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1 **Talking about counterfactual worlds**
2 **A comparative study of French and Spanish**

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5 **Abstract**

6 Counterfactual thinking is a cognitive process in which reality is compared to an imagined view of what
7 might have been. Previous studies in Linguistics have focused on the description of the conditional
8 construction if P (then) Q. Our study aims to compare the grammatical devices used by thirty French
9 native speakers and thirty Spanish native speakers. Participants were presented with a story that led to
10 a particular outcome and were asked to provide alternative scenarios that might have prevented such
11 an outcome from happening. The results showed (i) that counterfactuality is not expressed most
12 frequently by conditional constructions and (ii) that the use of evaluative modal markers within the
13 mutation core is a salient difference between French and Spanish. The minor role of conditional
14 constructions suggests that the boundaries of conditionality as a conceptualization process need to be
15 reconsidered within the realm of irreality. In addition, the frequency of evaluative modals in French
16 suggests a preference for counterfactual scenarios that integrate an overt critical judgement from the
17 speaker.

18 **Keywords:** conditionality, counterfactuality, modal verbs

19 **1. Introduction**

20 Counterfactual thinking is the cognitive process in which reality is compared to an imagined view of
21 what might have been (Kahneman and Tversky 1982). Previous studies dealing with the description of
22 counterfactuality have focused on the analysis of conditional sentences (Bates 1976; Bloom 1981; Reilly
23 1982; Au 1983; Bernini 1994; Chini 1995; Harris et al. 1996; Katis 1997; Schouten 2000; Yeh and Gentner
24 2005; Grevisse 1986; Renzi and Salvi 1991; Campos 1993; Alarcos-Llorach 1999). However, evidence of
25 the marking of counterfactuality in ways other than using conditional sentences has been found in
26 simple clauses in natural languages (Hellberg 1971; Van Linden and Verstraete 2008). This article
27 provides original insights into the expression of counterfactuality in French and Spanish. Eventual
28 differences in the grammatical devices preferred in French and Spanish might underlie different
29 semantic patterns in the conceptualization of counterfactual states of affairs. The ultimate objective of
30 the present study is to analyse whether the grammatical categories by which the native speakers talk
31 about irreality are salient in the same way in French and Spanish. This article is organized in seven
32 sections. In the next Section, we provide a formal description of conditional constructions and we
33 present the conceptual foundations of counterfactuality. In Section 3, we offer a typological description
34 of counterfactual conditional clauses in French and Spanish. Subsequently, we introduce the materials
35 and instructions used to elicit counterfactual responses. Statistical results are presented in Section 5.
36 The main findings are discussed and related to previous studies, and the conclusions summarized in the
37 final sections.

38 **2. State of the art**

39 The notion of counterfactuality has typically been linked to a particular linguistic construction, the
40 conditional construction If P (then) Q:

41 (1) If kangaroos had no tails, they would topple over.

42 This kind of construction generally consists of two clauses, called the protasis and apodosis, respectively.
43 The protasis is a subordinate clause introduced by a conjunction (if) and characterized by a particular
44 tense form: in the English example (1), a form that looks like a simple past, but is considered to be a past
45 subjunctive. The apodosis is a main clause typically characterized by a particular verb form, again in (1),
46 the combination of would + infinitive (the present conditional). In fact, it is this construction in English,
47 and its counterparts in other languages, that are generally described in traditional grammar books as
48 pertaining to counterfactuality (Section 3) and most of the work on the description of counterfactuality
49 deals with this type of construction (Sections 2.2 and 2.3). However, this is not the only way in which
50 speakers can talk about worlds that are explicitly contrasted to what is really the case. In this study, our
51 goal is to see how speakers proceed when they are attempting to speak about counterfactual worlds in
52 French and Spanish. Do they employ conditional constructions, or do they use different strategies?

53 **2.1 Conceptual foundations**

54 It is not our aim to present a complete theoretical picture of the contributions of philosophy, psychology
55 and linguistics to counterfactuality but rather to introduce three frameworks from which
56 counterfactuality has been studied. We consider counterfactual thinking to be a cognitive process in
57 which reality is compared to an imagined view of what might have been (Kahneman and Tversky 1982).
58 This process is based on the mental construction of alternatives to factual states of affairs (Wells and
59 Gavanski 1989). Counterfactuality has been described as a semantic domain related to three main
60 topics:

- 61 • causality, because of the causal relation that may hold between the main clause (Q) and the
62 subordinate clause (P) within conditional constructions (Hume 1739; Lewis 1973; Mackie 1980);
- 63 • epistemic modality, because of the speaker's degree of uncertainty involving the content of
64 their statement (Lyons 1977; Palmer 1986; Fauconnier 1984; Dancygier and Sweetser 1996);
- 65 • irreality, because of the definition of counterfactuality as one semantic subdomain within
66 irreality, alongside the non-exclusion-of-factuality and non-referentiality (Pietrandrea 2012).

