

Inward Bound

Splitting the wh-paradigm and French Relative *qui*^{*}

Dominique Sportiche¹

Abstract: Starting from Kayne's 1976 motivation for the existence of the French *que/qui* rule based on the complementizer system of French relative clauses, we suggest that a closer look shows the presence of a double paradigm of wh-elements, a weak one and a strong one, much like what is found in the (strong/weak) pronominal system. Although only French is discussed in any detail, such a split seems to have much wider relevance, in other Romance languages, but also in some Germanic and Scandinavian languages.

This in turn suggests that the *que/qui* rule (and its cognates) should be looked at differently, in particular that it should be uncoupled from constraints on subject extraction.

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¹ Department of Linguistics, University of California Los Angeles, Département d'études cognitives, école normale supérieure Paris, Institut Jean Nicod, contact: sportich@ucla.edu

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1 Introduction

Broadly, we will argue that a closer look at the complementizer system of French relative clauses suggests further structural refinements in the direction set by Rizzi's 1997 work explored most relevantly in Poletto and Pollock (2004), in our view fundamentally driven by the atomization and syntactic projection of visible or abstract morphosyntactic and semantic properties.

More narrowly we will argue that the French *que/qui* alternation, famously analyzed in Kayne (1976) and most influentially discussed since by e.g. Luigi Rizzi and Tarald Taraldsen, should be reanalyzed. According to Kayne's by now standard analysis, certain instances of *qui* are allomorphs of the finite C *que*. Developments of this thesis has led (almost all) later work to suggest that this allomorphy is triggered because there are special constraints on subject extraction (ECP effects).

We will propose that there is no specific *que/qui* alternation found with subject extraction: these *qui* should be analyzed as what is routinely analyzed crosslinguistically as wh-elements/relative pronouns (which actually may well be allomorphs of the complementizer *que*, but together with many other non subject relative pronouns) and their appearance is unrelated to ECP effects.

We do this in several parts.

In the first part, which serves as a presentation of the basic background to the *que/qui* puzzle, we present Kayne's analysis. A critical review of some of its prominent successors is presented in the section 5.8.

In the second part, we suggest that the paradigm and syntax of wh-phrases should be viewed as substantially richer than customarily assumed. In this light, we discuss the French complementizer and wh-paradigms in some detail. This will lead us to challenge a key conclusion underlying Kayne's 1976 proposal: we will propose that the descriptive generalization at the root of Kayne's proposal – that the C system of French relative clauses cannot immediately dominate DPs – should be amended.

In the third part , we propose an analysis according to which in short (one clause) relative clauses as in (1), *qui* is, as traditional grammars assume, a relative pronoun, albeit in the context of the expanded wh-paradigm system discussed above,

- (1) a. La table **qui** est tombée
The table which fell
- b. L'homme qui est parti
The man who left

This type of analysis will immediately relate the French local *que/qui* alternation to what is observed in a variety of other cases, e.g. West Flemish or certain dialects of Dutch.

We will also extend this analysis to other cases of apparent irregularity in the relative clause paradigm involving the wh-phrases *quand (when)/ où (where)* and *de qui (of whom)/dont* etc....

In the fourth part, we discuss the second type of case that Kayne insightfully relates to (1), namely the case of long (embedded) subject extraction:

- (2) a. La table que je crois **qui** est tombée
The table that I think fell
- b. Qui tu crois **qui** est tombé²
Who do you think fell

We discuss why an approach in terms of a *que/qui* rule is not tenable in the context of the understanding of the French complementizer system we provide in the previous sections. In particular we discuss why an approach in terms of trace spell out - similar in spirit to what has been the standard view regarding why the *que to qui* rule exists at all – cannot be maintained.

An alternative analysis of these long distance subject extraction case is proposed in Koopman and Sportiche (2008), which relates these constructions to what happens in the

² All French judgments are Dominique Sportiche's. Throughout, we will mostly use the colloquial "français parlé" register which does not require (or even use) inversion of the clitic subject and the verb. French in this context means Dominique Sportiche's colloquial register of French.

complementizer system of many Germanic languages as well as to partial wh-movement constructions.

