

## **INPUTS AND FAITHFULNESS IN OT SYNTAX: THE CASE OF SUBJECTS AND TOPICS IN SPANISH INFINITIVAL CLAUSES**

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**ABSTRACT:** This paper addresses the problem of the nature of the input in Optimality Theoretic syntax, in the context of recent works that have argued that (in contrast with OT phonology) OT syntax can eliminate faithfulness constraints, the input, or both. This paper challenges this view and argues in favor of a fully structured input and constraints that target the feature content of the input. While this paper agrees with the general view that the truth-conditional properties of the input must be preserved by the candidate set, it provides evidence that this is not the case for Information Structure (IS) features. It is argued that dialectal variation in the word order properties of Spanish infinitival clauses shows that candidates can be unfaithful to the IS feature [topic], and that this has very palpable effects on the word order of these constructions. It is argued that the observed dialectal variation can be straightforwardly accounted for in a Classic OT analysis with fully structured inputs and faithfulness constraints.

**KEYWORDS:** Optimality Theory; Optimality Theoretic syntax; Faithfulness constraints; word order; Information Structure; Spanish infinitival clauses.

### **1. INTRODUCTION: FAITHFULNESS IN OT SYNTAX**

The nature of the input and its relation to the output have been two of the most obscure issues in optimality theoretic syntax. This relates in turn to the architecture of OT (Prince & Smolensky 2004), where the set of universal constraints CON consists of both markedness and faithfulness constraints. With respect to this issue, a number of works (particularly Kuhn 2001, 2003) propose that the outputs must necessarily preserve the truth-conditional properties of the input. This proposal seems well founded and will not be contested here. However, a number of other works take this conclusion a step forward and propose that the candidates generated by GEN must be fully faithful to the input. In other words, candidates have been taken to be a hundred percent information preserving. Once this

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is concluded, either faithfulness constraints end up playing no role in OT syntax (Kuhn 2003), or the input can be dispensed with (Beaver & Lee 2004), or both (Heck et al. 2002).

This paper challenges this latter conclusion and presents evidence from Spanish that the candidates in OT syntax can be unfaithful to the input. The proposal developed here is that while candidates in OT syntax do seem to preserve the truth-conditional properties of the input, the same cannot be said about its Information Structure (IS) features. Candidates can be unfaithful to the input with respect to these features, and this can have very visible effects on the surface syntax of a language. Evidence of this is presented from dialectal variation with respect to word order in infinitival clauses in Spanish. In this way, this paper argues for a fully structured input (as in Legendre, Smolensky & Wilson 1998) and for the existence of faithfulness constraints that regulate the relation between input and output in OT syntax (Baković & Keer 2001, Gutiérrez-Bravo 2005).

## 2. DATA

### 2.1 ASSUMPTIONS ABOUT SPANISH SYNTAX

Spanish is a discourse-configurational language that has SVO as its unmarked word order. As in most work on this language, I assume that this order results from movement of the verb from V to T and from movement of the subject DP to [Spec, T] (Suñer 1994). I also assume that the subject (or some other XP) moves into [Spec, T] to satisfy an active EPP requirement (Goodall 2001, Gutiérrez-Bravo 2005, 2007).

- (1) [TP El juez<sub>i</sub> castigó<sub>j</sub> [<sub>vP</sub> t<sub>i</sub> t<sub>j</sub> a los criminales].  
*the judge punished ACC the criminals*  
'The judge punished the criminals.'

Lastly, I also assume the Generalized TP analysis of Zubizarreta (1998). In this analysis, not only transitive subjects but also fronted topics and *wh*-operators have [Spec,T] as their landing site, as in (2) (see Groos & Bok-Benemma (1986) and Gutiérrez-Bravo 2005, 2007, 2008 for evidence). In these cases, the subject remains in [Spec, v], all else being equal.

- (2) a. [TP A los criminales<sub>i</sub> los castigó<sub>j</sub> [vP el juez t<sub>j</sub> t<sub>i</sub> ].  
 ACC *the criminals* ACC-CL punished the judge  
 ‘The criminals, the judge punished them.’
- b. [TP A quiénes<sub>i</sub> castigó<sub>j</sub> [vP el juez t<sub>j</sub> t<sub>i</sub> ]?  
 ACC *who-PL* punished the judge  
 ‘Who did the judge punish?’

## 2.2 SPANISH INFINITIVAL CLAUSES

A well known property of Spanish infinitival clauses is that they can display overt lexical nominative subjects (Groos & Bok-Bennema 1986, Suñer 1986, Fernández-Lagunilla 1987, Piera 1987, Torrego 1998, Mensching 2000; glosses and free translations of all examples in this paper are my own).

