The syntax and semantics of French constituent unconditionals

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Abstract

This contribution provides a unified syntactic and semantic analysis of two types of French constituent unconditionals. We argue that both involve a relativized *wh que ce soit* free choice item that may be partly elided, and derive their main interpretational properties from the semantics of free choice.

1 Introduction

The realization of constituent unconditionals (CUs) is subject to both crosslinguistic (Haspelmath and König, 1998) and intralinguistic (Quer and Vicente, 2009; Šimík, 2018) variation. The focus of this contribution is on two types of semantically equivalent CUs in French: one where the CU-adjunct clause is **'short'**, i.e., headed by a bare *wh* (1), and one where it is **'long'**, i.e., headed by a *wh que ce soit* free choice item (FCI) (2). We will refer to the respective CUs as short and long.

(1) [$_{CU-adjunct}$ ***Quoi*** *qu'il* *cuisine*],
what REL-he cooks.SBJ
Lou sera *contente.*
Lou is.FUT happy

'Whatever he cooks, Lou will be happy.'

(2) [$_{CU-adjunct}$ ***Quoi que ce soit*** *qu'il*
what REL it is.SBJ REL-he
cuisine], *Lou sera* *contente.*
cooks.SBJ Lou is.FUT happy

'Whatever he cooks, Lou will be happy.'

The connection between FCIs and CUs in French has been noticed before (Muller, 2006; Vlachou, 2007; Corblin, 2010), but as far as we know, no unified analysis covering both short and long CUs exists. Based on (1), we could take short CUs to involve *wh*-syntax and -semantics (as Rawlins (2013) proposes for English CUs) instead of FCIs. However, this analysis would not capture a number of syntactic and semantic properties that we show to be common to both short and long CUs. Therefore, we argue for a unified syntactic and semantic analysis of French CUs.

Specifically, in terms of syntax, we claim that French CU-adjuncts involve the relativization of a FCI, which itself involves the relativization of a *wh*-phrase. Furthermore, we propose that the difference between short and long adjuncts is due to relative clause sluicing. This is shown in (3) using the adjunct clause from (1)/(2); (Δ) marks the relative clause that is elided in short CUs.

(3) [*quoi*$_i$ [$_{(\Delta)}$ *que ce soit* t_i]]$_j$ *qu'il cuisine* t_j

Our analysis differs from the only previous explicit proposal for the syntax of French CUs (Corblin, 2010). On Corblin's analysis of the long CU-adjunct in (2), the *wh*-phrase originates as a complement of *cuisine* 'cooks.SBJ', and moves twice: first to the complement position of *soit* 'is.SBJ' and then above what Corblin identifies as a complementizer (*que*). This is shown in (4).[1]

(4) *quoi*$_i$ [*que ce soit* [t_i [*qu' il cuisine* t_i]]]

One issue with (4) is that it does not treat *quoi que ce soit* as a constituent although it passes constituency tests (it can e.g. conjoin with other *wh que ce soit* FCIs). Moreover, Corblin provides no explicit analysis of short CUs or the relationship between short and long CUs. Based on (4), two options come to mind, but both are problematic. First, if short CUs involve bare *wh*-phrases and not FCIs, short and long CUs cannot receive a unified analysis. And second, if short CUs are derived

[1] Note that the syntactic analysis that Corblin (2010) proposes in fact attaches the relative clause *qu'il cuisine* at the level of S (i.e. IP). However, we assume that the trace of the *wh*-phrase within this relative clause reveals that the underlying intention was to have this relative clause modify the *wh*-phrase itself. This assumption is incorporated in (4).

through ellipsis from long CUs that have the syntax in (4), it is not obvious how only a part of the structure can be affected. The analysis outlined in (3) avoids both of these problems.

The analysis in (3) also provides a transparent scaffolding for the semantic analysis that we propose for French CUs. In particular, we argue that in CU-adjuncts, the *wh*-phrase spells out an existential quantifier that combines with two relative clauses: the first – *que ce soit* – provides the domain restriction and forms a FCI with the *wh*, and the second provides the nuclear scope of the quantifier and is the modalized licensor of the FCI. The CU-adjunct acquires universal force as an implicature that arises when the adjunct-clause assertion interacts with a set of pre-exhaustified alternatives (Chierchia, 2013, a.o.). We furthermore assume that these pre-exhaustified alternatives must be viable, i.e. true in some world compatible with speaker beliefs (Dayal, 2013). This viability condition captures the licensing of FCIs in CU-adjuncts, and is additionally responsible for two core interpretational properties of (French) CUs: consequent entailment and speaker ignorance.