2 Puzzles and previous solutions

2.1 The problem: unexpected qui

French is like English in not allowing partial wh-movement: when visible, wh-movement in French wh-questions and relatives always move the wh phrase to the C-system/ left periphery (or COMP for short) of the highest questioned or relativized clause.

- (3) a. L'homme que tu crois que Jean a vu
The man that you think that John saw
- b. Pierre sait qui tu crois que Jean a vu
Peter knows who you think that John saw
- c. Qui tu crois que Jean a vu
Who do you think that John saw
- (4) a. La fille avec qui tu crois que Jean danse
The girl with whom you think that John dances
- b. *La fille que tu crois avec qui Jean danse
The girl that you think with whom John dances
- c. Pierre sait avec qui tu crois que Jean danse
Peter knows with whom you think that John dances
- d. Avec qui tu crois que Jean danse
With whom do you think that John dances
- e. *Que crois-tu avec qui Jean danse
What do you think with whom John dances

In none of these could the wh-phrase be pronounced in any intermediate C system (as e.g. in (4b, e)).

The following relative clauses/ clefts / are thus surprising since a *qui* form - call it **special qui** - is observed where we would normally expect the tensed complementizer *que*. In addition,

with wh-questions, a wh-element cooccurs with it in (what is usually referred to as) the wh scope position as in (5c):

- (5) a. La fille que je crois **qui** danse avec Jean
The girl that I think dances with John
- b. C'est Pierre que je crois **qui** danse avec Jean
It is Peter that I think dances with John
- c. Qui tu crois **qui** danse avec Jean
Who do you think dances with John
- d. ?Quelle fille tu crois **qui** danse avec Jean
Which girl do you think dances with John

2.2 Kayne's analysis

The most prominent analyses of this phenomenon (already discussed and puzzled over as in France as early as the 17th century- cf. e.g. Vaugelas, 1690)) are all based on Kayne's (1976) extremely influential analysis (although Kayne's is by no means the only proposal cf. e.g. Huot, 1981, Godard, 1986). Kayne's 1976 analysis concludes that special *qui* (the bolded *qui* above) is an instance of the tensed complementizer *que*, normally required to head all non wh tensed CPs in French.

Kayne's conclusions, based on a detailed analysis of the complementizer system of relative clauses which relates the "relative pronoun" *qui* found in short relatives with special *qui* is based on the following generalizations:

Generalization 1. In addition to silent operators found in a variety of constructions, French has two overt wh-paradigms exemplified by *qui* (*who*) and *lequel* (*thewhich* or *thewhat*)

Generalization 2. In questions and relatives, a wh phrase must normally be found in the C system.

Generalization 3. There is a systematic exception to Generalization 2 in short restrictive relative clauses in French: overt DPs in Comp are prohibited (but not other categories, like PPs).

- (6) a. La fille avec qui tu dances
The girl with whom you dance
- b. La fille avec laquelle tu dances
The girl with which you dance
- (7) a. * La fille laquelle tu connais
The girl which you know
- b. * La fille laquelle connaît ton nom
The girl which knows your name
- c. * La fille qui tu connais
The girl who you know
- d. Ok la fille que tu connais
The girl that you know

Generalization 4. There is an exception to the generalization in 3. *Qui* alone is allowed to survive in the C system just in case an adjacent subject is relativized:

- (8) a. La fille qui connaît ton nom
The girl who knows your name
- b. *la fille que connaît ton nom
The girl that knows your name

Generalization 5. The tensed complementizer *que* is normally required to head all tensed CPs in French, notwithstanding the effects of the doubly filled comp prohibition requiring this *que* to drop in the presence of other overt material, e.g. an overt wh-phrase, in the C system.

Kayne's analysis concludes that the *qui* in (8) is a version of the complementizer *que* arising as a result of a rule changing *que* to *qui* applying when an adjacent subject is wh-extracted.

Here is the reasoning leading to this conclusion:

No DP is allowed in the C system of a French restrictive relative (Generalization 3).

Therefore the *qui* appearing in (8) is not a (DP) wh-element, a conclusion corroborated by the impossibility of *lequel/laquelle* in (7a,b). Since tensed clauses generally require the tensed

complementizer *que* (generalization 5), this *qui* is in fact the complementizer *que* assuming an exceptional form.