- (3) a. Las dudas desaparecieron [al castigar el juez a los criminales].  
*the doubts disappeared when to-punish the judge ACC the criminals*  
 ‘No doubts remained once the judge punished the criminals.’
- b. Se calló [al ponerme yo en pie].  
*CL shut-up when to-put-myself I on foot*  
 ‘He shut up when I stood up’ Fernández-Lagunilla (1987)

However, in contrast with what is observed in finite clauses, there are some dialects of Spanish (most notably Peninsular Spanish: Groos & Bok-Bennema 1986, Fernández-Lagunilla 1987, Piera 1987, Mensching 2000) where the subjects of infinitival clauses obligatorily occupy a post-verbal position. Infinitival clauses in these varieties are thus verb-initial. This is illustrated in (4) with examples from Fernández-Lagunilla (1987).

### (4) PENINSULAR SPANISH

- a. [Con enfadarse Juan] no se ha resuelto nada.  
*with to-get.angry-CL Juan not CL has been.solved nothing*  
 ‘Nothing has been solved by Juan getting angry.’
- b. \*[Con Juan enfadarse ] no se ha resuelto nada.  
*with Juan to-get.angry-CL not CL has been.solved nothing*

In these cases I assume that the subject remains in [Spec, v]; V-to-T movement then derives the VS(O) order. However, some varieties of Spanish readily allow for lexical preverbal subjects in infinitival clauses (Suñer 1986; Morales 1988, 1999; Lipski 1994; Toribio 2000, Zagona 2002). These are typically (but not exclusively) varieties of Spanish spoken in the Caribbean.<sup>2</sup>

#### (5) CARIBBEAN SPANISH

- a. Y [al la puerta venir para atrás] se llevó el dedo.  
*and when the door to-come for behind CL it-took the finger*  
 ‘And when the door swung back, it sliced the finger off.’ (Morales 1988)
- b. Pasó toda la tarde [sin Daniel devolverse a su casa].  
*elapsed all the afternoon without Daniel to-return to his house*  
 ‘The whole afternoon went by without Daniel returning to his house.’ (Suñer 1986)

Most analyses that address the contrast between (4) and (5) focus on the properties of the Caribbean varieties that make them different from the more “standard” dialects of Spanish.<sup>3</sup> In essence, most analyses of the Caribbean varieties of Spanish propose that, in contrast with Peninsular Spanish, these varieties have a strong subject condition. Hence the subject needs to move to [Spec, T] in every case to satisfy Case requirements of the subject. In the following section I discuss two such analyses (Suñer 1986 and Toribio 2000) and the problems associated with them.

### 2.3 CARIBBEAN SPANISH

Preverbal subjects in infinitival clauses in the Caribbean varieties most commonly occur in purpose clauses introduced by the preposition *para* (Lipski 1994), as in (6a), but they are also attested widely attested in adverbial clauses like (5), and also in complement clauses

<sup>2</sup> It seems that all varieties of Spanish allow for preverbal subjects in infinitival clauses when the infinitival clause is introduced by the preposition *para* ‘for’ and when the subject is a pronoun (many thanks to Mark Davies for bringing this point to my attention). This is illustrated in (i), an attested example from Mexican Spanish, a variety that for the most part does not allow preverbal subjects in infinitival clauses when the subject is not a pronoun preceded by *para*. At present, I have no explanation for this fact.

(i) Necesito los discos [para yo instalarlo].  
*I-need the disks for I to-install-it*  
 ‘I need the disks so that I can install it.’

(6b), subject clauses (6c), fronted clauses functioning as hanging topics (6d), and in infinitival relative clauses (6e).

- (6) a. Ustedes necesitan una piscina [para estas niñas bañarse].  
*you-PL need a pool for these girls to-bathe-themselves*  
 ‘You need a pool for these girls to swim.’ (Morales 1988)
- b. Yo no me acuerdo [de yo ser mala].  
*I notCL recall of I to-be bad*  
 ‘I don’t recall being bad.’ (Morales 1988)
- c. ... que realmente [uno ponerse la camisa y un suéter arriba y su chaqueta] era lo mismo.  
*that really one to-put the shirt and a sweater on-top and his jacket was CL same*  
 ‘... that really for one to wear a shirt and a sweater on top, or one’s jacket, it was the same thing.’ (Suñer 1986)
- d. [El yo venirme para acá] no me gustó la idea.  
*the I to-come-CL for here not to-me liked the idea*  
 ‘For me to come here, I didn’t like the idea.’ (Morales 1988)
- e. Y hay muchos sitios [donde las personas, tú sabes, guarecerse].  
*and are many places where the people (you know) to-take-shelter*  
 ‘And there are many places where people (can) take shelter, (you know).’ (Morales 1988)

Analyses of these data typically rely on the observation that subjects in the Caribbean varieties have a strong tendency to appear in the preverbal position. In what follows I discuss the problems and limitations of this kind of approach.

