# SPANISH *DE*-CLAUSES ARE NOT ALWAYS IN THE RIGHT MOOD[*]

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## 1.    *Iatridou's Question*

The benchmark theory of conditionals maintains that conditionals quantify over a contextually restricted domain of worlds (Kratzer 1991). They are modal statements. The antecedent contributes to the interpretation of the whole conditional a proposition, a set of worlds. Conditionals quantify over a contextually restricted domain of worlds in which the proposition that the antecedent expresses is true. This is all antecedents do. In particular, the semantic import of its tense and mood inflection is neglected: it is - at most - a merely formal reflection of the type of modal in the consequent (Fintel 1998; Heim 1992; Kratzer 1991).

This last assumption has been recently challenged. The dissection of counterfactual conditionals (Iatridou 2000; Ippolito 2001) has led to questioning the semantic import of the antecedent's inflection and to wondering whether the inflections of both the antecedent and the consequent are interpreted. This is, in short, Iatridou's question.

(1)    <u>Iatridou's question</u>: Is the tense/mood marking of both the antecedent and the consequent interpreted?[1]

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Suppose the inflection of the antecedent is semantically vacuous. Then, if a language allows antecedents to optionally lack any tense or mood marking whatsoever, the interpretation of a conditional under both its finite and non-finite versions should be equivalent.

Spanish conditionals, indicative and subjunctive alike, come in two varieties depending on whether the antecedent is an inflected (*si*-conditionals) or an infinitival clause (*de*-conditionals):

(2)  a.  *Si Calígula está muerto,      me  tendrán que ascender.*
         if Caligula is    dead   PRO me will-have-to    promote.INF
     b.  *De estar   muerto Calígula,      me tendrán que ascender.*
         DE be.INF dead    Caligula PRO me will-have-to promote.INF
         "If Caligula is dead, I will have to get promoted."

The antecedent of a *de*-conditional (henceforth a *de*-clause) can host aspectual heads and sentential negation, as illustrated in (3), but no overt mood inflection.

(3)  a.  *De       haber     matado     a  Calígula.*
         DE PRO  have.INF  kill.PART  AC Caligula
     b.  *De       no  haber     matado     a  Calígula.*
         DE PRO NOT have.INF  kill.PART  AC Caligula

If *de*-clauses are truly uninflected (and if the preposition/complementizer is truly semantically vacuous[2]), assuming that mood marking in the antecedent is semantically vacuous, we expect - quite close to the intuitions - the *si*- and *de*-versions of a conditional to be interpreted in the same way. I will show that they are not. Then, insofar as the *si*- and *de*-versions of a conditional are not interpreted the same way, we are bound to consider the semantic import of the mood inflection of antecedents.

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[1] "I did not address the question of whether ExclF ['Exclusion Feature': the interpretation of past morphology in subjunctive conditionals, L.A.O.] plays an equal role in the antecedent and in the consequent, leaving open the possibility that the appearance of ExclF in one is an agreement phenomenon of sorts with the other." (Iatridou 2000:267).

[2] Part of my work in progress addresses the issue of whether the preposition-complementizer is truly semantically vacuous. The moment we consider the full range of prepositional conditionals in Spanish, it becomes apparent that it is not. Nevins (2002) shows the existence of complementizers that convey counterfactuality, sometimes even in the absence of overt inflection of the antecedent. The semantic contribution of conditional complementizers must be taken seriously. Unfortunately, I cannot do justice to the subtleties of the topic here.

The paper is organized as follows: section 2 presents the data. Section 3 shows that *si*-conditionals and *de*-conditionals are not equally appropriate in the same scenarios and suggests an explanation based on the assumption that the mood inflection of the antecedent is interpreted. Section 4 makes the explanation explicit. It deals with the interpretation of mood marking in the antecedent of conditionals and its potential interactions with the modals in the consequent. It also shows how the absence of mood inflection determines the interpretation of *de*-conditionals. Finally, Section 5 presents some conclusions and open issues.

## 2.   *Marking-Off the Territory*

I start by borrowing a context from the literature. Kratzer (1979:133) reports the following story from Ancient Rome:

<u>Scenario 1</u>

When Caligula left the arena one day, suddenly the doors shut behind him and he was attacked by his own body-guard. The crowd in the arena heard him screaming but they could only guess what had happened. Maybe Caligula was dead, maybe he was still alive.