It is thus not surprising that this *qui* appears in contexts in which no wh-phrase is allowed but a complementizer is required, e.g. (5) repeated below:

- (9) a. La fille que je crois **qui** danse avec Jean
The girl that I think dances with John
- b. C'est Pierre que je crois **qui** danse avec Jean
It is Peter that I think dances with John
- c. Qui tu crois **qui** danse avec Jean ?
Who do you think dances with John

(9c) in particular is significant, as it shows both a wh question word (the first *qui*) and the special complementizer *qui* homophonous to it.

In what follows we will call this the “*que/qui* alternation” and the *qui* unexpectedly appearing in all these constructions “special *qui*”.

2.3 Analytical challenges and their justification

2.3.1 Challenges

There are five challenges to meet in connection with the *que/qui* alternation, one fundamental (#3) three more technical (#1, #2 and #5), and a fifth one based on considerations of parsimony.

The two technical challenges are these:

Challenge #1: explain what the morphological change exactly is.

Influential subsequent analyses have either suggested that *qui* is an inflected (agreeing) form of *que* (Rizzi, 1990), or a contracted form *que+i=qui* (by reasonable epenthesis rules, cf. Rooryck, 2000 Taraldsen, 2001, Rizzi and Shlonsky 2007).

Challenge #2: explain why the rule only applies when subjects are extracted.

Some analyses relate this to challenge #3 below, others to questions of locality of movement.

Challenge #3: explain why the rule exists at all: why is subject extraction special.

This is the fundamental challenge, historically related to the *that-t* effect, the Nominative Island Condition (NIC) and the Empty Category Principle (ECP).

Challenge #4: try to explain why the grammar of French coincidentally uses as a special form (*qui*) a form that exists independently (as an interrogative or relative pronoun). The French complementizer system shows sufficient complexity to imagine that a series of historical changes and reanalyses could lead to the current state of affairs so a coincidence is not excluded. But surely, in the absence of evidence, the methodologically sound position is the parsimonious one which assumes this is no accident.

Another facet of this challenge is the counterpart of what precedes and raises the question of why the French complementizer *que* shares some morphology with special *qui*. This challenge is especially sharp given that complementizers routinely draft for their form an element of some other system e.g. the determiner system, as in French, the Romance languages, the Germanic languages etc...

As we said earlier anticipating our conclusions, our contention will be that this is no coincidence because the special form is part of a larger relative paradigm systematically related to their interrogative counterpart, so that special *qui* is in fact a version of the (DP) wh-interrogative word *qui*.³ Ultimately, taking into account the second part of the above challenge, we would argue that the complementizer *que* is itself a relative pronoun, but we will only make scattered remarks to this effect here (see section 5.6).

Challenge #5: Try to explain why Generalization #3 holds in French, and whether this is an isolated phenomenon or not. We will see in section 3.4.3 that this is an integral part of our overall treatment with further discussion in the section 5.5.

³ We will not address the question what the precise internal structure of wh-word such as *qui*, *quoi* etc.. is (i.e. is it a wh-determiner with a silent indefinite in specifier position?), but see the discussion of Rooryck (2000) in Section 5.8.2

2.3.2 The reality of challenge #4: West Flemish

That challenge #4 must be met, that is the idea that this homophony is not accidental is independently strongly suggested by the facts from a variety of West Flemish described in Bennis and Haegeman (1984) and Haegeman (1984). This variety resorts to what looks like the same strategy French does - a resemblance pointed out in Taraldsen (1986) - though in a subset of the French contexts namely relative clauses (and not wh-questions).⁴

In this West Flemish variety, subject relatives can be headed by *die* or *da*.

Da is the declarative complementizer (cognate of English *that* and Dutch *dat*), as well as the neuter relative demonstrative and relative pronoun. *Die* is a demonstrative pronoun also seemingly occurring in the C system in a variety of wh-constructions and typically in DP relative clauses in Dutch or German.

And *-n* is the plural complementizer agreement triggered by plural subjects.

