syntactic constituents dominated by the functional category AspP. Significantly, an analysis of SCs along these lines has been defended quite consistently in the literature, thus providing further support for my underlying assumptions (see, among others, Chomsky, *Barriers*; Kitagawa; Hernanz, “Syntaxis”; Demonte; Jiménez, and the references they give).

### 3. THE FUNCTIONAL STRUCTURE OF NON-FINITE SENTENCES IN SPANISH

Summarizing what I have defended so far, non-finite sentences in English can be structurally understood as clauses that exhibit a degree of structural defectiveness which goes from the almost complete structure of *to*-infinitive sentences, to the small clause nature of participle clauses:

- (46) To-infinitives: [ForceP<sub>±assertion</sub> [FiniteP<sub>-realis</sub> [TP<sub>±past</sub> [AspP [vP [VoiceP [VP
- (47) Gerundive: [DP [TP<sub>±past</sub> [AspP<sub>-perfective</sub> [vP [VoiceP [VP
- (48) Gerund: [TP<sub>±past</sub> [AspP<sub>-perfective</sub> [vP [VoiceP [VP
- (49) Present/Past participle: [AspP<sub>±perfective</sub> [vP [VoiceP [VP

If one assumes the strongest form of the Uniformity Principle as the initial working hypothesis, the expectation is that non-finite clauses in other languages should display similar patterns of functional defectiveness, and also exclude forbidden configurations like (6). To test this prediction it is necessary to undertake detailed studies of the corresponding structures in different languages and, therefore, I can only contribute to the task here to a small extent by pointing out the significant similarity between English and Spanish in this respect.

Beginning with infinitive sentences in Spanish, empirical evidence seems to support the idea that, as the *to*-infinitive in English, they possess all the core functional projections of full clauses but lack the optional categories ForceP and



FocusP in the discourse domain, thus disallowing topicalized or focalized constituents (examples from Hernanz, “Periferia” 265, 266):

- (50) \*Lola cree algo haber hecho mal  
(cf. Lola cree que algo hemos hecho mal)
- (51) \*Juan quiere *UN FERRARI* comprarse  
(cf. Lola dice que UN FERRARI se compraría Juan)

As for gerund and participial clauses, they do not have the discourse domain and thus cannot appear in subject/object positions (where only DPs or full clauses are allowed). Note, in this respect, that structure (47) is not possible in Spanish since the *-ndo* form in this language has never had a nominal origin (cf. Bassols De Climent):

- (52) \*Aprendiendo idiomas se ha convertido en una necesidad  
(cf. Aprender idiomas se ha convertido en una necesidad)
- (53) \*Odio levantándome temprano  
(cf. Odio levantarme temprano)

Significantly though, *-ndo* clauses in Spanish may exhibit, as their English counterpart, a different degree of defectiveness depending on the non-argumental position they occupy; if they are external adjuncts, they project up to TP, and are thus compatible with the auxiliary *haber*:<sup>11</sup>

- (54) Habiendo alcanzado un acuerdo, se levantó la sesión

On the contrary, in the contexts in which they alternate with past participle clauses (i.e. in those cases where they are participial), they only project up to AspP, that is, constitute a verbal small clause in alternative distribution to other verbal or non-verbal small clauses:

- (55) Encontró a Juan leyendo un libro/atado a un árbol/muy triste  
(cf. \*Encontró a Juan habiendo leído un libro)
- (56) Con los niños leyendo en su cuarto/dormidos/callados, pudimos continuar  
(cf. \*Con los niños habiendo leído en su cuarto, pudimos continuar)

All these facts point to a striking coincidence between the two languages in precisely the point at stake here: the defective structure of non-finite clauses (parallel, or probably due, to their morphological defectiveness). This in turn means that the differences that obviously exist between English and Spanish here

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<sup>11</sup> A reading of posteriority, equivalent to that of (28) in English, seems to be totally impossible in Spanish (Bello 322), and this can be connected to the impossibility for suffix *-ndo* to signal future in any context, not even in analytical progressive forms (cf. \*El tren está saliendo a las doce)

will have to be explained in terms of the particular features that make up the functional projections in each language, as, for example, those that determine the morphological Case that the subject in the non-finite clause can check (see (57) for the possibilities in argument position), or the order it occupies with respect to the non-finite verb (cf. 58):

- (57) a. I want [PRO/him to be happy]  
 b. I remember [PRO/him/his leaving the dog in the kennel]  
 c. Quiero [*PRO* ser feliz]
- (58) a. Lunch finished, they all went out  
 b. Terminada *la cena*, todos se marcharon

## CONCLUSION

I have argued here that non-finite clauses are syntactically defective and that many of the semantic and structural differences among them follow precisely from the different degree of structural defectiveness they display.

In particular I have proposed that *to*-infinitives can be treated as clauses that lack some optional illocutionary projections (FocusP and TopicP). A unitary analysis of *-ing* clauses in English is not possible, though, probably due to the historical development of the suffix *-ing*, and therefore I have distinguished between gerundives (TP projections exhaustively dominated by a DP node), gerunds (TP projections) and present participles (AspP projections). As for participle clauses, both present and past, I have analyzed them as AspP projections, suggesting that they constitute a particular type of small clause.

Finally, I have maintained that non-finite clauses in Spanish can be approached under the same lines and that both languages coincide in the relevant structural details, a fact that supports a uniform cartographic structure across languages.

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