In this situation, if Marcus had spoken Spanish, he could have uttered the sentence in (4a) or that in (4b).

(4)   a.   *Si      está muerto,       me tendrán que       ascender.*
            if PRO is    dead.IND PRO  me will-have-to.3PL promote.INF
      b.   *De      estar muerto,     me tendrán que       ascender.*
            DE PRO be    dead  PRO me will-have-to.3PL promote.INF
            "If he is dead,  I will have to get promoted."

He could also have uttered the sentence in (5a), or that in (5b).

(5)   a.   *Si      estuviera  muerto (ahora),      me tendrían que*
            if PRO were.PSTSBJ dead now        PRO me would-have-to.3PL
            *ascender.*
            promote.INF
            "If he were dead (now), I would have to get promoted."
      b.   *De      estar muerto (ahora),        me tendrían que*
            DE PRO be    dead    now    PRO me would-have-to.3PL
            *ascender*
            promote.INF
            "If he were dead (now), I would have to get promoted."

*De*-conditionals can be paired up with either indicative or subjunctive *si*-conditionals. In fact, the two versions of the previous sentences look pretty similar (Kany 1936, 1939; Söhrman 1991; Montolío 1999). Nevertheless, no matter how close they look, *si*-conditionals and *de*-conditionals are associated with different appropriateness conditions, which I illustrate next.

**3.    *When Is It Appropriate to Use a De-Conditional?***

The appropriateness conditions associated with *de*-conditionals can only be understood when contrasted with the appropriateness conditions associated with *si*-conditionals. To these, I now turn.

3.1   *Presuppositions of Indicative and Subjunctive Si-Conditionals.*

I start by making the standard move within possible world semantics: I assume that sentences express propositions, which are conceived of as sets of worlds. A proposition is construed as the set of all those worlds in which it is true. A proposition $p$ expressed by a sentence $\alpha$ ($[\![\alpha]\!]$) is true in a world w if w is a member of $p$.[3]

I then assume a modal analysis of conditionals. Modals are quantifiers. They quantify over possible worlds. Like any quantificational statement, modal statements are evaluated with respect to an implicitly understood domain of quantification. One such possible domain is the *context set*, the set of worlds that, for all the parties involved in the conversation know, could be the actual one (Stalnaker 1998). In this paper I will focus on *epistemic* conditionals, conditionals whose domain of quantification is the context set and avoid the complications that result when conditionals quantify over different domains.

I start by assuming the following appropriateness conditions of (*si-*) conditionals. Indicative conditionals are appropriate in a context only if both the antecedent and its negation are compatible with the context set (Stalnaker 1975; Bigelow 1976; Kratzer 1979). Subjunctive conditionals are appropriate in a context if the negation of the antecedent is compatible with the context set. A frequent use of subjunctive conditionals (their *counterfactual* use) requires that the proposition expressed by the antecedent be inconsistent with the context set (Kratzer 1979).

(6)    Appropriateness conditions for indicative conditionals:
$C \cap [\![\alpha]\!] \neq \varnothing$ and  $C \cap [\![\text{not-}\alpha]\!] \neq \varnothing$
Appropriateness conditions for subjunctive conditionals:

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[3] When no confusion is likely to arise, I will use the terms 'antecedent' and 'consequent' to refer to the propositions the antecedent and consequent of a conditional expresses.

(i)    $C \cap [\![not\text{-}\alpha]\!] \neq \varnothing$
(ii)   Counterfactual uses: $C \cap [\![\alpha]\!] = \varnothing$

### 3.2   *Back to Caligula*

I will now put the machinery to work. In the scenario with which I opened section 2, it is an open possibility whether Caligula is dead or not. Consequently, the utterances of the indicative conditionals in (4) are correctly predicted to be felicitous. The scenario forces an epistemic interpretation of the conditionals. A most plausible domain of quantification is the context set. The appropriateness conditions associated with indicative conditionals require that the context set contain worlds in which Caligula is dead and worlds in which he is not. Given the way the scenario is set up, the requirement is easily met.