67 Along a semantic scale, counterfactual conditionals express a low degree of probability and a high
68 degree of hypotheticality (Comrie 1986). In counterfactual conditional constructions, the relationship
69 between P and Q holds in the past. This is because counterfactuality is deeply related to the speaker's
70 state-of-knowledge and in particular to their certainty about the non-actualization of a given process.
71 The past is a better known domain compared to the present and the future and thus counterfactuality
72 represents a well delimited frame from which people can conceive other possible worlds (W_1 , W_2 , W_3)

73 which differ from the world as it is (W_0). This means that any antecedent (P) introduced by the speaker
74 is false at the time when something is said (the time of utterance). Consider the example below:

75 (2) If Karen hadn't eaten seafood, she would still be alive.

76 This is regularly understood to mean that the speaker asserts that Karen had in fact eaten seafood, i.e.
77 the sentence Karen has not eaten seafood is false. The certainty of the speaker about the non-
78 actualization of the process is a major feature that differentiates counterfactuality from potentiality
79 (Verstraete 2005). Beyond conditional constructions, the combination of a past tense and a modal
80 particle has been described as a frequent marker of counterfactuality (Van Linden and Verstraete 2008).
81 For example:

82 (3) The police should have done something to prevent the killing.

83 These authors posit that counterfactual statements are semantically double-layered, since they
84 combine potentiality, i.e. the speaker presents a given state of affairs as possible, desirable, imminent or
85 intended, and pastness, i.e. the speaker is aware of the non-actualization of what is being said. In
86 English, the interpretation of a counterfactual statement comes from the compositional semantics of
87 the modal element *should*, which frames it in a virtual locus, and the past marker *have done*, which
88 marks a non-actualized state of affairs.

89 2.2 Rationale

90 A detailed reading of the literature on counterfactuality leads us to affirm that (i) in general this concept
91 has failed to be analysed beyond conditional constructions and that (ii) a terminological problem
92 remains in respect to its meaning. A major contribution to the linguistic properties of counterfactuality
93 was made by the publication of the collective volumes *On Conditionals* and *On Conditionals Again*
94 (Ferguson et al. 1986; Athanasiadou and Dirven 1997), in which conditionality was introduced as a
95 semantic category covering both hypotheticality and counterfactuality. These volumes, together with
96 earlier studies (Bates 1976; Bloom 1981; Reilly 1982; Au 1983; Liu 1985) and later studies (Bernini 1994;
97 Chini 1995; Schouten 2000; Yeh and Gentner 2005), contributed to placing counterfactuality under the
98 umbrella of conditional constructions. To date, terminological incoherence subsists across grammatical
99 traditions and some authors claim that counterfactuality strictly covers the semantic domain of irreality
100 (Renzi and Salvi 1991; Riegel et al. 1994; Real Academia Española 2009), whereas other authors consider
101 it as a broader notion covering both irrealis and imagined conditions (Grevisse and Goosse 2008). Within
102 the realm of irreality, it is generally assumed that conditional constructions can express values related to
103 a past irrealis or a present irrealis (Harris 1986; Riegel et al. 2001; Grevisse and Goosse 2008).¹ We
104 adhere to the theoretical framework that places counterfactuality in the semantic subdomain of
105 irreality, alongside subdomains of non-exclusion-of-factuality and non-referentiality (Pietrandrea 2012).
106 We consider counterfactuality to be a well delimited field that, unlike potentiality, implies the certainty
107 of the speaker about the non-actualization of the process (Verstraete 2005).

108 3. Cross-linguistic description of counterfactual conditionals

109 The typological distance between French and Spanish in counterfactual conditionals resides in the
 110 protasis: French requires the indicative mood whereas Spanish requires the subjunctive mood.
 111 Concerning the apodosis or main clause, the two languages converge in the canonical use of the perfect
 112 conditional.