### 2.3.1 SUÑER (1986)

Suñer (1986) develops a Case-theoretic account of the data in (5) and (6). She proposes that, as a result of the impoverished morphological agreement observed in the Caribbean varieties, the verb (in the INFL node in Suñer’s original analysis) in these varieties

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<sup>3</sup> See Fernández-Lagunilla (1987) and Piera (1987) for early GB analyses based on data from Peninsular Spanish.

can no longer assign nominative Case under government into a post-verbal position. Nominative Case in these varieties is assigned exclusively to the preverbal NP position, [Spec, T] in current terminology. Hence the subject surfaces in the preverbal position in (5) and (6), in contrast with what is observed in Peninsular Spanish.

There are, however, two problems with the analysis in Suñer (1986). The first one is that it is not the case that post-verbal subjects are disallowed in the Caribbean varieties. Rather, both possibilities are attested, as shown in (7); see also Gutiérrez-Bravo (2008). This is unexpected if [Spec, T] is the only position where nominative Case can be assigned.

(7) PUERTO RICAN SPANISH

a. Al yo llegar.  
*when I to-arrive*  
 ‘When I arrived.’

b. Al irte tú.  
*when to-leave you*  
 ‘When you left.’

Álvarez-Nazario (1990: 183)<sup>4</sup>

The second problem with Suñer’s analysis is noted in Lipski (1994). Lipski observes that infinitival constructions with preverbal subjects are also found in some varieties of northern South American Spanish, such as Colombian Spanish. Example (8a) was registered in Lipski (1994). Example (8b) was originally registered by Toribio (2000) for Dominican Spanish (example 9, below), and was found to be acceptable by the three speakers of Colombian Spanish I consulted as part of the research I report here.

(8) COLOMBIAN SPANISH

a. Antes de yo salir de mi país.  
*before of I to-leave of my country*  
 ‘Before I left my country.’

Lipski (1994: 215)

b. Ella vive enferma, [sin los médicos encontrarle nada].  
*she lives sick without the doctors to-find-CL nothing*  
 ‘She’s always ill, without the doctors being able to find anything wrong with her.’

<sup>4</sup> Taken from Morales (1999: 78). Gloss and translation are my own. My own research with oral texts from Bentivoglio (1978) shows that this alternation also exists in Venezuelan Spanish.

In these varieties no impoverishment of inflected verb forms is reported, which again casts doubts on the proposal that the SV order results from an impoverished AGR that can no longer assign Case under government in the Caribbean varieties.

### 2.3.2 TORIBIO (2000)

Toribio (2000) develops an analysis of Dominican Spanish that seeks to explain the word order alternation observed in (7). Following the insights in Suñer (1986), Toribio (2000) suggests that the occurrence of preverbal subjects in infinitival clauses correlates with other syntactic properties characteristic of the Caribbean Varieties of Spanish, amongst them, the use of pronouns with inanimate referents and the possibility of having preverbal subjects in *wh*-interrogatives.<sup>5</sup> What the relevant constructions have in common is that they all tend to have an overt subject in the preverbal position, as shown in (9).

#### (9) DOMINICAN SPANISH (Toribio 2000)

- a. Ella vive enferma, [ sin los médicos encontrarle nada].  
*she lives sick without the doctors to-find-CL nothing*  
'She's always ill, without the doctors being able to find anything wrong with her.'
- b. (la cisterna; mía) ... ella; tiene agua.  
*the cistern mine she has water*  
'(My cistern) it's got water.'
- c. Qué ese letrero dice?  
*what that sign says*  
'What does that sign say?'

Toribio then proposes that Dominican Spanish is a language in diachronic transition where two different grammars coexist simultaneously. The first one is a grammar where the nominal AGR features of  $T^0$  are weak (Standard Spanish), and hence movement of the subject to [Spec, T] is never obligatory. This generates infinitival clauses with post-verbal subjects like (7b). The second one is a grammar where the nominal AGR features of  $T^0$  are strong. In this grammar movement of the subject to [Spec, T] is obligatory, and so this grammar generates (7a) and (9a), schematized in (10).