Die(n) is possible only when subjects are relativized, and can appear only in the CP containing the extraction site, like *qui*. As third person complementizer agreement is zero, we will illustrate the relevant behavior with plural antecedents, where possible:

- (10) de studenten (da n ze zeiden) da n/ die n doa geweest een
 the students (that+pl they said) that+pl/die+pl there been are
 ‘The students (that they said) has been there’
- (11) a. den vent **da** Pol getrokken heeft
 The man that Pol photographed
 b. *den vent **die** Pol getrokken heeft
 The man that Pol photographed

Die thus has the same basic distribution as French relative *qui*, though the distribution is also different from French *qui* in that it cannot be used in case of long extraction of a wh-subject

⁴ All West Flemish data discussed in this article are from Liliane Haegeman’s idiolect, to whom we would like to express our gratitude.

in wh-questions, i.e. *die* is incompatible with interrogative wh-elements⁵. In this case, an expletive pronoun is required to enable subject extraction, (note the order C+AGR+EXPL, which is the normal order in expletive constructions, with plural associates, regardless of extraction)

- (12) a. wekken studenten peinzje gie dander da verteld een?
 which students think-2nd you C.PL.expl this told have
 ‘which students do you think have told this
- b. * wekken studenten/hoevee studenten peinzje gie dien da verteld een?
 which students think-2nd you *die*.PL. this told have
 ‘which students do you think have told this

2.3.3 Conclusion

Since Kayne (1976), the basic analysis taking *qui* as a modified complementizer *que* has essentially remained the norm. In this context, the assumption has consistently been that the phenomenon is related to ECP effects, and most of the attention has been devoted to meeting the first two challenges. As we discuss in the section 5.8, no satisfactory solution has emerged, independently raising the question of whether the postulation of such a rule is analytically sound.

Although there has been many substantial discussions of the question of how best to understand and technically formulate the *que/qui* rule, there has surprisingly not been many (any?) discussion of what fundamentally motivates it, namely the detailed argumentation regarding the complementizer system of relative clauses that Kayne 1976 put forth. In what

⁵ In the Nijmegen Dutch of Hilda Koopman (as well as in some East Flemish varieties), such examples are quite acceptable (and best with subjects). Such examples are also well represented on the web as a google search for “wie denk je die” (on the raw data roughly in a ratio of 1:6 (wie denk je dat)).

(i) wie denk je die er in hoofdstuk dood gaat ?
 (ii) wie denk je die dat betalen kan?

follow, we will give this system a second look, with substantially different conclusions from those reached in Kayne 1976, and consequences for the analysis of special *qui*.

3 Special *qui* as a wh-word

We start from challenge #4: it is particularly striking that special *qui* is homophonous with an existing wh-word form, namely the wh-word *qui*. This furthermore is not an isolated instance: as we saw, the same coincidence is found in a variety of Flemish.

One unsurprising way to guarantee that the form *qui* appears is to assume *qui* is a wh-word. There is an immediate advantage to assuming that, at least in simple cases, but as we will see later in all cases, this special *qui* is a wh subject *qui*. This will guarantee that it will only occur when the subject is extracted. In particular, this means that there is not need to tailor the rule so that nothing else can trigger its presence (e.g. wh- moved direct objects), nor do we need to worry about cases in which the subject position is vacated, but not by wh-movement, as e.g. in cases of Stylistic Inversion:

- (13) a. L'homme que tu crois que/*qui tu as vu
 The man that you think que/*qui you saw
 b. Le livre que tu crois que /*qui veut Pierre
 The book that you think que/*qui Peter wants

In what follows, this is exactly what we will suggest. In order to do this, we will give up several aspects of Kayne's analysis.

3.1 The basic wh-paradigm

Kayne's analysis takes as starting point the distribution of relative pronouns, under the reasonable assumption that their paradigm and distribution is identical to that of interrogative pronouns, *mutatis mutandis*.

Let us therefore begin by presenting the set of French interrogative and relative DP pronouns (i.e. wh-forms which “replace” DPs) and the constructions in which its various members can occur (we ignore agreement differences on the *lequel* forms):⁶

(14)		Qui	Que	Quoi	Lequel
	<i>Closest equivalent</i>	<i>Who</i>	<i>What</i>	<i>What</i>	<i>Which</i>
	Questions	✓	✓	✓	✓
	In situ questions	✓	*	✓	✓
	Headless Relatives	✓	?	✓	*
	Other Relatives	✓	?	✓	✓

Call these wh-expressions bare when they occur without any pied piped material.