The non-counterfactual uses of the subjunctive conditionals in (5) are also correctly predicted to be felicitous. It is required that some of the worlds in the context set be worlds in which Caligula is not dead and the requirement is met.

Let us now change the context slightly.

Scenario 2
Some minutes later, the doors of the arena open and in comes Caligula, greeting the crowd. (Kratzer 1979:134)

This event changes the common ground in a crucial way. Now we add to the common ground the proposition that Caligula is alive. All worlds in the context set are now worlds in which Caligula is alive.

Imagine, as in Kratzer (1979), that (4) and (5) are uttered again in this new context. Then, the utterances of the indicative conditionals (4) are correctly predicted to be totally inappropriate, since in no worlds in the context set is Caligula dead.

Consider now the corresponding subjunctive conditionals:

(5)   a.   *Si     estuviera    muerto (ahora),    me  tendrían que*
           if PRO were.PSTSBJ dead        now    PRO me would-have-to.3PL
           *ascender.*
           promote.INF
           "If he were dead (now), I would have to get promoted."

A counterfactual use of (5a) would be totally appropriate, as predicted, since the context set does not contain any world in which Caligula is dead.

Under the presumption that *si* and *de*-conditionals are totally parallel, the corresponding *de*-conditional in (5b) should be equally felicitous:

(5)   b.   *De        estar muerto (ahora) ,    me tendrían que*
           DE PRO be      dead      now   PRO me would-have-to.3PL
           *ascender.*
           promote:INF
           "If he were dead (now), I would have to get promoted."

Contrary to the predictions, however, there is something odd about (5b) when contrasted to (5a) in this new context. The sentence in (5b) does not feel to be appropriate. Some informants report that their intuitions about the felicity of an utterance of (5b) in this new context are elusive. Bear this in mind.

If mood marking in the antecedent were semantically vacuous, the interpretation of *si-* and *de*-conditionals should always be the same. Both types of conditionals should be equally appropriate in Scenario 2. They are not. We then hit upon a puzzle: how come the *de*-clause makes a difference in the subjunctive conditional and not in the indicative conditional in this scenario? And why do some speakers report their intuitions to be elusive?

Since (5a) differs from (5b) just in the type of antecedent, it is the type of antecedent that must be blamed for the instability of judgments. The contrast between (5a) and (5b) shows that mood marking in the antecedent must be interpreted after all.

My solution to this puzzle is the following: I take the mood inflection of the antecedent to be interpreted.  In the next section, I will adhere to the view that indicative and subjunctive conditionals differ as to how they change the context in which they are uttered. I will propose that the mood inflection in the antecedent of epistemic conditionals signals how the domain of quantification is modified. Indicative mood is by default associated with shrinking. An indicative antecedent shrinks the domain of quantification by stripping away from it those worlds in which the antecedent is false. Following Stalnaker (1975), I will take this to be the default strategy. The marked strategy, associated with the subjunctive, is the expansion of the domain. Subjunctive antecedents require that the domain of quantification be (possibly) expanded so as to include worlds in which the antecedent is true (Von Fintel 2001; Quer 2001).

Since *de*-clauses are moodless, they lack any overt instructions as to how they should modify the domain of quantification. However, if the strategy associated with the indicative is the default, they are expected to stick to it, unless coerced by the modal to behave as subjunctive clauses. The contrast between (5a) and (5b), what I will call the Caligula effect, illustrates what happens when committing to the default strategy turns out to be a fatal move. If the *de*-clause behaved as an indicative clause in Scenario 2, (5b) should be out. If

it behaved as a subjunctive clause, it should be felicitous. The tendency to stick to the default strategy proves to be fatal in Scenario 2. However, the modal can still coerce the *de*-clause to behave as a subjunctive clause, repairing the disaster. This explains why intuitions might be elusive. Taking the *de*-clause to behave (momentarily) as an indicative antecedent, makes it feel inappropriate. Realizing that the modal can coerce it to behave as a subjunctive antecedent makes it feel appropriate.  This is, in a nutshell, my explanation of the Caligula effect.

In what follows, I will introduce some assumptions to make the reasoning a little more explicit. Those readers that might not be interested in the particular technical implementation of the previous reasoning can skip section 4 without much harm.