113 3.1 Counterfactual conditionals in French

114 In spoken French the canonical mood in the protasis is the pluperfect indicative (cf. Table 1).² This
 115 means that the indicative mood in French is associated with two different readings: factual and
 116 hypothetical, although the presence of the morpheme *si* (if) usually disambiguates this dichotomy. More
 117 problematic is the disambiguation of the pluperfect indicative in the protasis, which can encode either
 118 potential or irrealis semantic values. In this case, it is generally assumed that the disambiguation
 119 depends on the context (Riegel et al. 1994; Vetters 1994; Patard 2007; LeBlanc 2009).³ Double
 120 conditional marking in both the protasis and the apodosis (4) is considered a violation of the French
 121 standard. For example:

122 (4) *Si vous m'auriez ennuyé, je vous l'aurais dit.* (Grevisse 1986: 1686)
 123 If you 'would have annoyed' me, I would have told you.

124 Example (4) is generally attributed to familiar uses (Grevisse 1986) and to verbal symmetry between the
 125 protasis and the apodosis in some hypothetical and concessive constructions (Riegel et al. 1994).⁴
 126 Nevertheless, when the protasis is introduced by the constructions *au cas où* or *dans le cas où* (in case)
 127 the use of verbal forms of the conditional or the subjunctive is considered canonical, instead (Grevisse
 128 1986). Among the less frequently described grammatical markers in French, we find the modal verbs
 129 *pouvoir* and *devoir* appearing in the past participle verbal forms of the perfect conditional:

130 (5) *Jean aurait pu être quelqu'un d'autre.* (Fauconnier 1984: 144)
 131 Jean could have been someone else.

132 Table 1. Counterfactual canonical conditionals in French and Spanish

	<i>If P</i>	<i>(then) Q</i>	Example
FR	Indica- tive	Condi- tional	<i>Si tu avais admis cette opinion, tu aurais eu tort</i> (Grevisse 1986) <i>If you had agreed with that opinion you would have been wrong</i>
SP	Subjunc- -tive		<i>Si te hubieses quedado, habrías visto algo bueno</i> (Alarcos-Llorach 1999) <i>If you had remained you would have seen something good</i>

133

134 3.2 Counterfactual conditionals in Spanish

135 Disambiguation between factual and counterfactual conditionals in Spanish is achieved by using the
136 indicative mood or the subjunctive mood in the protasis (Alarcos-Llorach 1999). The main clause or
137 apodosis is generally in the conditional, whereas the perfect subjunctive in the protasis (6) frames the
138 content of the proposition in the past.

139 (6) Si te hubieses quedado, habrías visto algo bueno. (Alarcos-Llorach 1999: 474)
140 If you had stayed, you would have seen something good.

141 In practice, a wide range of verbal combinations are observed in Spanish counterfactual conditionals,
142 including symmetrical verb forms in the conditional tense in both the protasis and the apodosis (8) or in
143 the subjunctive mood (7). For example:

144 (7) Si hubiera tenido dinero, hubiera ido a España. (Campos 1993: 163)
145 If I had money, I would have gone to Spain.

146 (8) Si habría tenido dinero, habría ido a España. (Campos 1993: 163)
147 If I had money, I would have gone to Spain.

148 The use of (7) has been described as a frequent structure in the Mexican variety of Spanish (Wald 1993)
149 while the use of (8) has been observed in general in some dialectal varieties of Spanish (Alarcos-Llorach
150 1999) and in particular in Buenos Aires (Lavandera 1976) and in the variety of Spanish spoken in the
151 Basque Country (Silva-Corvalán 1982).

152 **4. Method**

153 The study is based on a task that requires participants to discuss alternative scenarios based on a story
154 describing a chain of related events. We henceforth refer to this task as the ‘mutation task’. Note that
155 previous studies dealing with conditional constructions have elicited their data from spontaneous
156 speech (Bowerman 1986; Chini 1995; Katis 1997; Schouten 2000), what if- questions (Bates 1976; Reilly
157 1982; Harris et al. 1996) or written questionnaires (Bloom 1981; Au 1983; Liu 1985; Schouten 2000). The
158 mutation task has been previously used by psychological studies as a way to obtain critical judgements
159 related to causality (Wells and Gavanski 1989; Mandel and Lehman 1996). The data we discuss come
160 from two groups of adults: thirty French native speakers and thirty Spanish native speakers; thirty-five
161 women and twenty- five men, the majority of them recruited at the Aix-Marseille University (cf.
162 Appendix). Guided interviews were recorded and stored as WAV files, then transcribed using the CLAN
163 editor for CHILDES. Data collection was done mainly in the Aix-Marseille area but also in Nijmegen (the
164 Netherlands). The stimulus was the following 200-word text, which participants had to read.