Further, let us distinguish between the complex ones: *lequel* (*laquelle*, *lesquels*, *lesquelles*) which are clearly multimorphemic from the simple ones: *qui*, *que*, *quoi* which, although surely morphologically complex – see section 5.8.2 - look morphologically less complex. All the simple relative pronouns seem to occur in DP positions (e.g. in situ) except for *que*. All the complex relative pronouns behave like DPs and are clearly composed of at least a definite article *le*, a wh morpheme *qu* and a final morpheme (??) the last two elements composing *quel*, with the first and last morpheme agreeing in number and gender with their antecedent.

Here, in a nutshell, are the descriptive generalizations regarding the distribution of bare relative pronouns in the C system (that is excluding pied piping). They are justified in section 5.1:

⁶ We also set aside for now *quel* which can never appear as a relative pronoun (it looks to be of the wrong category).

(15)

a. In tensed restrictive relatives:Complex pronouns and *quoi* cannot occur bare.

Of the other simple pronouns:

- The status of *que* is unclear (it could be a relative pronoun, as analyzed in traditional grammars or a complementizer as analyzed by Kayne).
- *Qui* never occurs as direct object, and a *qui* form appear in subject relativization (which is analyzed as the complementizer in Kayne, and which we will analyze as a wh form).

b. In tenseless restrictive relatives: All bare forms are excluded.

c. Appositive relatives function like their restrictive counterparts with one difference which is perhaps marked (it feels somewhat literary): complex wh-phrases can occur by themselves, perhaps more readily for subjects than for direct objects, and they can be followed by an overt noun (as in e.g. *le cousin du marin, lequel (marin) venait de Bretagne, ..*). We will only discuss appositive relatives in section 5.7.

d. In headless relatives: (which can only be tensed and restrictive) all bare simple bare wh-forms elements are allowed except *quoi*. All complex bare wh-forms are excluded.

3.2 An alternative Conclusion from the Underlying Reasoning

3.2.1 The DP-Comp-Filter

Recall Kayne's reasoning regarding short relativization of a subject:

- (16) a. L'homme qui viendra
The man who will come
- b. La table qui est cassée
The table which is broken

No (such) DP as *qui* is allowed in the C system of a French restrictive relative: this is descriptive generalization 3 mentioned earlier and stated in (15a,b) and construed in Kayne (1976) as prohibiting DPs in the C system of restrictive relatives. Let us state it as the following descriptive filter which we will call the R(elative) C(omplementizer system) Filter or RC Filter:⁷

(17) RC Filter version 1:

In the Comp of headed restrictive relatives: *[_{CP} DP [_C X [_{TP} ... unless DP is silent

Accordingly, “relative *qui*” appearing in (16) is not a wh-element, a conclusion corroborated by the impossibility of *lequel/laquelle* in (7). Since tensed clauses generally require the tensed complementizer *que* (generalization 5), this *qui* is in fact the complementizer *que* assuming an exceptional form.

An immediate consequence of this analysis is that object relatives also lack a visible wh-DP in their Comp. The visible element, relative *que*, would thus in fact be the tensed complementizer *que*:

- (18)a. L’homme que tu verras
The man that you will see
- b. La table que tu achèteras
The table that you will buy

RC Filter v.1 and these conclusions seem warranted given that:

- (19)a. Subject relative *qui* is not restricted to [+animate]⁸ referents or antecedents, unlike interrogative *qui*. Similarly, relative *que* is not restricted to [-inanimate], unlike interrogative *que*.
- b. DPs larger than a bare wh-phrase are not allowed in Comp

⁷ Ultimately, we will try to get rid of such a filter. In the meantime, how to formulate exactly would of course depend on the precise nature of the Comp system and the type of analysis adopted for relative clauses (e.g. promotion analysis à la Vergnaud, 1974 or à la Kayne 1994, or the various matching analyses found in the literature).

⁸ Throughout, we will talk about animacy and +/- animate, although the right distinction may in fact be +/-human.

We return to point (19a) in section 3.3.2. For now, let us note that *prima facie*, it is clear that the analysis of subject relative *qui* and object relative *que* as complementizers immediately explains why they are not subject to animacy or humanness restrictions.

