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Not a fact: A synchronic analysis of *el hecho de* and *o facto de*

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Abstract: This paper provides empirical evidence showing that the clause-taking nominals *el hecho de* (Spanish) and *o facto de* (Portuguese) are not reliable tests of factivity of predicates, as commonly assumed in the literature. Naturally occurring data from both languages show that these nominals are compatible with a wide range of predicates and that they occur in sentences with both factive and non-factive interpretations. Our findings contribute to the debate on the syntactic and semantic properties of clause-taking nominal constructions, clausal nominalization in Ibero-Romance, and to current research on the nature of factivity.

Keywords: factivity, clause-taking nominals, nominalization, Spanish, Portuguese

1 Introduction

Clause-taking nominal constructions such as English *the fact that* or *the claim that* are receiving renewed attention in the literature (see, for instance, Matsumoto et al. 2017 from a typological perspective) as they raise several questions at the syntax–semantics interface. From a syntactic point of view, linguists have debated their thematic status (are they arguments or adjuncts?), the role of the lexical properties of the noun and, more recently, the categorial status of the embedded clause, especially vis-à-vis relative clauses (Grimshaw 1990; Leonetti 1999; Barbosa 2013; de Cuba 2017; Matsumoto et al. 2017, and references therein). From a semantic point of view, these constructions are also challenging given the range of semantic relations that may be found between the subordinate clause and the noun. In this paper, we examine one clause-taking nominal construction in Spanish and Portuguese, *el hecho de/o facto de*, and contribute to the existing debate by focusing on its alleged factive

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interpretation. Specifically, we aim to evaluate previous theoretical claims about this clause-taking construction in the light of empirical data from both languages.

In the literature on Spanish and Portuguese, in particular on emotive factive verbs like *molestar* ('bother') and *lamentar* ('regret'), as in (1) and (2), the clause-taking nominals *el hecho de* and *o facto de*¹ 'the fact of/that' are traditionally used as a test for factivity of predicates.

- (1) *Le molesta el hecho de que le estén tomando el pelo.*
'The fact that they are making fun of him bothers him.'
(Leonetti 1999: 2101)
- (2) *Lamento o facto de que a casa tenha sido vendida.*
'I regret the fact that the house has been sold.'
(Barbosa 2013: 1847)

Factive verbs include *regret*, *be happy*, *worry*, etc. while non-factive verbs include *think*, *believe*, *appears*, *happens*, *seems*, etc. (Kiparsky and Kiparsky 1971 [1970]; Levinson 1983; Schulz 2003). Under this lexically based view of factivity, a verb is factive if the complex sentence that contains it presupposes that the proposition expressed by its complement clause is true (Kiparsky and Kiparsky 1971 [1970]; Schulz 2003). Therefore, (1) presupposes that *they are making fun of him* and (2) presupposes that *the house has been sold*.

In both Spanish and Portuguese, the use of *el hecho/o facto de* is usually described as optional (Leonetti 1999: 2101; Barbosa 2013: 1847, among others), i.e. the following examples are considered semantically equivalent to those in (1) and (2) above:

- (1') *Le molesta que le estén tomando el pelo.*
'That they are making fun of him bothers him.'
- (2') *Lamento que a casa tenha sido vendida.*
'I regret that the house has been sold.'

¹ The orthography used in this paper for the noun *facto* follows the former orthographic norm of European Portuguese. In Brazilian Portuguese, the spelling is *fato*. However, spelling is irrelevant for the findings and claims in this paper, which are common to both varieties, as shown by the examples presented.

The fact of/that and its cross-linguistic counterparts have traditionally been used as a standard test for factivity. This view of Spanish *el hecho de* is explicitly stated by Leonetti (1999), as follows:

The expression *el hecho de* is a characteristic of the subordinate clauses that depend on factive predicates (i.e. those that presuppose the truth of the subordinate clauses)... Since it is a definite expression that carries presuppositions, it presents the content of the subordinate clause as being taken for granted: in *Le molesta (el hecho de) que le estén tomando el pelo*, the truth of the event described in the nominal clause is taken for granted, and the optional presence of *el hecho de* simply highlights that aspect of the interpretation (Leonetti 1999: 2101, our translation, our emphasis).

This idea is also present in Schulz (2003), who claims that “the insertion of *the fact* is not a syntactic reflex of p-factive matrix predicates. Rather *the fact* construction itself suggests a presuppositional reading” (Schulz 2003: 76). In a paper comparing Spanish and Italian, Palmerini (2006) also maintains the factivity of Spanish *el hecho (de) que* and Italian *il fatto che*. Barbosa (2013) makes the same claim for Portuguese *o facto de que*.

(Factive) Presuppositions are expected to survive, i.e. project, in contexts in which entailment does not: under negation, under a modal operator and an interrogative sentence (the so-called Family of Sentences test, Chierchia and McConnell Ginet 1990; Tonhauser et al. 2013). This is exemplified in (3i–iii):

- (3) *María lamenta el hecho de que Pepe esté enfermo.*
 ‘Mary regrets the fact that Pepe is sick.’
 (i) *María no lamenta (el hecho de) que Pepe esté enfermo.*
 ‘Mary does not regret (the fact) that Pepe is sick.’
 Presupposes: Pepe está enfermo.
 ‘Pepe is sick.’
 (ii) *Quizás María lamenta (el hecho de) que Pepe esté enfermo.*
 ‘Maybe Mary regrets (the fact) that Pepe is sick.’
 Presupposes: Pepe está enfermo.
 ‘Pepe is sick.’
 (iii) *¿María lamenta (el hecho de) que Pepe esté enfermo?*
 ‘Does Mary regret (the fact) that Pepe is sick?’
 Presupposes: Pepe está enfermo.
 ‘Pepe is sick.’

In (3i–iii), the proposition that *Pepe is sick* projects, hence confirming the factivity of the presupposition trigger *lamentar*. Under the view advocated by Leonetti (1999) and others, the expression *el hecho de* co-occurs with such verbs and reinforces this aspect of their meaning, their factive presupposition.