**4.    *Revisiting the Caligula Effect***
To be a little more explicit, I need to wax technical for a moment. I start by modeling a context as a pair <C,f>, where C is the context set, the set of all worlds compatible with all the parties involved in the conversation know (Stalnaker 1998) and f (*the modal horizon* in Von Fintel 2001) is an accessibility function associated with C, a function from worlds to sets of worlds. The modal horizon is responsible for determining the domains of quantification of (counterfactual) subjunctive conditionals.

4.1. *Subjunctive (Counterfactual) Antecedents Expand the Existing Domains.*
Then, I stick to Von Fintel (2001) and Quer (2001) in assuming that updating the context with a subjunctive conditional involves expanding the domain of quantification by adding to it the set of worlds *most similar* to those already in it in which the antecedent is true. We then need a notion of *maximal similarity* between worlds. For the sake of simplicity, I will assume, as in Heim (1992) and Von Fintel (2001) that the notion of similarity between worlds is given. To define maximal similarity we need to simply import the order-theoretic definition of greatest element. As in Heim (1992) and Von Fintel (2001), I will rely on a definition of maximal similarity that compares worlds where a certain proposition is true. For any world w and any proposition p, the function $\bullet ax_{\leq w}$ (p) selects the closest worlds to p (according to the given ordering) in which p is true (see Fintel 2001): [4]

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[4] The assumption being that  $\bullet ax_{\leq w}$ (p) is defined for any w and p whatsoever , i.e. that for any world w there exists a set of closest worlds in which p is true. In the context of developing a semantics for counterfactuals, this assumption has been dubbed by Lewis 'he Limit Assumption'. In what follows, I stick to it. For arguments against it, see Lewis (1973). For arguments in favor, see Stalnaker (1984:140-142). For an overview of the role of the notion of similarity in the development of a semantic theory of counterfactuals, see Nute (1984).

(7)   For any proposition $p \in \wp(W)$, any world w and any similarity
      relation $\leq_w$,
      $Max_{\leq_w}(p) = \{w': w' \in p \ \& \forall w'': w'' \in p \rightarrow w'' \leq_w w'\}$

I assume that, in an initial context, the parties involved in conversation
know nothing and hence every possible world could be the actual one: C is the
set of all possible worlds (see (8)). The modal horizon is minimal: it assigns to
each world w the singleton $\{w\}$ (as in von Fintel 2001).

(8)   The initial context: $< W, \lambda w.\{w\} >$[5]

Updating the initial context with a subjunctive antecedent amounts to expanding
the available modal horizon by adding to it the closest worlds in which the
proposition that the antecedent expresses is true, as depicted in Figure 1. If the
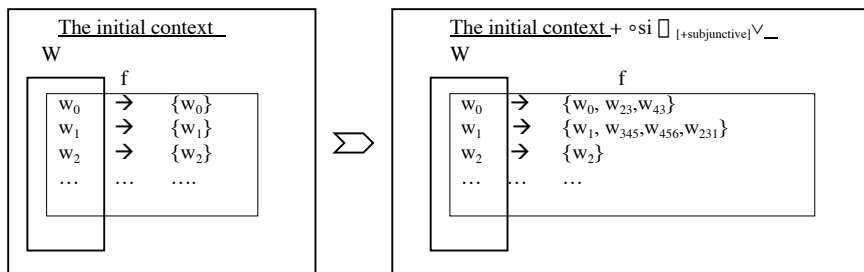proposition that the antecedent expresses is true in a world w, then f(w) does not
grow at all.



Fig. 1: *Updating the context with a subjunctive antecedent*

In what follows, I will blame the antecedent for that context change.[6]
Uttering the antecedent does not change the common knowledge: it just modifies
the modal horizon. In symbols:

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[5] I follow the informal lambda notation used in Heim and Kratzer (1998). '  $\lambda w.\{w\}$' is the name of
that function from worlds to sets of worlds that assigns to each world in its domain the singleton
consisting of that world.

[6] The idea behind being that   *would* needs a certain context to be licensed and that antecedents of
subjunctive conditionals are just one way to provide *would* with the required environment (see
Veltman 2002). Cf. the following examples, due to Veltman (2002):

(i)     John didn't drink too much wine. He would have got sick.

(ii)    (??) John drank too much wine. He would not have got sick.