Let us now turn to point (19b).

3.2.2 The status of Large DPs

Point (19b) supports the existence of a general prohibition against DPs in Comp in relatives. This point is illustrated by such examples as below, which exhibit some degree of deviance:

- (20) a. L'homme [le frère duquel] j'ai rencontré hier
The man the brother of whom I met yesterday
- b. La fille [la plus jeune sœur de qui] refuse de venir
The girl the youngest sister of whom refuses to come

Two additional considerations weaken the relevance of this last observation.⁹

First, there is an unmistakable gradation in judgments: the prohibition against DPs in Comp seems absolute for simple wh-phrases of either paradigm (*lequel*, or object *qui*) (recall that we are talking about restrictive relatives), but only degraded for larger DPs. The examples in (20) in which a relative pronoun is part of a larger DP pied piped under wh-movement contrast with examples with bare wh-phrases, the former feeling less deviant, in fact “more heavy than they are deviant”:

- (21) a. *L'homme lequel/qui j'ai rencontré hier
The man which/who I met yesterday
- b. *La fille laquelle refuse de venir
The girl which refuses to come

Secondly, it seems true, as Kayne remarks¹⁰, that:

⁹ The status of heavy DP cases has been questioned before, cf. e.g. Pesetsky (1998), p.343 fn 7 for French (citing Michal Starke, p.c.). See also Pesetsky's reference to Cinque, 1981 for Italian, whose system we will not discuss but which looks very much like the French system.

(i) comparable questions as below also feel somewhat deviant (“heavy”):

- (22) a. ? (On se demande) le frère de qui tu as rencontré hier ?
We wonder the brother of whom you met yesterday
- b. ? (On se demande) la plus jeune sœur de laquelle refuse de venir?
We wonder the youngest sister of whom refuses to come

(ii) that the relatives are if anything, worse than the questions.

This makes the relative judgment comparing examples (20) and examples (21) surprising: unlike bare wh-phrases, heavy DPs pied piped in Comp are already somewhat deviant in interrogatives; in relatives, in which DPs in Comp are supposed to be independently excluded, one would expect heavy DPs pied piped in Comp to be perhaps worse but certainly not better than bare wh-phrases. The reverse pattern is actually observed: examples in (21) are comparatively worse than those in (20). This suggests that the deviance of examples in (20) is not due to the prohibition excluding the examples in (21).

The better status of the examples as (20) is especially striking given the existence of straightforward well formed alternatives to relativize these particular (genitive) wh-targets:¹¹

- (23) a. L’homme dont j’ai rencontré le frère hier
The man of whom I met the brother yesterday
- b. La fille dont la plus jeune sœur refuse de venir.
The girl of whom the youngest sister refuses to come

Given the existence of such alternative forms, one could not resort to an explanation for the better status of the heavy DPs cases resting on them being the best available structure.

¹⁰ See Kayne (op.cit., p. 293 fn9). Note we do not share some of the judgments reported there : we find main clause and embedded clause interrogatives equally deviant with heavy wh DPs, and equally fine with PPs.

¹¹ For speakers who have it, the availability of this alternative might actually be the source of the judgment difference between questions and relatives. Note also that the existence of this alternative makes it unlikely that the relative acceptability of examples in (20) are due to optimality theoretic considerations.

The same pattern seems to us duplicated in the case of infinitival relatives: simple wh-phrases are absolutely excluded but larger DPs have a different status. Taking (24a) as benchmark, we use the notation \uparrow to indicate a better status:

- (24) a. * Il nous faut trouver un homme affable le quel/qui inviter¹²
 We need to find an affable man the.which/who to invite
- b. \uparrow Il nous faut trouver un homme puissant la soeur du quel/de qui épouser
 We need to find a powerful man the sister of the.which/who to marry

From a comparative perspective, the different behavior of bare wh-words and larger pied piped DPs is unsurprising: it is found in infinitival relatives in English. While (bare subject or) object wh-phrases are totally excluded (more so for subjects than for objects – possibly for case reasons), complex DPs involving pied piping get intermediate – perhaps variable (cf. Pesetsky, 1998, p.352 fn. 17) - status (cf. e.g., Mc Cawley, 1988):