165 Karen was an assistant editor for a small publishing firm. She had a rare hereditary disease
166 called Karpinson’s hemotrysoma, characterized by the lack of an enzyme that normally breaks
167 down certain proteins in the digestive system. Because of this, fermented drinks such as wine
168 and liqueurs can cause a severe allergic reaction in someone with the disease.

169 Karen had just received a promotion so her boss, Mr Carlson, took her to an expensive French
170 restaurant to celebrate. Mr Carlson had been to this restaurant several times, so he ordered for
171 both of them. As he looked over the menu, Mr Carlson considered what to order for Karen. He
172 first thought about ordering the Coquilles Saint-Jacques, but at the last moment decided on the
173 Moules Marinierie instead. Although Mr Carlson did not know this, the Moules Marinierie was
174 made in a wine sauce whereas the Coquilles Saint- Jacques did not contain any wine.

175 Karen enjoyed her meal greatly, but began to feel ill shortly after finishing. Within minutes, she
176 went into convulsions and was rushed away in an ambulance. She died on the way to the
177 hospital.

178 The original text was in English (Wells and Gavanski 1986). For the experiment, it was translated in
179 French and Spanish and then edited by two native reviewers in each language (cf. Appendix). After
180 reading the text, the participants were asked to comply with the following instruction:

181 Imagine three modifications that could have been different in the story to avoid Karen's death.

182 We assume that every text answers an implicit question (Klein and Stutterheim 2006).⁵ The
183 identification of the mutation cores, i.e. the segments of the information responsible for a modification,
184 was possible after a qualitative analysis that allowed us to distinguish foreground structures and
185 background structures. Consider the following example:

186 1. *SBJ: bon déjà il aurait pu choisir les coquilles Saint-Jacques.
187 He could have chosen the Coquilles Saint-Jacques.

188 2. *SBJ: au lieu de choisir les moules marinières.
189 Instead of the Moules Marinierie.

190 3. *SBJ: puisque dans les coquilles Saint-Jacques il n'y avait pas d'alcool.
191 Since the Coquilles Saint-Jacques contained no alcohol.

192 4. *SBJ: alors qu'y en avait dans les moules marinières.
193 Whereas the Moules did.

194 5. *SBJ: elle aurait pu choisir toute seule son plat.
195 She could have chosen her own dish.

196 6. *SBJ: au lieu de laisser choisir par lui.
197 Instead of allowing him to choose it.

198 7. *SBJ: ou je [ne] sais pas.
199 Or I don't know.

200 8. *SBJ: elle aurait pu ne pas être allergique aussi.
201 She could have not been allergic for instance.

202 9. *SBJ: et du coup elle aurait pu les manger.
203 And thus, she could have eaten the Moules.

204 10. *SBJ: sans être malade et sans mourir.
205 Without getting sick and without dying.

206 In the example above, lines 1, 5 and 8 correspond to the text's foreground structure containing the core
207 information that really answers the quaestio, whereas lines 3, 4, 9 and 10 can be considered background
208 structures. The mutation cores were classified according to their formal composition in an Excel file.
209 Statistical analyses were run using the software R.

210 5. Results

211 Among the different elements encoding counterfactuality we can distinguish (i) syntactic elements, e.g.
212 conditional constructions, (ii) lexical elements, e.g. modal verbs, and (iii) inflectional elements denoting
213 a particular verbal tense and mood.⁶ We elicited ninety responses per group (three responses per
214 participant). The alternative scenarios to factual past events were encoded by mutation cores produced
215 within four types of clauses in French and Spanish:

216 A. Conditional constructions. Example:

217 (9) Si Karen n'avait pas eu de promotion, elle (ne) serait pas morte.
218 If Karen had not got the promotion, she would not have died.

219 (10) Si no la hubieran ascendido, no la habrían invitado a cenar.
220 If she had not been promoted, she wouldn't have been invited to dinner.

221 B. Clauses combining a conditional tense and a modal marker. Example:

222 (11) Elle aurait pu choisir toute seule son plat.
223 She could have chosen her own dish.

224 (12) Carlson podría haber pedido las vieiras.
225 Carlson could have ordered the scallops.