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<sup>5</sup> See Toribio (2000, 2002) for the full set of properties that constitute the parametric setting of Dominican Spanish.

- (10) sin [<sub>TP</sub> los médicos<sub>i</sub> encontrarle [<sub>VP</sub> t<sub>i</sub> nada]].  
*without the doctors to-find-CL nothing*

Toribio's analysis, however, equally presents a number of problems. First, Lipski's (1994) observation about the analysis in Suñer (1986) also holds of Toribio (2000). To the extent that there are varieties of Spanish that have constructions like (8a), but not constructions like (9b) and (9c) (i.e., Colombian Spanish), it is clear that an analysis where (9a), (9b) and (9c) are all the result of one and the same property cannot be entirely correct. Secondly, the analysis in Toribio (2000) explains why Caribbean varieties have preverbal subjects in infinitival clauses. It also explains why Standard varieties *can* have post-verbal subjects in these clauses. But it does not explain why Standard varieties *must* have post-verbal subjects (example 4b). In Toribio's analysis, whatever mechanism exists in the grammar of Standard Spanish that allows SVO in tensed clauses, should also allow SVO in infinitivals, contrary to fact.

Observe that the analyses in Suñer (1986) and Toribio (2000) have in common that they derive the preverbal position of the lexical subject in infinitival clauses by means of the same mechanism that makes the subject move to the preverbal position in tensed clauses. This is why these analyses are problematic when we try to extend them to varieties that allow SVO in tensed clauses but not in infinitival clauses. In the following section I develop an alternative analysis where the absence of SVO infinitival clauses in Peninsular Spanish results instead from a constraint against predication configurations with non-finite predicates.

### 3. A CONSTRAINT AGAINST NON-FINITE PREDICATION

My proposal is that the absence of preverbal subjects in infinitival clauses in Peninsular Spanish is due to a constraint that disallows predication between a referential XP (the target of predication) and a [-Finite] predicate. The gist of the analysis is to suggest that in Peninsular Spanish this prohibition is absolute, because of the high ranking of this constraint. In contrast, when the subject bears a [topic] feature in the Caribbean and northern South American varieties this prohibition is overridden by the requirement that topics occupy a clause-initial position. Consequently, when the subject is a topic in Caribbean Spanish, it surfaces in the preverbal position in these varieties, but not otherwise. This accounts for the SV/VS alternation illustrated in (7).



The crucial observation that supports this analysis is made in Piera (1987). Piera notes that infinitival clauses in Peninsular Spanish disallow the presence not only of preverbal subjects, but actually of any kind of preverbal referential expression.<sup>6</sup>

- (11) a. [Salir de casa sin dinero] es malo para la salud.  
*to-exit of home without money is bad for the health*  
'To leave home without money is bad for your health.'
- b. \*[Sin dinero salir de casa] es malo para la salud.  
*without money to-exit of home is bad for the health* (Piera 1987)

Following the Generalized TP analysis (§2.1), fronting of the subject to satisfy the EPP and fronting of a topic (as in 11b) have the same landing site, [Spec, T]. My claim is that the resulting configurations share a property in common. Both movement operations establish a predication relation between the fronted XP and the rest of the clause: i.e. a relation of mutual c-command results between the fronted XP in [Spec, T], which functions as the target of predication, and the rest of the clause which functions as a predicate (Williams 1980, Heycock 1994, Aissen 1999, *inter alia*).<sup>7</sup> My proposal then is that there exists a constraint against establishing such a predication configuration when the head of the predicate is [-finite]. I formalize this constraint in (12). As in Grimshaw (1997), I assume that TP is a [+Verbal] Extended Projection of VP.

(12) FINITE-PREDICATION (FIN-PRED)

A predication configuration between a referential XP *X* and a [+V] projection *Y* requires a mutual c-command relation between *X* and *Y*, and a [+finite] *Y*.

Independent evidence in favor of this constraint is found in two aspects of the syntax of Spanish. First, participles and gerunds are [-finite] forms that also head [+V] projections. FIN-PRED should also rule out preverbal subjects in these cases. As noted in Zagana (2002) this is indeed the case.

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<sup>6</sup> My use of the term *referential* is not limited to XPs with inherent reference, but also includes elements that are linked in their interpretation to XPs with inherent reference, such as pronouns and deictic locative and temporal expressions.

<sup>7</sup> Specifically, in this case the predicate is the T' constituent, as proposed in Rothstein (1989).

- (13) a. [Llegada ella], empezó la fiesta.  
*arrived she began the party*  
 ‘When she arrived, the party began.’
- b. [Habiendo llegado ella] empezó la fiesta.  
*having arrived she began the party*  
 ‘Once she arrived, the party began.’