(9)   $\langle C,f \rangle + \ulcorner si\ \alpha_{[+\text{subjunctive}]} \urcorner = \langle C,f^* \rangle$
      Where $\forall w \in C$: $f^*(w) = f(w) \cup \mathcal{M}ax_{\leq_w}(\llbracket \alpha \rrbracket)$

What about the interpretation of subjunctive modals?[7] Iatridou (2000) surveys the morphological setup of verbs in subjunctive conditionals. Cross-linguistically, past tense morphology appears in subjunctive conditionals (Papago, Japanese and Korean, Hebrew, Turkish, Basque, English…). As for the consequent, in English, the modal *would* arguably decomposes into a modal component and a past component (Palmer 1986; Abusch 1988; Vlach 1993). In Modern Greek, the consequent hosts a modal element *θa* in combination with past (Iatridou 2000). Modals in the consequent of subjunctive conditionals in Romance host a verb in the so-called 'conditional mood'. Iatridou (2000) argues that the conditional mood is sensibly analyzed synchronically as the combination of a future modal plus past morphology:

(10)  a.   English:            *would = will* (modal) + 'past'
      b.   Modern Greek:       *θa*  (modal) + 'past'
      c.   Romance:            *-ía = rá* (modal)+ 'past'

The feature whose phonetic realization we call 'past' provides, following Iatridou, what she calls a 'skeletal meaning' of the following form:

(11)  Where *x* ranges over times and worlds, 'T(x)' are 'the x that we are talking about' and 'C(x)' are 'the x that for all we know are the x of the speaker',
      $T(x) \not\subseteq C(x)$ (Iatridou 2000:246)

A natural interpretation of Iatridou's system for the modal uses of 'past' (when the variable in (11) ranges over worlds) equates T(x) with the domain of quantification of the subjunctive modals, the modal horizon in our terms, and C(x) with the context set. By assuming (11), we can provide the following context change potential for the consequent of subjunctive conditionals.

(12)  $\langle C,f \rangle + \ulcorner si\ \alpha_{[+\text{subjunctive}]},\ \text{-ría}\ \beta \urcorner = \langle C^*,f^* \rangle$
      Where

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[7] In what follows, I will talk of indicative and subjunctive modals to refer to the modals of indicative and subjunctive conditionals, independently of whether they are in fact subjunctive or not.

(i) $\forall w \in C: f^*(w) = f(w) \cup \mathit{Max}_{\leq_w}(\llbracket\alpha\rrbracket)$
(ii) $C^* = \{w \in C: (f(w) \cap \llbracket\alpha\rrbracket) \cap \llbracket\beta\rrbracket = f(w) \cap \llbracket\alpha\rrbracket\}$[8]
<u>Definedness conditions associated with 'past' (hence with *ría*-β )</u>
$\langle C,f\rangle + \ulcorner$ría-α$\urcorner$ is defined iff $\forall w \in C : f(w) \not\subseteq C$

A subjunctive conditional then performs two operations: the antecedent changes the modal horizon in the way defined in (9) and then the subjunctive modal modifies C by keeping all those worlds w in whose modal horizon all worlds in which $\llbracket\alpha\rrbracket$ is true are worlds where $\llbracket\beta\rrbracket$ is also true. The process is depicted in Figure 2.

The definedness condition in (12) requires that the domain of quantification provided by the modal horizon reach out of the context set. The reader must keep this condition in mind, since it will play a major role in my analysis of the Caligula effect. The condition is in the spirit of Iatridou's proposal. Although it seems a natural move to make, it is not as innocent as it seems. It will have to be relaxed to account for non-counterfactual cases of subjunctive conditionals, since, if the proposition expressed by the antecedent is true in a world $w \in C$, then $f(w) = \{w\}$ and $\{w\} \subseteq C$. I will leave it at that for my present purposes, though.[9]

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[8] If $(f(w) \cap \llbracket\alpha\rrbracket) \cap \llbracket\beta\rrbracket = f(w) \cap \llbracket\alpha\rrbracket$, then all worlds in $f(w) \cap \llbracket\alpha\rrbracket$ are β-worlds, since for any sets A, B, $A \cap B = A$ just in case all elements of A are elements of B.