226 C. Coordinate clauses in verbal forms of the indicative mood, either the present tense (13) or past tenses
227 (14). This type of structure recalls that of a chronological narration because of the recurrent use of the
228 additive conjunctions *et* in French and *y* in Spanish (and). Example:

229 (13) Karen est invitée par son patron donc au restaurant mais elle l'avertit qu'elle a une allergie et elle
230 lui demande de choisir elle-même son plat.

231 Karen is invited by her boss to the restaurant but she tells him she's allergic and she asks him if she can
232 choose her dish herself.

233 (14) Karen comió las vieiras, se empezó a sentir mal y en el propio restaurante había un médico [...] y
 234 entonces finalmente sí salvó su vida.
 235 Karen ate the scallops, she felt ill but a doctor was in the restaurant [...] and eventually she survived.

236 D. Simple clauses introduced by *que* – in verbal forms of the subjunctive. Example:

237 (15) Qu'il commande autre chose que les moules.
 238 Let him order something other than the Moules.

239 (16) Que ella hubiera informado en su trabajo que sufría esa enfermedad.
 240 She might have informed people at her job that she had that disease.

241 Table 2 summarizes the frequency in the use of the four constructions listed above in French. Statistical
 242 analyses using the chi-squared test revealed a significant difference between the frequency in the use of
 243 Type B and Type C (p-value = 0.0004). This suggests an overt preference to produce mutation cores
 244 combining a conditional tense with a modal marker over coordinate clauses in verbal forms of the
 245 indicative. No significant differences were found between Type B, i.e. the combination of a conditional
 246 tense and a modal marker, and Type A and Type D, i.e. conditional constructions and simple clauses in
 247 the subjunctive, respectively. The lack of significant differences suggests that these three grammatical
 248 devices play a prominent role in the expression of counterfactuality in French.

249 Table 2. Mutation cores in French (n=90)

Type A	Type B	Type C	Type D
19	32	11	19

250
 251 Table 3 summarizes the frequency in the use of the four constructions in Spanish. The frequency in the
 252 use of Type D was found to be significant compared to any of the other three constructions. In other
 253 words, simple clauses introduced by *que* in a subjunctive verbal form are the preferred way to
 254 conceptualize counterfactual scenarios in Spanish. The use of conditional constructions (Type A) in the
 255 mutation task in Spanish was significantly lower compared to clauses in the subjunctive mood (p-value =
 256 8.566e-15).

257 Table 3. Mutation cores in Spanish (n=90)

Type A	Type B	Type C	Type D
6	3	7	58

259 Table 4 compares the ways in which the mutation cores are encoded in French and Spanish. We
 260 established a decision threshold of 0.001 to minimize Type I errors.⁷ The results of the comparison of
 261 French and Spanish underlines two salient differences concerning the distribution of the grammatical
 262 devices encoding counterfactuality. Spanish speakers preferred the subjunctive mood introduced by
 263 *que*, whereas French speakers favoured the combination of a modal marker and the conditional tense.

264 Table 4. Conditional constructions v. other verbal predicates (n=90)
 265 P-values resulting from the X² analysis

	Type A	Type B	Type C	Type D
French	19	32	11	19
Spanish	6	3	7	58
	0.009	1.34e-04*	0.456	1.036e-08*

266

267 6. Discussion

268 Conditional constructions are not the most common way of referring to counterfactual worlds, neither
 269 for the French native speakers nor for the Spanish native speakers. The attention paid to conditional
 270 constructions in previous studies devoted to hypotheticality and counterfactuality has been explained
 271 because of its iconicity within the cognitive process of thinking about alternative situations (Ferguson et
 272 al. 1986). Our study provides empirical evidence that conditionality is one possible way among others in
 273 which one can refer to counterfactual worlds. However, counterfactuality is frequently expressed using
 274 grammatical devices other than conditional constructions. In French, evidence has been given about the
 275 prominent role of clauses combining the conditional tense and a modal marker (Type B), simple clauses
 276 in the subjunctive mood (Type D) and conditional constructions (Type A). In Spanish, we have shown
 277 that conditional constructions are rare compared to clauses in the subjunctive introduced by *que*.