Zagona (2002: 9)

- (14) a. \*[Ella llegada], empezó la fiesta.  
*she arrived began the party*
- b. \*[Ella habiendo llegado], empezó la fiesta.  
*she having arrived began the party*

Secondly, the definition of FIN-PRED entails that an XP should be able to move into the [Spec, T] position of a non-finite TP as long as the resulting configuration does not involve predication. *Wh*-operators, which are non-referential expressions that are standardly assumed not to be the targets of predication, are thus expected to be able to move into [Spec, T] in infinitival clauses (cf. 2b). As shown in (15), this is again the case (Groos & Bok-Bennema 1986, Piera 1987).

- (15) a. No sé [TP qué cocinar para tus amigos].  
*not I-know what to-cook for your friends*  
 ‘I don’t know what to cook for your friends.’
- b. Nunca sé [TP cuándo ir a su casa].  
*never I-know when to-go to his house*  
 ‘I never know when to go to his house.’

Now it is fairly clear that FIN-PRED is regularly violated in the Caribbean and northern South American varieties of Spanish, where the preverbal subjects of infinitival clauses violate the requirements of this constraint. Yet we have seen that it is problematic to account for the position of the subject in these cases by appealing to a subject condition such as Case checking or the EPP, so it does not appear to be the case that a strong EPP requirement is what is overriding the requirements of FIN-PRED. Instead, the crucial observation to understand what makes these varieties different is due to Morales (1999). Morales suggests that subjects in infinitival clauses in Puerto Rican Spanish surface in the preverbal position if

they qualify pragmatically as topics (see also Mensching 2000). Although Morales provides no diagnostics to support this claim, my own research with speakers of Colombian Spanish indicates that this is indeed the case. First, in general topics have a strong tendency to be definite XPs. In this respect, speakers of Colombian Spanish have solid intuitions that preverbal subjects in infinitival clauses cannot be indefinite. Thus while most readily accept (8a), repeated here as (16), they unhesitatingly reject (17a) and accept (17b), with a post-verbal subject, as the only possibility.

(16) Ella vive enferma, [sin los médicos encontrarle nada].

*she lives sick without the doctors to-find-CL nothing*

‘She’s always ill, without the doctors being able to find anything wrong with her.’

(17) a. \*No se puede empezar el proyecto [sin un profesor aprobarlo primero].

*notCL can begin the project without a teacher to-approve-it first*

b. No se puede empezar el proyecto [sin aprobarlo un profesor primero].

*notCL can begin the project without to-approve-it a teacher first*

‘The project cannot be started without a teacher approving it first.’

Secondly, subject to some restrictions,<sup>8</sup> speakers of Colombian Spanish also accept non-subject topics in the preverbal position of these constructions.

(18) a. ?Sería chévere tener una piscina [para *todos los fines de semana*

*would-be cool to-have a pool for all the ends of week*

*poder nadar aquí*].

*to-be.able to-swim here*

‘It would be cool to have a pool in order to be able to swim here every weekend.’

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<sup>8</sup> For instance, speakers clearly prefer locative, temporal and adverbial expressions as sentence topics over argumental XPs in this context, hence the contrast between (18a) and (18b). This also appears to be the case in other varieties of Caribbean Spanish (Mark Davies, *Corpus del español*). The following is a text example from Cuban Spanish where an adverbial PP is topicalized in front of an infinitival verb. Yet I was unable to find in this variety cases where a non-subject argumental XP is topicalized in infinitival contexts.

(i) CUBAN SPANISH

... desnudarse para [sin temores, sin pudores necios,] descubrir la nada.

*to.get.undressed for without fears without shames foolish to.discover the nothing*

‘To get undressed in order to discover the nothing without fears, without foolish shame.’

Also, the speakers consulted uniformly rejected every kind of preverbal topic with infinitival stative verbs like *gustar* ‘to like’. These facts need to be addressed in future research.

- b. (?)(?)Necesitamos una moto [para *los telegramas* poder  
*we-need a motorcycle for the telegrams to-be.able*  
 entregarlos a tiempo].  
*to-deliver-them to time*  
 ‘We need a motorcycle to be able to deliver the telegrams on time.’<sup>9</sup>

The data thus indicate that when the subject is not a sentence topic, all the varieties considered so far behave uniformly: FIN-PRED is an active constraint and forces transitive subjects to stay in their VP-internal position. Hence post-verbal subjects in infinitivals are observed in every variety of Spanish. It is only when the subject has the properties of a sentence topic that a dialectal split is observed. In Peninsular Spanish, FIN-PRED is active even if the subject is a sentence topic (and so lexical preverbal subjects are banned altogether in infinitival clauses in this variety), but in the Caribbean/northern South American varieties it is not active in this case. Intuitively, we can take FIN-PRED to be an absolute prohibition in Peninsular Spanish, whereas in the Caribbean varieties it is overridden by the requirement that topics occupy a clause-initial position. In the following section I argue this can be straightforwardly analyzed as an asymmetry in faithfulness to the input between the different varieties of Spanish.