In this paper, we cast doubt on this view on the basis of empirical data. Our goal is twofold. First, we present evidence revealing that *el hecho de* and *o facto de* are not infallible tests of factivity and are compatible with a wide range of predicates, including predicates that are not factive. Second, we aim to show that the expressions *el hecho de* and *o facto de* actually serve to introduce a proposition, which may be either true or false depending on a number of factors, both lexically and contextually given. By doing so, we hope to contribute to the debate on clausal nominalization in Spanish and Portuguese (and Romance more generally), a longstanding topic of interest in the literature on the syntax–semantics interface. Additionally, we hope to contribute to the theoretical discussion about veridicity (Karttunen 2016; Karttunen and Zaenen 2005), understood not as a lexical feature of a predicate (i.e. as factivity is defined above) but rather as a property of a sentence interpreted in context regarding the speaker’s commitment to the implications that the sentence expresses.

The paper is structured as follows. First, we provide some background regarding previous studies on *el hecho de* and the Spanish clausal nominalization *el que*, as well as on *o facto de* and the nominalizations of the inflected/tensed infinitive in Portuguese. In Section 2, we present the syntactic properties of the subordinate clause introduced by *el hecho de* and *o facto de* and discuss its behavior with respect to mood selection. Section 3 is the core section with respect to our argument; we present empirical evidence to the effect that *el hecho de* and *o facto de* are not restricted to factive verbs or factive contexts. Our data come from online corpora: RAE’s CREA as well as Mark Davies’s *Corpus del Español* (CdE) and *Corpus do Português* (CdP), and from online searches. Section 4 discusses the limitations of a lexical notion of factivity in the light of the data presented. We conclude in Section 5 with suggestions for further research.

2 Properties of *el hecho/o facto de (que)*

2.1 Overview of main syntactic and semantic properties

The syntactic properties of *el hecho/o facto de que* pose a number of questions: (i) the nature of the relationship between the embedded clause and the noun, (ii) the grammatical function of the whole DP and (iii) the link between *el hecho/o facto de que* and clausal nominalization. We address the first two questions in this section and discuss the relation to clausal nominalization in Section 2.2.

The relation between the subordinate clause and the noun has been discussed in the literature. In Spanish, Leonetti (1999) analyzes the *que*-clause as an adjunct of the noun *hecho*. In Portuguese, the subordinate clause is treated as an argument of the noun by some authors (Peres and Móia 1995: 191) but as an adjunct by others (Barbosa 2013: 1880). Leonetti (1999: 2090–2096) justifies the adjunct status with the tests presented in (i)–(vii), which we apply to the sentence in (4). Barbosa applies similar tests to Portuguese (2013: 1879–1881):

- (i) The adjunct clause may be restated between commas, as in (5);
 - (ii) The N may have a predicative function with a copular verb, as (6);
 - (iii) The adjunct clause is only introduced by the P *de*, as shown in (7);
 - (iv) The N may only combine with the definite article *el* (i.e. the indefinite article is ruled out), as in (8);
 - (v) The adjunct clause may not be substituted by a demonstrative pronoun, as in (9);
 - (vi) The N may not be pluralized, as in (10);
 - (vii) The adjunct clause cannot be left-dislocated, as shown in (11).
- (4) *El hecho de que Pepe hable inglés es importante.*
‘The fact that Pepe speaks English is important.’
- (5) *El hecho, que Pepe habla inglés, es importante.*
‘The fact – that Pepe speaks English – is important.’
- (6) *Que Pepe habla inglés es un hecho.*
‘That Pepe speaks English is a fact.’
- (7) *El hecho *a/*en/*con/de que Pepe hable inglés*
Lit. ‘The fact to/in/with/of that Pepe speaks English.’
- (8) **Un hecho de que Pepe hable inglés*
Lit. ‘A fact that Pepe speaks English.’
- (9) *??El hecho de esto es importante.*
Lit. ‘The fact of this is important.’
- (10) **Los hechos de que Pepe hable inglés y de que quiera viajar*
Lit. ‘The facts that Pepe speaks English and that he wants to travel.’
- (11) **De que Pepe hable inglés, lamento el hecho.*
Lit. ‘That Pepe speaks English, I regret the fact.’

These tests distinguish *el hecho/o facto* from other clause-taking nominals, e.g. *causa* ‘cause’, *justificación* ‘justification’ that take argumental clauses (Leonetti 1999).

The second question pertains to the syntactic functions of the whole DP. The DP introduced by *el hecho/o facto de (que)* is grammatical in different syntactic functions and may combine with both finite and nonfinite verbs, as can be seen in Table 1:

Table 1: Summary of the possible syntactic functions and behavior with respect to finiteness and mood of *el hecho/o facto de (que)*.

A. Syntactic functions	Spanish	Portuguese
Subject	(12a)	(12b)
Object (direct object)	(1)	(2)
B. Finiteness and mood	Spanish	Portuguese
Subjunctive	(14a)	(14b)
Indicative	(15a)	(15b)
Infinitive	Non-finite (13a)	Finite (13b)

Examples (1) and (2) illustrate *el hecho/o facto de que* clauses as complements (direct objects). In (12), we show examples in subject position²:

2 They may also be prepositional objects:

- (1) *La importancia de esta idea radica en el hecho de que contiene la corrección de una importante distorsión perceptual.*
‘The importance of this idea rests on the fact that it contains the correction of an important perceptual distortion.’
(CdE, Argentina)
- (2) *estamos um pouco preocupados com o facto de a Frelimo e o Governo pretenderem empurrar a realização das eleições*
‘We are a little worried about the fact that F. and the government intend to push for elections.’
(CdP, Portugal)

Our data show that grammatical function is not a factor in the factivity – or lack thereof – of *el hecho/o facto de (que)*, so we will limit the data presented here to clauses in subject and complement (direct object) positions, which figure much more prominently in the literature we are discussing. In any case, our conclusions extend to *el hecho/o facto de (que)* in other grammatical functions.