Our proposal is closely related to recent work on alternative unconditionals in Hungarian (Szabolcsi, 2018) and free choice in Romance (Fălăuş and Caponigro, 2018). In assigning the FCI existential force, we also remain close to the analysis of Vlachou (2007). However, our analysis contrasts with previous work on French CUs where CUs denote conjunctions of conditionals (Corblin, 2010), and with previous work where English CU-adjuncts are analyzed as *wh*-questions, and show exclusivity effects (Rawlins, 2013).

This extended abstract is structured as follows. We begin by reviewing some arguments in favor of our syntactic analysis of French CU-adjuncts (section 2). We then give a detailed compositional analysis of French CU-adjuncts (section 3). Finally, we propose a semantic analysis of the whole CU (section 4), and conclude (section 5).

2 The syntax of French CU-adjuncts

We propose that the syntax of French CU-adjuncts involves the relativization of a FCI, which itself involves the relativization of a *wh*. Short CU-adjuncts are derived via relative clause sluicing. This is illustrated in (5) (repeated from (3)).

(5) $[\ \textit{quoi}_i\ [_{(\Delta)}\ \textit{que ce soit}\ t_i\ ]]_j\ \textit{qu'il cuisine}\ t_j$

Specifically, we adopt the raising analysis of relative clauses (Kayne, 1994; Bianchi, 1999), and assume that *que* is a relative D°. We illustrate this syntax with a *wh que ce soit* FCI in (6). First, the DP *que wh* moves to (an unidentified) Spec,XP below C°. Then the *wh* moves to Spec,CP. Finally, a high D° selects the CP, and the FCI is labelled as DP. CU-adjuncts involve a second *que* that selects this DP, and the derivation proceeds as in (6).[2]

(6) $[\ \text{D}^\circ\ [\ \textit{wh}_i\ \text{C}^\circ\ [\ [\ \textit{que}\ t_i\ ]_j\ \text{X}^\circ\ [\ \textit{ce soit}\ t_j\ ]]]]$

We now present arguments for the involvement of FCIs (section 2.1) and relativization (section 2.2) in both short and long CUs in French. We then propose that short CU-adjuncts are derived via ellipsis (section 2.3).

2.1 Evidence in favor of the presence of FCIs

The first argument for the involvement of FCIs in CUs comes from the acceptability of *n'importe* FCIs (Muller, 2006) in the same position (7).

(7) $[_{FCI}$ *N'importe quoi* $]$ *qu' il cuisine,*
no matter what REL he cooks.SBJ
Lou sera contente.
Lou is.FUT happy

'Whatever he cooks, Lou will be happy.'

While we do not provide an analysis of *n'importe* in this paper, the interchangeability of bare *quoi* and *n'importe quoi* FCIs supports our claim that both short and long CUs are formed with FCIs that may be partly elided.

The second argument concerns the gaps shown in (8) and (9). CUs involving bare *quand* 'when', *comment* 'how', and *pourquoi* 'why' are unacceptable in French (8). Interestingly, (9) shows that this gap corresponds to a gap in the paradigm of *wh que ce soit* FCIs. This again supports our claim that even short CUs involve *wh que ce soit* FCIs.

(8) $*\{$*Quand/comment/pourquoi*$\}$ *qu'il parte, ...*

'Whenever/however/*whyever he leaves,...'

(9) $*\{$*quand/comment/pourquoi*$\}$ *que ce soit*
when how why that it is.SBJ

Finally, if short CUs involved bare *wh*-phrases and *wh*-movement, it would be unclear why *quoi*

[2] Except that there is no high D°: CU-adjuncts have the distribution of CPs, not DPs. By assuming that relative clauses are not obligatorily headed by a high D°, we account for the fact that the surface forms corresponding to short and long CU-adjuncts have the distribution of both DPs and CPs (Corblin, 2010).

'what' can be fronted in short CU-adjuncts, but not in *wh*-questions, as shown in (10).

(10) **Quoi a-t-il cuisiné?*
what has-he cooked

'What has he cooked?'