#### 4. AN ANALYSIS BASED ON FAITHFULNESS

Having defined the constraint that forces unmarked transitive infinitival clauses in Spanish to be verb-initial, in this section, I develop a faithfulness analysis of the word order facts presented earlier in this paper. Since the analysis relies crucially on faithfulness considerations, I first lay out my assumptions about the nature of the input in OT syntax. I follow, Legendre et al. (1998), Grimshaw (1997), Samek-Lodovici (1996), Grimshaw & Samek-Lodovici (1998) and others in assuming that inputs are predicate-argument structures, which consist of a lexical head and its argument structure, an assignment of lexical heads to its arguments, and also tense and aspect specifications. Following the notation in Legendre et

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<sup>9</sup> This example was elicited with the following preceding context, where there is a previous instantiation of the fronted DP *los telegramas*, ‘the telegrams’:

- (i) Mira, nosotros entregamos tanto cartas como telegramas, y con las cartas  
*look, we deliver both letters and telegrams and with the letters*  
 nunca tenemos problemas, pero ...  
*(we) never have problems but ...*

al.. (1998), arguments are kept apart from adjuncts by a semi-colon “;”. I further assume, following Legendre et al.. (1998), that arguments and adjuncts in the input are specified with syntactically-relevant features like [wh], [+/- referential], etc.<sup>10</sup> Accordingly, a sentence like (19a) would have the input illustrated in (19b).

- (19) a. John bought the newspaper in Brussels.  
b. <buy (x, y; z), Past, x=John, y=the newspaper; z=in Brussels>

I further assume that elements in the input are specified with features relevant to information structure (IS), such as [topic] and [focus] (see Samek-Lodovici 1996, Costa 2001, Grimshaw & Samek-Lodovici 1998, Choi 1999).<sup>11</sup> An instance of object topicalization like (20a) would have (20b) as its input.

- (20) a. A los criminales los castigó el juez  
*ACC* *the criminals* *CL* *punished* *the judge*  
'The criminals, the judge punished them.'  
b. <punish (x, y), Past, x=the judge, y=the criminals, y=[topic]>

Now, as mentioned previously, in non-finite constructions the requirements of FIN-PRED are in direct conflict with the requirements of two well-formedness conditions that play a fundamental role in deriving word order in Spanish. The first one is the EPP, which can be characterized as a violable constraint, as in (21).

- (21) EPP  
The specifier of the highest inflectional projection must be filled.  
(Grimshaw 1997, Gutiérrez-Bravo 2005, 2007)

The evaluation of this constraint is shown in (22). Concretely, EPP is satisfied when the subject moves to [Spec, T] and it is violated when the subject remains in its VP-internal position and the [Spec, T] position is left empty. As in the case of most current definitions of

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<sup>10</sup> As noted in Legendre et al.. (1998), arguments and adjuncts in the input are probably best viewed as nothing more than a lexical head plus a bundle of features, but providing such a representation will not be crucial for the discussion that follows.

<sup>11</sup> As in Legendre, Smolensky & Wilson (1998), I also assume that LF properties such as scope are part of the input, but this will not be relevant in what follows.

the EPP (Collins 1997, Chomsky 2000, Holmberg & Nikanne 2002, *inter alia*), this is a requirement that can be satisfied by constituents other than the subject. Such cases are tangential to the problem addressed here, and so I concentrate on cases like the one illustrated in (22).

(22) Evaluation of EPP

Input: <punish (x, y), Past, x=the judge, y=the criminals>

	EPP
☞ a. [ <sub>TP</sub> El juez castigó a los criminales]. <b>SVO</b> <i>the judge punished the criminals</i>	
b. [ <sub>TP</sub> Castigó el juez a los criminales]. <b>VSO</b> <i>punished the judge the criminals</i>	*

The second constraint that FIN-PRED is in conflict with is the TOPICFIRST constraint (Costa 2001), which requires topics to occupy a clause-initial position. The evaluation of this constraint is illustrated in (24). When a constituent (subject or otherwise) bears a [topic] feature, TOPICFIRST requires that this constituent move to a left-peripheral position ([Spec, T] in the Generalized TP analysis assumed here). When the sentence topic fails to do so, as in (20a), TOPICFIRST is violated.<sup>12</sup>

(23) TOPICFIRST (Costa 2001)

Topics are sentence-initial.