[9] I refer the reader to V    on Fintel (199 8) for a discussion of the presupposition of subjunctive conditionals, where is proposed the weaker condition that the domain of quantification *might* be outside C.

Assume $[\![\alpha]\!] \cap [\![\beta]\!] = \{w_{23}, w_{43}\}$



| The initial context |  |  |
| --- | --- | --- |
| W |  |  |
|  | f |  |
| $w_0$ | → | $\{w_0\}$ |
| $w_1$ | → | $\{w_1\}$ |
| $w_2$ | → | $\{w_2\}$ |
| … | … | …. |

⊳

| The initial context + ⌜si $\alpha_{[+subjunctive]}$⌝ |  |  |
| --- | --- | --- |
| W |  |  |
|  | f* |  |
| $w_0$ | → | $\{w_0, w_{23}, w_{43}\}$ |
| $w_1$ | → | $\{w_1, w_{345}, w_{456}, w_{231}\}$ |
| $w_2$ | → | $\{w_2\}$ |
| … | … | … |

⇩

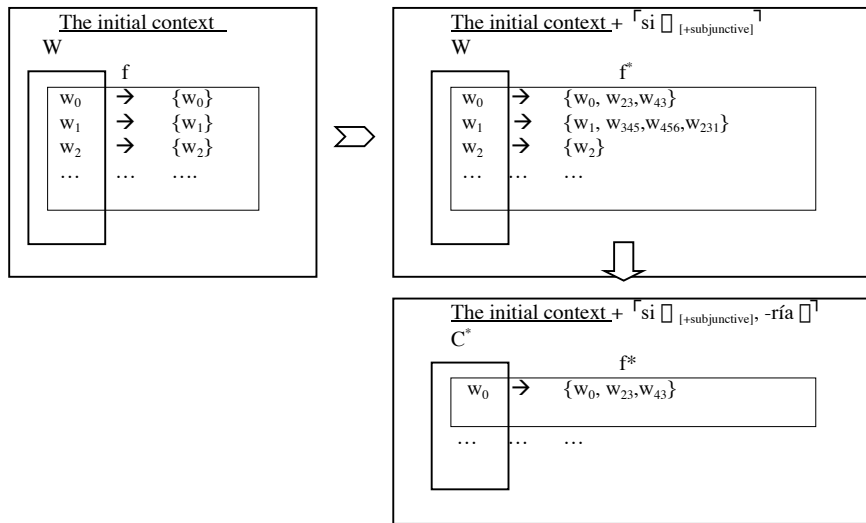| The initial context + ⌜si $\alpha_{[+subjunctive]}$, -ría $\beta$⌝ |  |  |
| --- | --- | --- |
| $C^*$ |  |  |
|  | f* |  |
| $w_0$ | → | $\{w_0, w_{23}, w_{43}\}$ |
| … | … | … |

Fig. 2: *Updating the context with a subjunctive conditional*

### 4.2 *Indicative Restrictors Shrink the Domain*

As for indicative conditionals, I will assume the context change potential in Heim (1992), depicted in Figure 3. Indicative conditionals perform the following operation on the context: for each world w, they take from within the context set the closest worlds to w in which the antecedent is true. If w is a world where the antecedent is true, the set of closest worlds to w where the antecedent is true is the singleton containing w itself. If w is a world where the antecedent is not true, the operation selects the closest worlds to w from within C where the antecedent is true. The following step consists on checking whether in all those worlds closest to w where the antecedent is true, the consequent is also true. If that is the case, w survives, if not, it is thrown away.

Assume $\forall w \in C$: $Max_{\leq_w} (C \cap [\![\alpha]\!]) \cap [\![\beta]\!] = \{w_0\}$
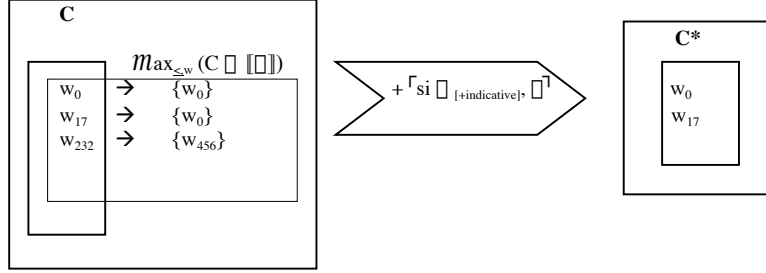