2.2 Evidence in favor of the presence of RCs

One well-known property of French is that the form of the relative operator is syntactically conditioned: while subject RCs must use *qui*, object RCs must use *que*. That subject-FCI CUs (11) and object-FCI CUs (12) show the same alternation supports our claim that they involve relativization.

(11) [*Quoi*$_i$ *(que ce soit* t_i*)*]$_j$ {*qui/*que*}
what REL it is.SBJ REL
t_j *fasse ce bruit, ...*
makes.SBJ this sound

'Whatever is making this sound, ...'

(12) [*Quoi*$_i$ *(que ce soit* t_i*)*]$_j$ {*que/*qui*}
what REL it is.SBJ REL
Lou fasse t_j*, ...*
Lou does.SBJ

'Whatever Lou does, ...'

Note that *wh que ce soit* FCIs always involve *que* (**wh qui ce soit*). In our analysis, this is because the *wh* is always relativized from the copular complement position.

2.3 A sluicing analysis of short CU-adjuncts

Once *wh que ce soit* FCIs are analyzed as in (6), long and short FCIs – and therefore, long and short CU-adjuncts – can be given an analysis in terms of sluicing. We follow Merchant (2001) who argues that sluicing is licensed by an ellipsis feature $[E]$ on the head whose specifier hosts the remnant, and whose complement is elided. Given that *que* is included in the sluice in short CU-adjuncts, we assume that $[E]$ is on C° in FCIs, as shown in (13).

(13) [D° [*wh*$_i$ C°$_{[E]}$ [[*que* t_i]$_j$ X° [*ce soit* t_j]]]]

Although sluicing is usually associated with *wh*-questions, relative clauses also undergo sluicing in some languages (Lipták and Aboh, 2013). Moreover, sluicing is able to delete copular structures (van Cranenbroeck, 2009). Thus, the analysis we propose is not as exotic as it may seem.

Now, note that according to Corblin (2010), CU-adjuncts where only the *wh que ce soit* FCI is spelled out are acceptable, but they cannot be interpreted without a second contextually determined relative clause:

(14) *Qu'est-ce que Max cuisine?*
what-Q Max cooks
– *Quoi que ce soit (qu'il*
what REL it is.SBJ REL-he
cuisine), Lou sera contente.
cooks.SBJ Lou is.FUT happy

'What is Max cooking? – Whatever it is (that Max is cooking), Lou will be happy.'

Under our analysis, this possibility is expected: $[E]$ may also be located on C° within the second relative clause. We assume that the fact that both relative clauses must be present in the underlying structure is due to the semantics of the CU-adjunct that we present in section 3.

2.4 Subjunctive mood

The verbs of a French CU-adjunct always appear in the subjunctive mood, as shown in (15).

(15) *Quoi que ce* {*soit/*est*} *qu'elle*
what REL it is.SBJ/is.IND REL-she
{*fasse/*fait*}*, ...*
does.SBJ/does.IND

'Whatever she does, ...'

As will become clear in section 3, we assume that the subjunctive marking reflects the presence of a covert epistemic modal within the relative clause that modifies the FCI (Quer, 1998; Dayal, 2013; Chierchia, 2013). Specifically, following e.g. Oikonomou (2016), we assume that subjunctive marking on a verb results from syntactic agreement with a modal. Crucially, in CU-adjuncts, this relationship is established before the FCI is relativized, and it is still in the scope of the modal: thus, *soit* is subjunctive although the relative clause it is in does not contain a modal.

3 The semantics of French CU-adjuncts

We propose that the *wh* of a French CU-adjunct denotes an existential quantifier that combines with two relative clauses of type $\langle e, t\rangle$:

(16) [[*quoi*$_i$ [$_{RC_1}$ *que ce soit* t_i]]]$_j$
[$_{RC_2}$ *qu'* $\diamond$ *il cuisine* t_j]]

RC_1 provides the restrictor for the *wh*. Inside RC_1, *ce* 'it, that' is a property anaphor that picks up the property of being contextually relevant, i.e.

of being in D (see Mikkelsen (2007) for a property anaphor analysis of *it* and *that* in truncated clefts). The copula is semantically empty. Thus, the denotation of RC_1 is (17).

(17) $[\![\textit{que ce soit}]\!]^{g,w} = \lambda x.D_w(x)$

RC_2 provides the nuclear scope for the *wh*. Crucially, it contains a covert epistemic modal (see section 2.4).[3] The denotation of RC_2 is (18).