(24) Evaluation of TOPICFIRST

Input: <punish (x, y), Past, x=the judge, y=the criminals, y=[topic]>

	TOPICFIRST
a. [El juez castigó a los criminales ]. <b>SVO</b>	*
☞ b. [ A los criminales los castigó el juez]. <b>OVS</b>	

In other words, features in the input translate into some syntactic property in the output, in the same way that phonological features in the input translate into specific phonetic properties in the output in OT phonology. When a candidate generated by GEN does not display the syntactic property associated with the feature in the input, a faithfulness violation results.

Observe now that EPP and TOPICFIRST respectively require subjects and topics to move to [Spec, T], but in infinitival clauses FIN-PRED penalizes the predication configuration that result from this movement. OT provides a straightforward account of this conflicting state of affairs. The fact that Peninsular Spanish does not allow preverbal subjects or topics in infinitival clauses at all indicates that in this variety the requirements of FIN-PRED override the requirements of both EPP and TOPICFIRST. The word order facts observed in this variety can thus be accounted for with the ranking in (25). The analysis of (1b), repeated here as (26) under this ranking is presented in Tableau 1. In this case, no argument is signaled as a topic in the input.

- (25) PENINSULAR SPANISH  
 FIN-PRED » TOPICFIRST » EPP

- (26) Al ponerme yo en pie.  
*when to-put-myself I on foot*  
 ‘When I stood up’

INPUT: < stand-up (x), x=[1<sup>st</sup>, sing] >

	FIN-PRED	TOPICFIRST	EPP
a. [Al yo ponerme en pie]. <b>SV</b>	*!		
☞ b. [Al __ ponerme yo en pie]. <b>VS</b>			*

**Tableau 1:** Post-verbal subjects, Peninsular Spanish

Candidate (a) in Tableau 1 has the subject DP in its canonical position, [Spec, T], and consequently it satisfies EPP. However, this candidate displays the predication configuration that is penalized by the higher-ranked FIN-PRED constraint, and the resulting violation of this constraint proves fatal. In turn, candidate (b), where the subject remains in its VP-internal position, violates EPP because [Spec, T] is left empty. But by doing so, it avoids a violation of undominated FIN-PRED and so this candidate emerges as the winner.

Consider now an input which is just like (26), but where the subject is specified with the [topic] feature. The position of the subject is now relevant for the evaluation of TOPICFIRST, which requires topics to occupy a clause-initial position. However, because of the ranking FIN-PRED » TOPICFIRST, it is the requirements of FIN-PRED that are the topmost

<sup>12</sup> For a detailed analysis of topicalization in Spanish, I refer the reader to Gutiérrez-Bravo (2005).

priority, and so the candidate with a post-verbal subject still emerges as the winner. The analysis for this input is presented in Tableau 2.

Input: < stand-up (x), x=[1<sup>st</sup>, sing], x=[topic] >

	FIN-PRED	TOPICFIRST	EPP
a. [Al yo ponerme en pie]. SV	*!		
☞ b. [Al __ ponerme yo en pie]. VS		*	*

**Tableau 2:** Subject Topics, Peninsular Spanish

This analysis thus explains why lexical preverbal subjects are not observed in infinitival clauses in Peninsular Spanish. Given the high ranking of the FIN-PRED constraint, this language neutralizes two different inputs, <stand-up´ (x), x=1<sup>st</sup>.sing> and <stand-up´ (x), x=1<sup>st</sup>.sing, x=[topic]> into a single output, the VS clause that is the winner in the two tableau above. It is in this sense that the winning candidate in Tableau 2 is unfaithful to the input. The winning candidate lacks the structural configuration into which the IS feature [topic] in the input should be translated. It is thus identical to the winning candidate of an input that simply lacks this feature altogether in Tableau 1. Observe that this is no different from what is widely observed in phonology, where two different underlying segments /x/, /y/ can both have the same output [x] if some markedness constraint outranks the faithfulness constraint that regulates the relation between /y/ and [y]. In the case of infinitival clauses in Peninsular Spanish, the IS difference between the two inputs above is lost in the output because of the ranking FIN-PRED » TOPICFIRST.