- (12) a. *El hecho de que las letras hebreas puedan ser usadas como punto neurálgico de un ceremonial, da a entender la fuerza y potencia especial que poseen éstas en el trabajo mágico.*
 ‘The fact that the Hebrew letters can be used as a central point of a ceremony reveals the strength and special power they possess in magic.’
 (CdE, Argentina)
- b. *o facto de sempre ter defendido os interesses do Norte e do Porto não implica que eu seja defensor de uma qualquer regionalização.*
 ‘The fact that I have always defended the interests of the North and of Porto doesn’t mean that I am in favor of any sort of regionalization.’
 (CdP, Portugal)

Non-finite forms in the embedded clause are grammatical. In Portuguese, we find the inflected/tensed infinitive in the subordinate clause (13b):

- (13) a. *El hecho de tener una dificultad con el habla no le impidió cantar el estilo sacro por algunos años en un coro.*
 ‘The fact of having a speech impediment didn’t prevent him from singing in sacred style in a choir for some years.’
 (CdE, Argentina)
- b. *o fato de termos revisado mostrou trabalho de auto-avaliação.*
 ‘The fact that we revised (it) showed an effort of self-evaluation.’
 (CdP, Brazil)

With finite verbs, *el hecho/o facto de que* is not limited to a specific mood, as it is grammatical with both subjunctive (14a,b) and indicative (15a,b):

- (14) a. *Respecto a los padres, para mí el hecho de que no sepan usarla es un plus.*
 ‘With regards to parents, to me the fact that they do not know how to use it is an added value.’
 (CdE, Uruguay)
- b. *O fato de que escândalos venham à luz é um bom sinal.*
 ‘The fact that scandals come out is a good sign.’
 (CdP, Brazil)
- (15) a. *El hecho de que 4 x algo siempre es un número par.*
 ‘The fact that 4 multiplied by something is an even number.’
 (CdE, Argentina)
- b. *sobre o fato de que sempre haverá reis e vassalos.*
 ‘About the fact that there will always be kings and vassals.’
 (CdP, Brazil)

Mood selection – or rather, lack thereof – is relevant to our discussion, as will be apparent in Section 3.3. The literature highlights that both indicative and subjunctive are possible in Spanish (Leonetti 1999) and in Portuguese (Barbosa 2013), although for the latter language, the inflected/tensed infinitive is frequent.

In a recent paper, Becker presents the following conclusion regarding the relation between factivity and mood in Spanish (see also Serrano 2015: 296–300):

[W]e can say that the factive constructions involve different interpretations depending on the mood selected by the speaker: Using the indicative, the speaker wants to emphasize the veridical status of the propositional content and stresses the factivity and effectiveness of a certain state of affairs in the real world. In particular, speakers profit from the semantic potential of the indicative when they intend to corroborate (known) information and focus on their own commitment to the propositional content of the subordinate clause. In subjunctive contexts, aspects of the meaning are not really bleached out, but the noun is converted into a situation variable, which stands for possible situations, circumstances, alternatives and hypothesis introduced into a scheme of reasoning. (Becker 2014: 298, our emphasis)

We will show that this “division of labor” between indicative and subjunctive needs to be qualified in view of the naturally occurring data.

2.2 *El hecho/o facto de que* and clausal nominalization

In this section, we provide some background on the syntactic analysis of these clause-taking nouns in order to show how their assumed factive interpretation has been formally accounted for.

In Spanish, *el hecho de que* has been analyzed as a paraphrase of the clausal nominalization *el que* (lit. ‘the that’), as in (16) (Demonte 1977; Leonetti 1999; Palmerini 2006; Serrano 2014, Serrano 2015). In Portuguese, such a structure is ungrammatical ([17], see Delicado Cantero 2013a), but it is grammatical if the verb is in the inflected infinitive (Dias 1970; Zubizarreta 1982: 236; Cunha and Cintra 1984; Raposo 1987: 97, his example [33a] is given below as [18]; Brito 2013; Âmbar and Jiménez-Fernández 2017):

- (16) *Le molesta el que le estén tomando el pelo.*
 ‘The fact that they are making fun of him bothers him.’
- (17) *Lamento (*o) que a casa tenha sido vendida.*
 ‘I regret the fact that the house has been sold.’

- (18) *Nós lamentamos o eles terem recebido pouco dinheiro.*
 ‘We regret them having received little money.’

Kiparsky and Kiparsky’s (1971 [1970]) argue that the deep structure of sentences (1’) and (2’) above includes a noun *fact* at some level of representation, following a typical transformational account at the time. Thus, the deep structure of both clausal nominalization and clauses with *fact* would include the same lexical array (Kiparsky and Kiparsky 1971 [1970]: 356):

Such a syntactic account has long been discarded (Leonetti 1999; Picallo 2002). Picallo (2002: 119) convincingly proves that <D + CP> does not involve a covert noun *fact*.

Beyond covert nouns, the syntactic equivalence between *el hecho/o facto de que* and clausal nominalization rests on the nominal-like distribution of finite clauses. The fact that both finite and non-finite clauses may be introduced by an article in Spanish, Portuguese and other languages (e.g. Greek, Korean) has been taken as evidence for the projection of a DP for CPs. For instance, Han (2005) formally captures this by arguing for a nominal shell on top of the CP:

- (18) *I told him [DP D [CP that she is gone]]*
 (Han 2005: 100)

Panagiotidis and Grohmann (2009) argue for a new functional category, the *categorical switch*, which creates the necessary mixed projection to formalize clausal nominalizations. Applying this analysis to Spanish would render the following example:

- (19) *Lamento [DP el [SWITCHP [CP que no estás aquí]]*
 ‘I regret that you are not here’

On the other hand, Kornfilt and Whitman (2011) argue for four different levels of nominalization without positing a new functional category. For finite nominalizations, the finite clause remains verbal from the CP down and the article is then the only nominal level. In the previous example, the CP would remain fully verbal and only the presence of the D would create the final nominal layer. A similar idea is already present in Plann (1981), for instance.