278 Our results support the conclusion by Hellberg (1971) about the predominance of simple sentences with
 279 a conditional tense as the most frequent device to express hypotheticality in French. Our study suggests
 280 that the role assigned to conditional constructions as a prominent category to express hypotheticality
 281 and counterfactuality (Grevisse 1986; Renzi and Salvi 1991; Campos 1993; Alarcos-Llorach 1999;
 282 Traugott et al. 1986; Athanasiadou and Dirven 1997) is not empirically based on the observation of
 283 natural languages. Previous studies have portrayed conditionality as a way ‘to reason about situations,
 284 to make inferences based on incomplete information, to imagine possible correlations between
 285 situations and to understand how the world would change if certain correlations were different’
 286 (Ferguson et al. 1986: 19). The interest paid to conditionality as a resource for conceptualizing irrealis or
 287 imagined scenarios has neglected the description of other ways to express these semantic domains and
 288 thus has provided an incomplete description of the conceptualization of counterfactuality. The non-
 289 prominent role of the conditional constructions to speak about what might have been but was not in

290 Spanish and French suggests that the status of conditionality as a conceptualization process needs to be
291 reconsidered. This idea finds support in the balanced distribution of the conditional constructions, the
292 subjunctive mood and the combination of the conditional tense and modal markers across the mutation
293 cores in French. Each group's preferences in respect to marking counterfactuality have implications in
294 terms of typological distance. The compositional semantics of counterfactuality, i.e. the features of
295 virtuality and non-actualization, was satisfied by the use of the subjunctive in Spanish and by the
296 combination of a past marker and a modal marker in French. The presence of a modal marker in the
297 mutation core was the most salient difference when comparing these Romance languages. The frequent
298 use of evaluative particles in the mutation cores in French was implemented by means of the modal
299 verbs *pouvoir* and *devoir*, i.e. *pu* and *dû* (could and should in English), in the past participle form within
300 the past conditional structure. This is coherent with the description of the most frequent counterfactual
301 marker in natural languages, which is not one single dedicated marker but rather the combination of a
302 past tense and a modal marker (Van Linden and Verstraete 2008). Modalizers are well known for their
303 wide range of forms, meanings and uses, and by the absence of univocal relationships between these
304 three dimensions (Roulet 1993). However, this is not the case for the modal markers elicited in the
305 French mutation cores. As we explained supra, the French modal verbs *pouvoir* and *devoir* were
306 systematically used in the past participle form in a perfect conditional framework. For instance, no *pu* /
307 *dû* were found in the *passé composé* (e.g., *Elle a pu choisir toute seule son plat*). To us, this fact reveals
308 the univocal relationship between the 'modalized conditional' and its use for altering a factual past
309 scenario in French. A further question concerns the type of modality expressed by this form. When
310 saying *Elle aurait pu choisir toute seule son plat* ('She could have chosen her own dish'), the speaker is
311 not expressing any epistemic or deontic modal value, since she is not attaching beliefs or nuances of
312 obligation. We posit that the modal values expressed when using the modalized conditional for
313 mutation purposes are evaluative. By saying *Elle aurait pu choisir toute seule son plat* ('She could have
314 chosen her own dish'), the speaker attaches the pertinence of a specific action within a set of particular
315 conditions. This coincides with the notion of evaluative modality (Palmer 1986: 119), which expresses
316 the speaker's attitude over known factual events. This is why the expression of regret is often linked to
317 evaluative modals (Palmer 1986: 115). The frequency in the use of this 'modalized conditional' in the
318 mutation task is coherent with the French pattern of retelling a linear story from a narrator's point of
319 view by the use of predicates relating to intentions, attitudes and perceptions (Carroll et al. 2008). These
320 authors have shown that the predicates of French speakers generally refer to the mental states of the
321 protagonist in the story, e.g. *il est perplexe*, *il s'aperçoit*, *il s'est dit que...* (he's perplexed, he realizes, he
322 told himself that...). The use of the 'modalized conditional' in counterfactual contexts sounds concordant
323 with the subjective pattern in narrative tasks. There are various reasons that might explain the frequent
324 use of the modalized conditional by native speakers of French. First, the modalized conditional results
325 from the combination of two processes: the grammatical activation of a specific past tense, i.e. the past
326 conditional, and the lexical activation of a modal verb in the past participle form. When these two
327 processes converge, the listener may have access to the speaker's subjectivity in a more direct way than
328 through other structural devices such as conditional sentences or even the indicative mood, which
329 generally do not accommodate modal values in the mutation core. These pragmatic implications may be
330 the first factor in explaining the high frequency of this structure in French. The second explanation