*Fig. 3. Updating the context with an indicative antecedent*

In symbols:

(13)   $<C,f> + \ulcorner si\ \alpha_{[+indicative]},\ \beta \urcorner = <C^*,f>$
       Where $C^* = \{w \in C: Max_{\leq_w} (C \cap [\![\alpha]\!]) \cap [\![\beta]\!] = Max_{\leq_w} (C \cap [\![\alpha]\!])\}$

I have not provided a compositional context change potential for indicative conditionals for the sake of simplicity. It will suffice to assume that the context change potential of an indicative conditional involves intersecting the context set with the proposition expressed by the antecedent.[10]

Notice that this context change potential requires C to contain worlds where the antecedent is true. For consider again the definition of $Max_{\leq_w}$:

(7)   For any proposition $p \in \wp(W)$, any world w and any similarity relation $\leq_w$,
       $Max_{\leq_w} (p) = \{w': w' \in p\ \&\ \forall w'': w'' \in p \rightarrow w'' \leq_w w'\}$

If $C \cap [\![\alpha]\!]$ is the empty set, the reader can verify that for any w, $Max_{\leq_w} (C \cap [\![\alpha]\!]) = \varnothing$, and hence that the condition that, for any w, $Max_{\leq_w} (C \cap [\![\alpha]\!]) \subseteq [\![\beta]\!]$ would be trivially satisfied. Unless there are worlds where the antecedent is true, the context change potential of indicative conditionals would be useless. We then impose the following definedness condition:

(13')   $<C,f> + \ulcorner si\ \alpha_{[+indicative]},\ \beta \urcorner = <C^*,f>$

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[10] See Heim (1992:196) for an illustration of the fact that the similarity relation must apply to a set of worlds in the context, a proposition that retains all the information in the context set along with the information contributed by the antecedent. See Alonso-Ovalle (in preparation) for a different setup providing an independent context change potential for the antecedents.

$$\text{Where } C^* = \{w \in C: \mathcal{M}ax_{\leq_w} (C \cap [\![\alpha]\!]) \cap [\![\beta]\!] = \mathcal{M}ax_{\leq_w} (C \cap [\![\alpha]\!]) \}$$

This definedness condition will play a major role in the Caligula effect. In Scenario 2, the context set contains no world where Caligula is dead. Consequently, any antecedent interpreted as an indicative antecedent of the form *If Caligula is dead…* will make the whole conditional undefined.

4.3   *Moodless Clauses and the Default Strategy: Revisiting the Caligula Effect*
       What about *de*-clauses? Let us assume that, in fact, mood marking in the antecedent signals the way it changes the context. I have assumed that subjunctive antecedents affect the modal horizon. Although I have not provided a context change potential for the antecedent of indicative conditionals, I have assumed that the context change potential of indicative conditionals involves intersecting the context set with the proposition expressed by the antecedent. *De*-clauses are moodless. They will then lack any instructions on how to change the context. They could change it either as indicative antecedents do or as subjunctive antecedents. This property allows us to derive the Caligula effect as follows.
       Recall Scenario 2. The doors of the arena are finally opened and everybody can see Caligula alive, greeting the crowd. Recall the problem: in this context (5b) is slightly odd when compared to (5a), both repeated below. Intuitions are reported to be elusive, at least for some speakers.

(5)   a.   *Si      estuviera    muerto (ahora),      me tendrían que*
           If PRO  were.PSTSBJ dead    now        PRO me would-have-to.3PL
           *ascender.*
           promote.INF
           "If he were dead (now), I would have to get promoted."
      b.   *De       estar muerto (ahora),       me tendrían que*
           DE PRO be     dead     now     PRO me would-have-to.3PL
           a*scender.*
           promote.INF
           "If he were dead (now), I would have to get promoted."