Leonetti (1999) highlights that the presence or absence of D is syntactically relevant. The projection of the article causes an island effect for extraction:

- (20) a. *¿Quién te sorprendió el que se retrasara una hora?
 Lit. 'Who did it surprise you the (fact) that s/he was an hour late?'
 (Leonetti 1999: 826)
- b. ¿Quién te sorprendió que se retrasara una hora?
 Lit. 'Who did it surprise you (the fact) that s/he was an hour late?'

On the basis of this difference, Delicado Cantero (2013a, 2013b) argues against positing an abstract, covert D while maintaining that Spanish (and Portuguese) D-less *que*-clauses nevertheless continue to show a typically nominal distribution (see Delicado Cantero 2013a: 145; Panagiotidis and Grohmann 2009: 150, fn 5 for English gerunds; Roussou 2010: 587).

Serrano (2015) argues that the D in *el que*-clauses instantiates a new functional category called *Límite* (Boundedness), as discussed in the next section.

Portuguese has a nominalization of the inflected/tensed infinitive, possible both without the definite article, as in (21), and with the definite article *o* 'the', as in (22) (Dias 1970; Cunha and Cintra 1984; Brito 2013; Âmbar and Jiménez-Fernández 2017). The determiner *el* may also combine with certain infinitives in Spanish, which we will not explore here (see Delicado Cantero 2013a), but this language does not have an inflected/tensed infinitive:

- (21) *Mas o curioso é tu não perceberes que não houve nunca 'ilusão' alguma.*
 'But the curious thing is that you do not realize that there was never any illusion'
 (Vergílio Ferreira, NN, 312, cited in Cunha and Cintra 1984: 485)
- (22) *O ter ela gritado surpreendeu-nos.*
 'The fact that she shouted surprised us.'
 (Brito 2013: 8)

Brito (2013) shows that (22) is the nominalization of a full infinitival inflected/tensed clause, with the infinitive in this case in third person singular, agreeing with the subject *ela* ('she'). The similarity with Spanish finite *el que* is warranted in that, in these Portuguese examples, it is possible to have a full DP as subject, as in (23):

- (23) *O terem gritado as pessoas surpreendeu-nos.*
 'The fact that people have shouted surprised us.'

In (23), the auxiliary verb is inflected for third person plural (*terem*), agreeing with the subject *as pessoas*. Additionally, the verb retains its whole argument structure, including the licensing of an argument clitic selected by the verb. The verbal nature of the infinitive is further confirmed by the possible modification by an adverb, but not by an adjective, and the possibility of having negation as well as temporal and modal auxiliaries in the clause, like the perfective auxiliary *ter* ('have') in (22) and (23) (see Brito 2013; Âmbar and Jiménez-Fernández 2017).

What is more important for the purposes of this paper, Brito (2013: 16) points out that this nominalization structure is selected by factive evaluative predicates and denotes a fact, as shown by her translation 'the fact that' in (22). Likewise, the semantic link between *el que* and *el hecho de que* and factivity in Spanish has long continued unchallenged.

3 A test for factive predicates?

It is still generally assumed that the possibility to combine with *el hecho/o facto de (que)* is a marker of factivity of the selecting predicate (Demonte 1977; Leonetti 1999; Serrano 2015). However, our evidence, extracted from online and corpus searches, proves otherwise.

In this section, first we review a recent account of the properties of the clausal nominalization *el que* in Spanish; while *el que* is shown to not be restricted to factive predicates, *el hecho de que* is presented as factive. In Section 3.2, we provide evidence showing that *el hecho de que* is compatible with a range of verb classes and not restricted to factive predicates. Section 3.3 expands the findings of Section 3.2 by analyzing adjectives that may modify the noun *hecho* in this clausal nominalization. These data further support our claim that *el hecho de que* is not associated with a factive presupposition.

3.1 Recent accounts of *el que*

The literature has previously established a semantic link between Spanish *el hecho de que* and the clausal nominalization *el que*. However, Serrano (2014, 2015) proves that *el que* is not restricted to factivity, as it may be selected by predicates not associated with a factive presupposition.

Serrano (2015) posits a new functional category, *Lím(ite)* (Spanish for Bound [edness]), dominating Fin within a split CP. This new category *Lím* projects in

the CP area of all those *que*-clauses that meet the semantic constraints for factivity/presupposition/topicality, that is, those denoting a set of concrete situations. The role of the (optional) article is to mark the proposition as definite; it creates a situation which seems to have occurred previously (Serrano 2015: 279). In her account, *Lím* projects and the resulting CP is interpreted as a concrete situation.

This analysis is similar to de Cuba and Ürögdi (2009, 2010) and de Cuba (2017). Building on evidence from Hungarian and other languages, this new analysis replaces factivity with clausal referentiality. Many of the cases traditionally studied under the label of factivity are now reclassified as involving clauses that refer back to a previously mentioned proposition in the context. However, Serrano (2015: x–xi, 192–198, 205–207) provides a review and highlights the problems extending it to Spanish data.

Serrano (2015: 267–305) finds that *el que* clauses are compatible not only with emotive factive predicates, as expected, but also with weak causative verbs such as *evitar* ('avoid'), *dificultar* ('make it difficult') or *fomentar* ('encourage'), and judgment verbs such as *rechazar* 'to reject'. The author argues that this is not the case for clauses introduced by *el hecho de*:

- (24) *En esa compañía fomentan enérgicamente el que los empleados se adhieran a un proyecto solidario.*

'In that company they encourage employers to join a charity project.'

(Serrano 2015: 34)

- (25) **En esa compañía fomentan enérgicamente el hecho de que los empleados se adhieran a un proyecto solidario.*

'In that company they encourage employers to join a charity project.'

(Serrano 2015: 34)

Serrano (2015: 37–40) shows that these predicates are not factive. For instance, *dificultar* implies that the embedded proposition may not take place, as in (26). Both the negation (27) and interrogation (28) diagnostics (from the Family of Sentences test mentioned above) show that the content of the subordinate clause is not assumed to be true, as shown e.g. by the possible continuation in (27):

- (26) *Ese juego dificulta el que Palmira aprenda a distinguir las notas musicales.*

'That game makes it difficult for Palmira to learn to recognize the musical notes.'