331 concerns the economy factor. Unlike conditional constructions, the modalized conditional is generally
332 not subordinated to a main clause. Moreover, in just three syllables (aurait pu / dû) the speaker is
333 opening the door to another possible world by using the same verb tense as they might have used in a
334 main conditional clause while avoiding the production of an antecedent (P). It could be argued that the
335 prominent role of the 'modalized conditional' in French may be explained by the fact that the task
336 instruction itself contains the 'modalized conditional'. If that was the case and the input structures of
337 the mutation task played a real effect on the data elicited, then one might expect the same effect in the
338 Spanish corpus. However, in Spanish, the 'modalized conditional' of the input is not prominently
339 reproduced by the Spanish native speakers. Additional data elicited in Italian L1 (Repiso 2013) confirmed
340 no correlation between the 'modalized conditional' of the input and the responses of the native
341 speakers of Italian. The prominent use of the subjunctive in Spanish in the mutation task might be
342 explained because of the frequency in general of this type of structure in Spanish. In fact, the
343 subjunctive in Spanish is semantically associated with the irrealis domain (Real Academia Española 2009:
344 1866). Among the uses of the irrealis subjunctive, we find the expression of threat related to the future,
345 e.g. Que se quejen ('Let them complain') or Que vengan mañana ('We'll see if they come tomorrow').
346 We maintain that, unlike the examples mentioned, the occurrences elicited in the mutation task, e.g.
347 Que ella hubiera informado en su trabajo que sufría esa enfermedad ('She might have informed people
348 at her job that she had that disease'), are semantically anchored to the unreal past frame (Harris 1986).
349 In Spanish, different grammatical devices may allow a counterfactual reading: the past perfect
350 subjunctive presented here, but also the combination of the Spanish imperfect indicative and the modal
351 markers poder 'could' or tener que 'have to' (17) or the combination of the simple past tense and the
352 modal deber 'should' (18). For example:

353 (17) Ella tenía que haber informado que sufría esa enfermedad. She should have informed that she had
354 that disease.

355 (18) El señor Carlson debió preguntar qué prefería comer ella. Mr Carlson should have asked what she
356 preferred to eat.

357 We interpret the use of the modal markers in (17) and (18) as evaluatives, since the speakers use them
358 to express a critical judgement within a set of particular conditions (i.e. those established in the
359 stimulus). Even if the counterfactual meaning may well be encoded by the Spanish imperfect indicative,
360 our data showed that the subjunctive mood is significantly more frequently used by Spanish native
361 speakers. In Spanish L1, we elicited 5 responses over 90 (5.5%) combining an indicative tense plus a
362 modal marker as in examples (17) and (18). Four responses followed the pattern of example (18) and
363 only one response followed the pattern of example (17). The possibility of a link between certain
364 varieties of Spanish and the use of the simple past tense and a modal marker to encode
365 counterfactuality cannot be ruled out, but has not been statistically tested. However, it is interesting to
366 note that three out of the four responses coherent with example (18) were produced by Colombian
367 native speakers. Further studies devoted to the expression of counterfactuality are still necessary to
368 explore possible differences across the American and peninsular varieties of Spanish.

369 **7. Conclusion**

370 Our objective has been to examine the grammatical devices encoding counterfactuality in French and
371 Spanish. Previous studies dealing with the expression of counterfactuality have approached this
372 category by analysing conditional constructions (Bates 1976; Bloom 1981; Reilly 1982; Au 1983;
373 Bowerman 1986; Bernini 1994; Chini 1995; Katis 1997; Schouten 2000; Yeh and Gentner 2005). Our
374 main contribution to these studies has been to show that the mutation cores encoding counterfactual
375 scenarios were rarely marked by bare conditional sentences in Spanish. In French, the most frequent
376 device was the combination of the past conditional and a modal verb (e.g. Il aurait pu choisir une autre
377 assiette, 'He could have chosen another dish'). Significant differences were found between this
378 'modalized conditional' and coordinate clauses in symmetrical verbal forms, suggesting that either
379 present or past linear narrations are rare when conceptualizing what might have been but was not. In
380 Spanish, simple clauses in the subjunctive mood were found to demonstrate significant differences
381 compared to any of the other mutation cores, including conditional constructions. The non-prominent
382 role of the conditional constructions suggests that the role of conditionality as a conceptualization
383 process within irrealty needs to be reconsidered. The major difference when comparing the two
384 languages lay in the presence of a modal marker within the mutation core, significantly higher in French.
385 The use of evaluative modals in the mutation task confirms that French tend to integrate subjective
386 values in narrative texts, in argumentative contexts.