The contrast shows that the mood of the antecedent must be interpreted, for it were not, then (5a) and (5b) should be equally fine. That gives us a hint to answer Iatridou's question. In fact, if we asssume that the mood marking of antecedents is not semantically vacuous, we can explain why the *de*-clause makes a difference in the subjunctive conditional and not in the indicative conditional in Scenario 2. Assume mood signals the way antecedents change the

context. According to my assumptions, the way indicative conditionals change the context involves intersecting the context set with the antecedent. This, in its turn, requires that there be worlds in the context set where the antecedent is true. Subjunctive in the antecedent signals overtly that the antecedent will modify the modal horizon. If *de*-clauses are moodless, then they will lack any instructions on how to update the context. In principle, they could change it as indicative antecedents and then they would require that the context set contained worlds where the antecedent is true. They could also change it as subjunctive antecedents and they would then modify the modal horizon. Either way will do. The behavior of both types of conditionals under Scenario 1 attests to this fact.[11]

Stalnaker (1975) proposed a uniform semantic analysis for both indicative and subjunctive conditionals. According to him, the difference between indicative and subjunctive conditionals is a pragmatic one: the use of subjunctive marks that the default strategy of taking the domain of quantification to remain within C is suspended. I will assume with Stalnaker that the context change strategy associated with indicative conditionals is some sort of default.

The fact that *de*-clauses can behave as either indicative or subjunctive antecedents can lead to trouble if any of the two strategies does. The indicative conditionals corresponding to the examples in (5) are ruled out in Scenario 2, because they require that there be some worlds in C where the antecedent, the proposition that Caligula is dead, be true. The way the scenario is set up precludes this. Everybody sees that Caligula is alive. No world in C is a world where he is dead. If mood is already interpreted in the antecedent by checking

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[11] Though it does not make a dif ference in the Caligula scenarios, in general, *de*-clauses require that the context set contain some worlds where the proposition they express is true and some where it is false. For consider the following scenario.

Scenario 3

Jigl has just landed here. Driving past that beautiful garden, he sees some nice hydrangeas. He does not know what the weather is like, but he says to Jogl:

(i)    *Si crecen    aquí  las hortensias,  entonces los inviernos tienen que*
       if grow.3PL here the hydrangeas, then       the winters    have-to.3PL
       *ser suaves*
       be  mild

Unlike (i), (ii) is not appropriate in this context.

(ii)   ??*De crecer    aquí  las hortensias, entonces los inviernos tienen que*
       DE grow.INF here the hydrangeas, then       the winters    have-to.3PL
       *ser suaves*
       be  mild
       "If hydrangeas (can) grow here, then winters must be mild."

This type of contrast illustrates that even when they are moodless, *de*-clauses impose definedness conditions on their own. In Alonso-Ovalle (in preparation) I blame the complementizer for that.

whether the definedness condition holds, and indicative marking corresponds to the default strategy, we expect the *de*-clause to clash with the context associated with Scenario 2, exactly as if it were an indicative antecedent. I have it that it does.

There is, however, a crucial difference between indicative antecedents and moodless ones. Moodless antecedents can also be interpreted as if they were subjunctives. In fact, under our scenario, the moment the verb in the conditional mood in the consequent kicks in, things change. The context change of the consequent of a subjunctive conditional requires that the modal horizon reach beyond the context set. If we processed the *de*-clause as if it were a subjunctive antecedent, the requirement would be met. In fact, since the *de*-clause is moodless, it can be uploaded to the context as if it were a subjunctive clause, expanding the modal horizon beyond the context set and providing the consequent with a suitable context. This solves the problem.

We can now see why intuitions are reported to be elusive. *De*-clauses can in principle change the context in two ways. The default strategy leads to disaster. The marked strategy associated with counterfactuals, however, solves the problem.

### 6. *To Conclude*

In response to Iatridou's problem, I have shown that moodless antecedents interact with subjunctive modals in a way that suggests that mood marking in the antecedent of conditionals is interpreted. The Caligula effect is explained if mood marking signals the way in which the antecedent affects the context. Usually, inflected antecedents contribute to the domain of quantification of the modal just in the way the modal requires. Indicative antecedents feed indicative modals. Subjunctive antecedents feed subjunctive modals. Mood marking in the antecedent of conditionals can be interpreted while still being a phenomenon of sortal agreement. Its effects are then generally masked. In order to see them, we need antecedents that could in principle feed both indicative and subjunctive modals. The moodless antecedents of *de*-conditionals provide us with exactly this kind environment.

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