(Serrano 2015: 37)

- (27) *Ese juego no dificulta el que Palmira aprenda a distinguir las notas musicales, pero ella sigue sin distinguir una sola nota.*

‘That game doesn’t make it difficult for Palmira to learn to recognize the musical notes, but she continues to be unable to recognize even one of them.’
(Serrano 2015: 38)

- (28) *¿Dificulta ese juego el que Palmira aprenda a distinguir las notas musicales?*

‘Does that game make it difficult for Palmira to learn to recognize the musical notes?’
(Serrano 2015: 38)

El que clauses may combine with certain non-factive predicates such as *demonstrar* (show, prove) or *subrayar* (underline), in this case with subject function (Serrano 2015: 50–52).

In short, the author shows that non-factive predicates may combine with *el que*. On the basis of examples such as (25), Serrano continues to classify *el hecho de que* as factive. In the following sections, we present evidence proving that the same lack of factivity applies to *el hecho/o facto de (que)*.

3.2 Compatibility with classes of predicates other than factives

To our knowledge, only one paper has called into question the factive nature of *el hecho de que* in Spanish. Dam-Jensen (2008: 301) briefly notes that *el hecho de que* may appear in non-factive contexts. Unfortunately, no information is added regarding the sources of the three examples cited and the issue is not explored further. As for Portuguese, Augusto (2003: 9),³ citing Figueira (1974) and Pires de Oliveira et al. (1999), lists two examples of Brazilian Portuguese containing *o fato* combining with non-factive verbs. The issue is likewise not further explored.

English *the fact that* has received more attention. In their seminal paper on factivity, Kiparsky and Kiparsky (1971 [1970]: 348, footnote a) briefly note that “[t]here are speakers for whom many of the syntactic and semantic distinctions we bring up do not exist at all”. Kryk (1980: 13) states that “the distribution of *the fact* + S configuration (Polish *fakt* + S) has little explanatory value for the subclassification of predicates taking that-complements”. Both in English and in Polish, the head noun in question can be used not only with “factives” but also “semi-factives” and “non-factives”. Schmid (2000) argues that there exist cases where “strictly speaking factivity cannot be involved because the speaker is only

3 We thank an anonymous reviewer for bringing these references to our attention.

making a prediction as to possible future events” (Schmid 2000: 99). More recently, De Cuba (2017: 39–40), as an extension of his analysis of all CPs in <N + CP> – including *the fact that* – as referential clauses, concludes that, for those speakers who accept *the fact that* in non-factive contexts, the embedded clause must be analyzed as non-referential. Since we are not adopting de Cuba’s (2017) syntactic analysis here, we will not explore this further.

While some of the evidence provided by Kryk (1980) and Schmid (2000) could be revisited (e.g. in view of the literature on semi-factives), these references nevertheless provide an initial background for our paper.

We have found a large number of examples, from well-known online corpora such as RAE’s CREA or Mark Davies’s *CdE* and *CdP* and from online searches, proving that *el hecho de que/o facto de que* may combine with non-factive predicates. We expect that not all speakers of Spanish and Portuguese will necessarily find all our data grammatical. However, the volume of data we obtained clearly indicates that these are not occasional ‘mistakes’ and thus merit being accounted for. One such example is the verb *evitar* ‘to avoid’, as in (29) and (30):

- (29) *Mas não fiquei a viver no mesmo apartamento, o que evitou o facto de falar em português.*

‘But I didn’t live in the same apartment, which avoided the fact of speaking in Portuguese.’

<http://uniarea.com/forum/index.php?threads/erasmus-na-finl%C3%A2ndia.2731> (11-15-16)

- (30) *este nuevo sistema evitó el hecho de que si un trabajador cotizaba durante una buena parte de su vida laboral y por alguna razón perdía su empleo antes de la edad requerida para jubilarse, perdía todo lo acumulado.*

‘This new system avoided the fact that, if a worker paid superannuation during most of their working life and for whatever reason lost their job before the minimum required age for retirement, they lost the whole accumulated amount.’

<http://www.diputados.gob.mx/comisiones/traypres/iniclviii/iniciativa45.htm> (11-16-16)

The verb *evitar* ‘avoid’ is a negative implicative verb (Karttunen 1971; Nairn et al. 2006), not a factive verb. Its behavior contrasts with that of a factive predicate; in this case, when the verb combines with a proposition *p*, it is implied that *not p*. Hence, (29) means that the speaker did not speak Portuguese during his stay abroad, and (30) means that workers under the circumstances described did not lose the accumulated amount of money.

Additionally, verbs such as *dificultar* ‘make it difficult’ and *rechazar/rejeitar* ‘reject’, underlined below, do not carry any presupposition of truth of the embedded clause but they are likewise attested with *el hecho de/o facto de*:

- (31) *restricciones que...dificultan el hecho de que las mujeres lleguen a determinados espacios de poder.*
 ‘Restrictions which make it difficult for women to reach certain positions of power.’
<https://dialnet.unirioja.es/descarga/articulo/5017882.pdf> (11-21-16)
- (32) *o que dificulta o facto de surgirem teorias mais sérias.*
 ‘Which makes it difficult for more serious theories to arise.’
<http://bligz.pt/seres-estranhos-foram-encontrados-na-india-e-deixam-populacao-preocupada> (11-21-16)
- (33) *Muchos rechazan el hecho de que Irak sea gobernado por “personas que pasaron la mitad de su vida fuera del país....”*
 ‘Many reject Iraq being ruled by people who spent half their lives outside of the country...’
 (CREA, Argentina)
- (34) *mas rejeita o facto de que a disseminação dos mercados globais e das comunicações mundiais funcionam para dissolver as barreiras culturais.*
 ‘But s/he rejects the fact that the expansion of global markets and world communications work in favor of the dissolution of cultural barriers.’
 (CdP, Portugal)

These examples illustrate that *el hecho/o facto de que* is grammatical when combined with a number of predicates that cannot be listed as factive-presuppositional, including implicative verbs such as *evitar* and *rechazar*. In fact, these verbs are part of the list put forward in Serrano’s analysis against the factivity of Spanish *el que* (Serrano 2015: 40–41, 267–305, for which she uses the terms “weak causative” verbs and “judgment” verbs, respectively). Therefore, we can now broaden her argumentation and conclude that *el hecho/o facto de que* cannot be claimed to be semantically limited to factivity either.