Observe how this undermines one of the strongest arguments presented in favor of the absence of inputs and/or faithfulness constraints in OT syntax. The assumption of works that favor such a proposal is that syntax is entirely information preserving. Hence every feature attributed to the input is taken to still be accessible in the output syntax. However, this is clearly not the case in Tableaux 1 and 2. In Tableaux 2 the feature [topic] is not accessible in the output, since the subject that bears this feature in the input occupies exactly the same position in the output as the subject of the input that lacks the [topic] feature (Tableau 1).<sup>13</sup>

Consider now the situation in the Caribbean and northern South American varieties of Spanish. We had already determined that in Colombian Spanish, the requirements of

<sup>13</sup> Observe that this makes Information Structure features different from other features such as [wh]. A [wh] operator can be identified as such in the output irrespective of whether it is fronted to a left peripheral position or not. Hence a surface markedness constraint can be devised to regulate the behavior of these operators without making reference to the input, as in Heck et al. (2002). This option is not available for topics in Spanish, though, since formally they are no different from the equivalent XPs that lack the [topic] feature, as can be seen in Tableaux 1 and 2.



FIN-PRED override the requirements of EPP. Hence, just as in Peninsular Spanish, transitive subjects must remain in their VP-internal position when the subject is not a topic. However when the subject is a topic, the requirements of FIN-PRED are overridden by the requirement that the topic occupy a clause-initial position. In the OT analysis developed so far, the similarities and differences between Colombian and Peninsular Spanish result from the constraint ranking in (27), where FIN-PRED outranks EPP, but TOPICFIRST in turn outranks FIN-PRED.

- (27) COLOMBIAN SPANISH  
 TOPICFIRST » FIN-PRED » EPP

The analysis of (17) under this ranking is presented in Tableau 3. Recall that this is a case where the subject is not a topic.

Input: < approve (x, y) x=a teacher, y=[3<sup>rd</sup> Sing. masc.]>

	TOPICFIRST	FIN-PRED	EPP
a. [sin un profesor aprobarlo ... ]. <b>SV<sub>CL</sub></b>		*!	
☞ b. [sin __ aprobarlo un profesor... ]. <b>V<sub>CLS</sub></b>			*

**Tableau 3:** Post-verbal subjects, Colombian Spanish

In candidate (a), the subject moves to [Spec, T], which satisfies the EPP constraint. However, this again results in a predication configuration with a non-finite predicate, and so this candidate fatally violates FIN-PRED. The winning candidate is the verb-initial candidate (b), which violates EPP but satisfies FIN-PRED. The result in this case is thus no different from the one observed in Peninsular Spanish. Things are different, though, when the subject is specified as a topic in the input. The analysis for this case is presented in Tableau 4, which corresponds to the SVO example (16).

Input: < find (x, y), x=the doctors, x=[topic], y=nothing>

	TOPICFIRST	FIN-PRED	EPP
☞ a. [sin los médicos encontrarle nada] <b>SVO</b>		*	
b. [sin __ encontrarle los médicos nada] <b>VSO</b>	*!		*

**Tableau 4:** Subject topics, Colombian Spanish

Under the ranking of Colombian Spanish the verb-initial candidate (b), which had emerged as the winner in all previous evaluations, now fatally violates TOPICFIRST, because

the subject, specified as a topic in the input, does not occupy a clause-initial position. Candidate (a), where the subject topic moves to [Spec, T], violates FIN-PRED, but this is irrelevant for the evaluation because by doing so it satisfies the topmost constraint TOPICFIRST, and so it emerges as the winner. Crucially, in contrast with what is observed in Peninsular Spanish, the constraint ranking of Colombian Spanish results in an output that is faithful to the input with respect to IS features.

In this way, this analysis is able to account for both the similarities and the differences of the varieties of Spanish under consideration. All the varieties of Spanish considered here display post-verbal transitive subjects in infinitival clauses, but only the Caribbean and northern South American varieties also display preverbal subjects. The desired result is achieved in this faithfulness-based analysis through simple constraint re-ranking. Crucially, reference to the IS features in the input must be made in order to achieve this result.

## 5. CONCLUSIONS

In this paper I have provided evidence from dialectal variation in Spanish which shows that candidate and output structures can be unfaithful to the input with respect to Information Structure features. This result is consistent with the standard assumption that candidates preserve the truth-conditional semantic properties of the input. However, it casts doubts on the more radical view that suggests that candidates in OT syntax are a hundred percent information preserving, and thus that the input and/or faithfulness constraints can be dispensed with. In this way, the results reported in this paper support the notion of a fully structured input targeted by faithfulness constraints, as originally suggested in Legendre, Smolensky & Wilson (1998).

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