(18) $[\![\textit{qu'il cuisine}]\!]^{g,w}$
$= \lambda x.\exists w' \in ACC_w(w')[he.cooks_{w'}(x)]$

Thus, the adjunct clauses in (1)/(2) have the semantics in (19) at w:

(19) $\exists x[D_w(x) \wedge$
$\exists w' \in ACC_w(w')[he.cooks_{w'}(x)]]$

We now show how the adjunct clause acquires universal quantificational force through an exhaustification-based implicature (section 3.1), and how the condition of viability (Dayal, 2013) captures the licensing of FCIs and ignorance effects (section 3.2). We close with exhaustivity and exclusivity effects (Rawlins, 2013) (section 3.3).

3.1 Exhaustification

We propose that CU-adjuncts acquire universal force via the exhaustification of lexically triggered pre-exhaustified alternatives (Chierchia, 2013, a.o.). The exhaustification operator EXH is defined in (20). Given a sentence ϕ and a set ALT of alternatives to ϕ, $EXH(\phi)$ asserts the conjunction of ϕ and the negations of all alternatives not entailed by ϕ.

(20) $[\![EXH]\!]^{g,w}(\phi) =$
$\phi_w \ \wedge \forall p \in ALT(\phi)\ [p_w \rightarrow \phi \subseteq p]$

For simplicity, let us assume that $D_w = \{a, b\}$. Since the 'regular' alternatives of a disjunctive statement are its disjuncts (Sauerland, 2004), the alternative set of (19) is (21) (given the equivalence between existential and disjunctive statements).

(21) $\{A = [D_w(a) \wedge$
$\exists w' \in ACC_w(w')[he.cooks_{w'}(a)]],$
$B = [D_w(b) \wedge$
$\exists w' \in ACC_w(w')[he.cooks_{w'}(b)]]\}$

Using A and B to refer to the alternatives in (21), the set of pre-exhaustified alternatives for (19) is (22).

(22) $\{[A \wedge \neg B], [B \wedge \neg A]\}$

Because the assertion in (19) entails neither of the pre-exhaustified alternatives in (22), exhaustification conjoins them as in (23).

(23) $EXH([A \vee B])$
$= [A \vee B] \wedge \neg[A \wedge \neg B] \wedge \neg[B \wedge \neg A]$
$= A \wedge B$

Thus, the free choice implicature of our adjunct clause is (24) (given the equivalence between universal and conjunctive statements).

(24) $\forall x[D_w(x) \rightarrow$
$\exists w' \in ACC_w(w')[he.cooks_{w'}(x)]]$

3.2 Viability

We assume that in order to be licensed, a *wh que ce soit* FCI has to satisfy the condition of viability, which requires each pre-exhaustified alternative of the CU-adjunct to be *viable* (Dayal, 2013, p. 11):

(25) An alternative A is *viable* iff there exists a model M, a world w and a conversational background $g(w)$ such that A is true at w w.r.t to some (non-empty) subset of $\cap g(w)$.

In French CUs, viability requires each of the pre-exhaustified alternatives to be epistemic possibilities for the speaker (i.e., g is epistemic). One model that satisfies viability for (24) is M_1, where the assertion (24) is true, and its pre-exhaustified alternatives in (22) are viable: $[A \wedge \neg B]$ is true in $\{w_1\}$, and $[B \wedge \neg A]$ is true in $\{w_2\}$.

(26) M_1: $\cap g(w) = \{w_1, w_2\}$; $D_w = \{a, b\}$
$he.cooks:$ $w_1 \rightarrow \{a\}$
$w_2 \rightarrow \{b\}$

In addition to licensing the FCI, we propose that viability produces the speaker ignorance effect of French CUs that is revealed by the *namely*-test:

(27) *Quoi (que ce soit) qu'il cuisine,*
what REL it is.SBJ REL.he cooks.SBJ
(# savoir une pizza), ...
namely a pizza
'Whatever he cooks, (#namely, a pizza), ...'