So far we have provided examples of *el hecho/o facto de que* in complement (direct object) position. As mentioned above, the DPs containing both expressions may also be subjects in combination with non-factive predicates, as is also the case for *el que* (Serrano 2015: 51–52):

- (35) *El hecho de que el Documento subraya este deber es, a nuestro juicio, de gran importancia.*
 ‘The fact that the document highlights this duty is, in our opinion, very important.’
 (CdE, El Salvador)
- (36) *¿El hecho de que le tenga que hacer algún reproche demuestra que no están en el mismo bando?*
 ‘Does the fact that s/he has to tell him/her off prove that they are not on the same boat?’
 (CdE, Colombia)
- (37) *El hecho de que sean públicas significa que un hacker podría fácilmente robar información.*
 ‘The fact that they are public means that a hacker could easily steal the information.’
 (CdE, Mexico)

The role of the whole sentence in disfavoring a factive reading is clearly captured in the following two examples. In (38) and (39), the semantics of the adjectival predicates – (*ser*) *dudoso* ‘to (be) doubtful’ and (*considerarse*) *inaceptable* ‘(to be deemed) unacceptable’ – is incompatible with any presupposition of truth:

- (38) *es dudoso el hecho de que Robin Hood estuviese alguna vez en la región.*
 ‘It is doubtful that RH were ever in the region’
https://es.wikipedia.org/wiki/Bah%C3%ADa_de_Robin_Hood (7-29-16)
- (39) *el hecho de que pudiera quedar sujeta a usos, reservas y destinos definidos por el Estado se consideró inaceptable.*
 ‘The fact that it could be subject to uses, reservations and destinations as regulated by the government was considered unacceptable.’
 (CREA, Mexico)

The opposite interpretation is found in (40) and (41); due to the semantics of the verbs *suced* and *acontecer* ‘to happen’, the sentences mean that the embedded predication took place (i.e. *that there was a honeycomb and people got stings, that a pavilion was built*). In the following examples, we provide non-idiomatic (literal) translations in order to keep the DP *the fact that* in the sentence.

- (40) *sucedio el hecho de que había un panal de abejas y mucha gente salió picoteada.*

Lit. 'It happened the fact that there was a honeycomb and many came out with stings.'

www.lapolicia.com/nota-roja/niegan-balacera-pero-hallan-armas (7-17-15)

- (41) *A provar que a obra era não só útil como também necessária, aconteceu o facto de, logo após a sua inauguração, ter sido construído outro pavilhão.*

Lit. 'To prove that the construction was not only useful but also necessary, it happened the fact that, soon after its inauguration, another pavilion was built'

https://sigarra.up.pt/flup/pt/pub_geral.show_file?pi_gdoc_id=566838 (11-15-16)

In sum, the syntactic distribution of *el hecho/o facto de (que)* is not a factor in the determination of a factive or non-factive interpretation.

3.3 Modification of the N and mood selection

The modification of the N *hecho/facto* in this construction provides further evidence for the claims we make in this paper and furthermore, it allows us to revisit mood selection. As the following examples illustrate, *hecho/facto* may be modified by adjectives like *imposible* 'impossible', *irreal* 'unreal', *improvável* 'improbable', etc.⁴ which cancel any potential, expected factive reading:

⁴ Such modification is not limited to *hecho/facto* with a clause, as the examples below illustrate. This shows that the semantics of the N *hecho/facto* is not constrained by any [+factive] feature:

- (1) *Ya pasaron los tiempos donde los psiquiatras veían “a los locos”, que además es un hecho falso, y los psicólogos “a los neuróticos”, es decir, a los que no estaban locos.*

'Times are long gone when psychiatrists would treat “the crazies”, which in addition is a false fact, and psychologists would treat “the neurotics”, that is, those who were not crazy.'

(CREA, Costa Rica)

- (2) *A autora defende que as nossas sociedades, que negam a morte e a transformam num facto improvável, nos preparam, por isso, mal para a vida.*

'The author argues that our societies, which deny death and transform it in an unlikely fact, prepare us poorly for life for that reason.'

<http://repositorio.ispa.pt/handle/10400.12/2172> (1-11-17)

- (42) *Si, en la hipótesis de que el amanuense olvidó en la fecha una C, admiésemos la del año 913, tendríamos el hecho imposible de que reinase entonces Íñigo Arista.*

'If, assuming the hypothesis that the scribe forgot a C in the date, we were to admit the date of 913, we would have the impossible fact that I.A. would be the ruling king'

<https://books.google.com.au/books?isbn=8497613635> (11-15-2016)

- (43) *Estoy convencido de que la única razón del éxito que ha tenido este procedimiento... se apoya en el hecho falso de que sustituye a la cirugía.*

'I am convinced that the only reason for the success of this procedure... has to do with the false fact that it is a substitute for surgery.'

(CREA, Spain)

Note that in (42), the verb of the subordinate clause is in the subjunctive, while in (43) it is in the indicative; both sentences have a non-factive interpretation.

Similar examples of modification by adjectives are found in Portuguese, both with the verb in the subjunctive, as in (44), and in the inflected infinitive, in (45):

- (44) *O que tornava inverossímil a história de Simeão era o fato improvável de que ele tivesse saído vivo daquela empreitada.*

'What turned S.'s story unbelievable was the unlikely fact that he would have survived that event.'