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390 **Notes**

- 391 1. The existence of counterfactuals related to the future is controversial. Some authors claim that
392 counterfactuality cannot be related to the future, since the future has not been realized nor is known at
393 the time of utterance and thus cannot be considered against any factual state of affairs (Iatridou 2000).
- 394 2. Historically, the subjunctive mood in the protasis comes from Latin but it has been used less and less
395 in French since the thirteenth century (Brunot and Bruneau 1949). The canonical system – composed of
396 the pluperfect indicative in the protasis and the conditional perfect in the apodosis – appeared in the
397 sixteenth century.
- 398 3. The spoken Ottawa-Hull variety of French resolves this ambiguity by using the conditional form in the
399 protasis as a mark of potentiality and the pluperfect indicative as a mark of counterfactuality (LeBlanc
400 2009).
- 401 4. Example: *J'aurais un peu d'argent, je m'achèterais l'intégrale de Mozart* ('Had I a little money, I would
402 buy the complete works of Mozart', Riegel et al. 1994: 558).

403 5. A text is generally composed of main structures, i.e. the skeletal structure of discourse, and sub-
404 structures, i.e. supportive material which does not answer the Quaestio.

405 6. For the sake of clarity, nominal clauses, i.e. clauses containing a nominal predicate, have been
406 omitted from our analysis.

407 7. In statistics Type I errors consist in rejecting the null hypothesis when it is in fact true. The lower the
408 threshold, the smaller is the probability to be wrongly rejecting the null hypothesis. Choosing a
409 threshold where $\alpha = 0.001$ implies less than one-in-a-thousand chance to be wrong.

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523 **APPENDIX**

524 Stimulus and instructions: Mutation task

525 Karen était assistante à l'édition dans une petite agence de publicité. Elle avait une rare maladie
526 héréditaire, l'hémotrisoma de Karpinson, caractérisée par le manque d'une enzyme qui normalement
527 divise certaines protéines du système digestif. En raison de cela les boissons fermentées comme le vin
528 ou les liqueurs pouvaient lui causer des sévères réactions allergiques. Karen avait eu une promotion
529 dans son travail et son supérieur, monsieur Carlson, l'avait emmenée dans un restaurant français plutôt
530 cher pour l'y fêter. Etant donné que monsieur Carlson avait mangé plusieurs fois dans ce restaurant il
531 commanda pour les deux. Pendant qu'il regardait le menu il considérait quel plat commander pour

532 Karen. Il pensa d'abord aux coquilles Saint-Jacques mais au dernier moment il choisit les moules
533 marinières. Monsieur Carlson ne le savait pas mais les moules marinières étaient cuites dans une sauce
534 à base de vin tandis que les coquilles Saint-Jacques ne contenaient pas de vin. Karen savoura son plat
535 mais elle commença à se sentir mal peu après avoir fini. Quelques minutes plus tard elle souffrit de
536 convulsions et elle fut transportée en ambulance. En chemin pour l'hôpital elle mourut.

537 Proposez trois modifications qui auraient pu empêcher la mort de Karen et expliquez pourquoi elles
538 auraient empêché sa mort.

539 ***

540 Karen era asistente a la edición en una pequeña empresa de publicidad. Padecía una rara enfermedad
541 hereditaria llamada hemotrisoma de Karpinson, caracterizada por la falta de una enzima que
542 normalmente divide algunas proteínas en el aparato digestivo. Por ello las bebidas fermentadas como el
543 vino o el licor podían causarle graves reacciones alérgicas. Karen había sido ascendida de manera que su
544 superior, el señor Carlson, la llevo a un caro restaurante francés para celebrarlo. El señor Carlson había
545 comido en dicho restaurante varias veces, así que pidió por ambos. Mientras miraba el menú se
546 preguntó que pedir para Karen. Primero pensó en pedir unas vieiras pero en el último momento se
547 decidió por los mejillones a la marinera. Aunque el señor Carlson no lo sabía, los mejillones a la marinera
548 llevaban una salsa a base de vino mientras las vieiras, no. Karen disfrutó de la comida pero empezó a
549 sentirse mal poco después. En cuestión de minutos sufrió convulsiones y fue socorrida en una
550 ambulancia. Karen murió de camino al hospital.

551 Imagina tres modificaciones de la historia que habrían podido evitar la muerte de Karen y explica por
552 qué habrían evitado su muerte.