The problem with (27) is that speaker knowledge leads to a viability violation, which in turn makes the FCI in the CU infelicitous. To see why this is, assume that the speaker knows that the referent of 'he' will cook a and b. In this case, M must be such that $\cap g(w)$ only contains worlds where 'he' cooks both a and b: this makes the

[3] In other words, French CU-adjuncts involve some kind of *subtrigging* (LeGrand, 1975; Dayal, 1998).

assertion is true in M, but neither $[A \wedge \neg B]$ nor $[B \wedge \neg A]$ is viable in M, because there are no worlds where 'he' only cooks a or b. This leads to the infelicity of the FCI (and hence, the CU).[4]

3.3 Exhaustivity and exclusivity

Rawlins (2013) argues that English CU-adjuncts have the syntax and semantics of *wh*-questions. As a result, these CU-adjuncts give rise to two presuppositions: exhaustivity and exclusivity. The former requires the (propositional) alternatives of the CU-adjunct to exhaustively cover all worlds that are in the context set (i.e., the intersection of the common ground). For our example, this means that there can be no world in the context set where 'he' cooks nothing. The latter prohibits overlap of the alternatives: no world in the context set may be in both alternatives of the CU-adjunct.

French CU-adjuncts also require exhaustivity: (1)/(2) are not felicitous if it is possible that the referent of 'he' cooks nothing. For our analysis, this means that the model M does not include worlds where 'he' cooks nothing. We speculate that this requirement could follow from a presupposition triggered by the existential *wh* within the FCI.

In contrast to English, we claim that French CUs do not show exclusivity effects. This is shown by the felicity of the CU in (28), where exclusivity is explicitly communicated not to hold.

(28) We are at a party, and running short on beer. We need one person to bring beer. Luckily, we know that Lou or Max will bring beer, and that it is possible that both will.
Qui que ce soit qui apporte de
who REL it is.SBJ REL brings.SBJ of
la bière, ça va aller.
the beer it will go

'Whoever brings beer, we will be fine'

For our analysis, the lack of exclusivity effects shows that the model M for (28) may contain worlds where both Lou and Max bring beer.

4 The semantics of French CUs

In this section, we detail our claims about the semantics of full CUs (section 4.1), and explain how we derive a characteristic semantic property of CUs: consequent entailment (section 4.2).

[4]Our data (not shown) indicate that in French, this constraint is stronger than in English (Rawlins, 2013) and in Hungarian (Szabolcsi, 2018).

4.1 Composition with main clause

We compose the adjunct clause with the main clause using standard Heim-Kratzer-Lewis semantics for conditionals (Rawlins, 2013, cf.). In particular, we assume that conditionals involve a covert necessity modal $\Box$ (defined in (29)) which is the formal equivalent of *if*.

(29) $[\![\Box]\!]^{g,w} = \lambda p.\lambda q.\forall w' \in ACC_w(w')$
$[p_{w'} \rightarrow q_{w'}]$

The modal $\Box$ composes first with the adjunct clause and then with the main clause. As a result, we obtain (30) as the meaning of (1)/(2) at the evaluation world (w_0).

(30) $\forall w' \in ACC_{w_0}(w')\ [\forall x[D_{w'}(x) \rightarrow$
$\exists w'' \in ACC_{w'}(w'')[he.cooks_{w''}(x)]] \rightarrow$
$L.happy_{w'}]$
(In all w' epistemically accessible from w_0, if it is the case for all x in D that there is a w'' epistemically accessible from w' where he cooks x, then Lou is happy in w'.)

4.2 Consequent entailment

One of the main characteristics of unconditionals is that they entail the truth of the main clause (Haspelmath and König, 1998; Rawlins, 2013). In most previous analyses, consequent entailment follows from conjoining as many conditionals as the CU-adjunct can provide an antecedent for: as long as those antecedents cover all possibilities, the consequent must be true (Corblin, 2010; Rawlins, 2013, a.o.). In our analysis, consequent entailment instead follows from viability: the model M must contain worlds that make the pre-exhaustified alternatives of the CU-adjunct clause true, and this in turn means that M contains worlds that make the 'regular' alternatives true. For example, in (30), the viability of $[A \wedge \neg B]$ and $[B \wedge \neg A]$ entails the existence of worlds where A and B are true. Thus, the antecedent in (30) must be true, which gives us consequent entailment.

5 Conclusion

In this contribution, we give a unified compositional analysis of short and long CUs in French. We assume that their semantic properties are due to the presence of a (partly elided) *wh que ce soit* FCI, for which we also give a compositional analysis. In future work, we hope to extend this analysis to Spanish CUs (Quer and Vicente, 2009).

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