<https://books.google.com.au/books?isbn=8579233097> (11-15-2016)

- (45) *A sanha do Miguel Sousa Tavares descobriu que ele concluiu uma pós-graduação em 2004, o que não tem mal nenhum se exceptuarmos o fato improvável de ter concluído a sua licenciatura em 2005.*

Lit. 'The rage of M.S.T. found out that he had finished a graduate degree in 2004, which would not be an issue except for the improbable fact of having finished his BA in 2005.'

<http://postal.blogs.sapo.pt/2964.html> (1/11/2017)

Modification by these adjectives makes the speaker's epistemic commitment toward the proposition expressed by the subordinate clause explicit and leaves no doubt as to the non-factive interpretation of the sentence, independently of the mood – or finiteness – of the verb in the embedded clause.

Additionally, we find examples in which the embedded verbs are in subjunctive and the proposition expressed by the embedded clause is presupposed

to be true, as made apparent by the adjective that modifies the noun *hecho/facto*, as in (46) and (47):

- (46) *el hecho irrefutable de que compartan un ámbito espacial de 200 millas... hace difícil, pero no imposible, imaginar delimitaciones diferentes.*
 ‘The undeniable fact that they share a special area of 200 miles... makes it difficult, but not impossible, to imagine different delimitations.’
<http://books.google.com.au/books?isbn=8497452585> (9-7-16)
- (47) *El hecho comprobado de que haya familias con mayor número de personas afectadas hace pensar que hay un factor genético en juego, pero esto no ha sido comprobado.*
 ‘The proven fact that there are families with a higher number of affected members leads us to think that there is a genetic factor at play, but this has not been proven.’
<http://books.google.com.au/books?isbn=9561117479> (9-7-16)

In (46) and (47), the propositional content of the subordinate clause is true (its truth value can actually be confirmed to be true by data in the actual world). We also have indications of the belief of the speaker in the truth of the proposition expressed by the subordinate clause: notice the adjectives *irrefutable* (‘irrefutable’) and *comprobado* (‘confirmed’) that occur as modifiers of the noun *fact*.

Conversely, the following examples show embedded verbs in the indicative⁵ despite the non-factive interpretation of the propositions, either due to the semantics of the selecting verb in (48) or to the modifying adjective in (49):

⁵ Subjunctive is not ruled out here either, a further indication that mood is not a key factor:

- (1) a. *Lo que trato de sugerir es que la tesis de que el predictivismo queda justificado por a) el hecho (dudoso) de que los científicos lo acepten intuitivamente ... presenta el problema como si fuera la solución.*
 ‘What I am trying to suggest is that the thesis whereby *predictivism* is justified by a) the (doubtful) fact that scientists accept it intuitively ...presents the problem as if it were the solution.’
<http://revistas.ucm.es/index.php/RESF/article/viewFile/RESF0404220059A/9599> (8-12-2016)
- (2) *al menos no hace aguas sobre algunos detalles imperdonables de las películas como el hecho imposible de que simios y humanos hablen el mismo idioma.*
 ‘At least it is not incorrect when it comes to some unforgivable details such as the impossible fact that apes and humans speak the same language.’
<http://www.tercerafundacion.net/biblioteca/ver/ficha/1892> (10-11-2017)

- (48) *Porém, o primeiro-ministro interino da RCA, negou o facto de que o seu país não dispõe de plano de paz apoiado a nível internacional.*

‘However, the interim prime minister of RCA denied the fact that his/her country does not have an internationally supported peace plan.’

<http://opais.co.ao/congo-acolhe-reuniao-internacional-sobre-desarmamento-de-milicias-na-rca/> (8-12-16)

- (49) *Se basa en el hecho irreal de que toda la comunidad hispanohablante sabe ingles.*

‘It relies on the unreal fact that the whole Spanish-speaking community knows English.’

<http://unaracnidounacamiseta.com/2011/03/28/fromlostiano> (6-18-2016)

From the data presented in this section, we can conclude that verb mood of the subordinate clause is not a predictor of the truth value of the proposition expressed by the subordinate clause in the actual world (*contra* Becker 2014; Barbosa 2013).

4 Revisiting factivity

In the previous sections, we have shown that the use of *el hecho de/o facto de* as a test of factivity is untenable in view of naturally existing data that show otherwise.⁶ Additionally, these findings show the need to look beyond factivity, defined as a lexical property or a feature present in certain predicates. In this respect, our study adds to the current body of work based on naturally occurring data that propose abandoning a strictly lexical notion of factivity, as initially conceived in the 1970s, and to consider the role of other factors in determining the factive or non-factive interpretation of a sentence.

⁶ An anonymous reviewer points out that sentences containing *el hecho de/o facto de* may be processed differently from sentences containing complement clauses without these nominals. Specifically, the timing of availability of presupposed content may be different. Inhoff (1985) shows experimentally that false complements to factive matrix verbs receive longer fixation times than false complements to non-factive verbs (although reading times of the verbs themselves are not significantly different). An experimental study investigating this question is left for further work; we believe that our study lays the groundwork for such a study by demonstrating the availability of both factive and non-factive interpretations with these nominals and by providing naturally occurring examples that can possibly be used as experimental materials.

In an extensive investigation of corpus data, Spenader showed that in the London-Lund Corpus of Spoken English, predicates that are considered factive (e. g. the verb *realize*) are rarely used in contexts in which the complement of the verb is presupposed, against what is predicted by traditional semantic diagnostics (Spenader 2001, 2002). Similar results have been found in corpus data from child ambient speech containing instances of the verb *know*, traditionally assumed to be factive (Dudley et al. 2017). Similarly, Beaver (2010) has shown that in sentences obtained through online searches, factive complements of cognitive verbs like *know*, *realize*, *discover* are often not presupposed due to a complex interaction of the verb meaning with factors including grammatical person, conversational implicatures, intonation and information structure (Beaver 2010). For example, Beaver shows examples of first person singular forms of cognitive factive verbs in which the presupposed content of the complement clause is cancelled, in contrast to what happens with third person singular forms. This type of evidence has led to a reevaluation of previous verb classifications that relied on the assumption that verb classes could be associated with stable and invariant presuppositions. As pointed out by Spenader (2002), naturally occurring data not only challenge such classifications but also provide rich information about the discourse model as well as the speaker and hearer's assumptions in the context before and after the presupposition trigger occurs. This makes it possible to test predictions made by theories of presupposition and to explore the range of factors involved in the interpretation of a particular trigger, which is not possible with constructed sentences presented without context.

In several recent papers, Karttunen and associates (Karttunen and Zaenen 2005; Karttunen 2016) reassess the verb classifications proposed in Karttunen's original work and argue that the notion of factivity, understood in terms of lexical presupposition, is problematic. Instead, he proposes the term *veridicity* to encompass broader implicative properties of a sentence, which are contributed both by semantically encoded implications and by contextual inferences. A similar view has been put forward by research on textual inference in natural language processing (de Marneffe et al. 2011, a.o.). These proposals are consistent with our findings; we have seen that *el hecho de* and *o facto de* may introduce either a true or a false proposition and that the interpretation of the clause introduced by *el hecho de/o facto de* depends on both lexical and inferential properties of the whole sentence. On this view, it is necessary to take into account not just the properties of the embedding predicate but also the semantic properties of other elements in the sentence (e.g. elements that contribute to express the speaker's commitment toward the truth or falsity of the proposition).

Rather than seeing *el hecho de/o facto de* as (an additional) marker of factivity, it is more appropriate to acknowledge that the interpretation of the proposition introduced by *el hecho de/o facto de* depends on the veridicity of the sentence as a whole. We are not denying that *el hecho de/o facto de* continues to be grammatical in factive contexts, as is indeed the case. Instead, we argue that we cannot predict the truth of a proposition expressed by a clause simply on the basis that the clause is introduced by these clause-taking nominals. We have shown that *hecho* or *facto* does not carry a [+factive] feature that mandatorily renders the predication as factive. While this may seem to be a negative contribution, we believe that it adds to an empirically based investigation of the factors that play a role in determining the implicative properties of a sentence.

5 Conclusion

The empirical data presented in this paper provide ample evidence that the commonly accepted label of “factive construction” attached to *el hecho/o facto de que* is misleading. As we have seen, while there remain factive readings, the evidence presented here shows that *el hecho/o facto de que*, like Spanish *el que* (Serrano 2015), is not limited to occur with predicates associated with factivity, especially when this notion is understood as “presupposition of objective veridicality” in the sense of Giannakidou and Mari (2015: 15). The broad range of predicates that *el hecho/o facto de* may combine with, as well as the possibility of modification of the noun by adjectives meaning ‘not real’ and ‘false’, show that this expression cannot be considered a test of factivity. Additionally, the naturally occurring data we present also demonstrate that mood selection with *el hecho de/o facto de* is not a reliable indicator of factivity, despite claims to this effect that are found in recent literature; the use of indicative, subjunctive or the infinitive in the subordinate clause is not a decisive factor in the interpretation of the sentence as factive or non-factive. This finding is consistent with a point made for the meaning of the subjunctive in some adverbial subordinate clauses in Spanish (Pérez-Saldanya 1999, a.o.); in this work, the subjunctive is not univocally associated with irrealis.

Importantly, the implications of our findings go beyond the interpretation of these clause-taking nouns in Spanish and Portuguese; we believe that they have broader implications both for Ibero-Romance and for theoretical linguistics. First, they contribute to the debate started by Demonte (1977) on the meaning of the clausal nominalization *el que*. As we have shown, at the semantic level, *el hecho de* is not limited to factive predicates, a finding that

complements and extends Serrano's work on *el que* (Serrano 2015). Our study also contributes to our understanding of the semantic properties of clausal nominalizations in Portuguese and the properties of different types of tensed nominalizations of the infinitive in this language, a topic which has remained largely understudied.

Second, from a broader perspective, our findings add to the current body of literature showing the need for a more nuanced picture of the way in which truth and falsity of propositions can be inferred in the interpretation of a sentence, by further highlighting that a notion of factivity as a lexical semantic property is not supported by naturally occurring data.

Third, our discussion is relevant to the current debate on the nature of clausal complementation and factivity (de Cuba and Ürögdi 2009, de Cuba and Ürögdi 2010; de Cuba 2017, among others). Inasmuch as our evidence supports a more nuanced approach to the semantics of factivity rather than viewing it as a lexical feature or property of the N *hecho/facto*, our findings also suggest that any syntactically overt differentiation between factive and non-factive CPs, assuming the same lexical array/numeration with the same lexical pieces, would need to account for potential non-factive readings in certain contexts.⁷

Finally, from the point of view of semantic and syntactic composition, the behavior of the clause-taking nouns *hecho* and *facto* raises important questions that pertain both to their categorial status in present-day Spanish and Portuguese and to the semantic change they underwent, especially with regards to their categorization as full-fledged nouns or as light nouns (Mendívil Giró 1999; Bosque 2001; Alonso Ramos 2004; de Miguel 2008). Although the scope of this paper was solely synchronic, it lays the foundation for a diachronic study that focuses on the historical development of the nouns *hecho* and *facto* and of the construction in which they participate. In this respect, our findings also have potential implications for the historical development of clause-taking constructions and their compositional properties.

⁷ An anonymous reviewer points out that the use of *el hecho de/o facto de* signals that the content of the subordinate clause is taken to be a fact by someone or in a certain context assumed by the speaker and proposes that a trigger of presupposition must be assumed first and subsequently cancelled (at LF). First, we do not have evidence for the former claim and do not see how it can be tested. Second, assuming that a trigger of presupposition must be present and subsequently cancelled would again require evidence for cancellation and would be an uneconomic, ad-hoc account. Examples like *el hecho falso* (discussed in Section 3.3) do not have an ambiguous interpretation. We show that a notion of factivity as a lexical semantic property, and thus automatically lexically present and syntactically projected anytime *el hecho de que/o facto de que* is present, is not supported by naturally occurring data.

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