- (25) a. A man (*who) to fix the sink
 b. A man (*who) to invite
 c. %An author whose book to read

We conclude that the filter excluding DPs in Comp does not apply to heavy DPs.¹³

Taking a conservative position, from the perspective of Kayne's proposal, this means not all DPs in Comp of relatives are alike and that we should minimally amend Filter (17), restricting its application to bare wh-DPs. Let us for now do this by requiring that the feature [+wh] be a property of the highest DP in Comp (noting that this formulation is here for expository

¹² There are even a further subtle contrasts: for direct objects, *lequel* is much preferable to *qui*. This may be due to the possibility of taking the *lequel* form as marginally able to introduce a non restrictive infinitive. This would suggest that in non restrictive infinitives, there is a systematic difference between simple and complex bare forms (which we will suggest below is the right distinction to draw). For subjects of infinitival relatives, everything is, as expected, strongly excluded.

¹³ Finally, other kinds of DP looking phrases occur freely in the comp of relatives: (a) *Le fleuve le long duquel il s'est promené/The river along which he strolled* (from Kayne, 1976), (b) *Le lundi la veille duquel il a plu/The Monday the day before which it rained*. It is conceivable that such locative adverbial DPs as in (a) are in fact complement of a silent Ps (as Kayne suggests) and can be pronominalized as *y* like locative PPs, although perhaps less plausible for temporal DPs as in (b) which consistently surface as bare DPs and can't be so pronominalized. The alternative is to assume that these are "place in space or time" denoting DPs.

purposes. Strictly speaking, this specification is not likely to do: the wh-property in complex bare wh-elements is embedded (it is a property of *quel*): pied piping is involved there too):

(26) RC Filter version 2:

In the Comp of headed restrictive relatives: *_{[CP DP_[-wh] [C' X [TP, unless DP is silent}

This filter singles out the morphologically simplest relative pronouns, as the only forms not escaping the filter.¹⁴

3.3 The proposal

3.3.1 The French Pronominal System

Assuming the descriptive filter in (26), we now return to point (19a), which we take as fundamental: although wh-looking forms are observed in the Comp of relatives, they do not show sensitivity to the +/- animate distinction that corresponding interrogatives do. Seen from the perspective of this paradigm comparison, this is surprising.

However, from a crosslinguistic perspective, such a comparison is not an obvious starting point. While in the Romance languages or in English, relative pronouns and interrogative pronouns are by and large superficially identical, other Germanic languages suggests a more complex approach. For example, Dutch is representative: relative pronouns sometimes resemble interrogative pronouns, sometimes resemble determiners; Hebrew uses regular pronouns as relative pronouns, not interrogative pronouns.

Both considerations suggests that another kind of paradigm comparison should be made in French, basing our choice on where else in the grammar of French we find cases of paradigmatic variation depending sometimes on a +/- animate distinction, sometimes not. The regular pronominal system of French immediately suggests itself as we now discuss.

¹⁴ As we will see later, there are robust crosslinguistic reasons supporting this dichotomy. There are also reasons internal to French (headless relatives vs. other relatives, and non restrictive infinitives – see fn 12, and see section section 5.5).

Simplifying somewhat (for a fuller discussion of the relevant issues, see Cardinaletti and Starke, 1999), this system is organized along (at least) three dimensions: Case/[+/-animate] and the strong/weak distinction. This is illustrated in the following table:

Bare Forms	Pronouns							
Case			<i>Nom</i>	<i>Acc</i>	<i>Dat</i>	<i>Gen</i>	<i>Loc</i>	<i>Elative</i> ¹⁵
Strong	+animate		<i>lui</i>	<i>lui</i>	(à) <i>lui</i>	(<i>de</i>) <i>lui</i>	<i>X</i>	<i>X</i>
Strong	-animate		<i>ça</i>	<i>ça</i>	(à) <i>ça</i>	(<i>de</i>) <i>ça</i>	<i>là</i>	<i>de là</i>
Weak	+/- animate		<i>il</i>	<i>le</i>	<i>lui</i>	<i>en</i>	<i>y</i>	<i>en</i>

From the point of view of this article, the relevant observations are the following: the morphologically simplest forms, which (not coincidentally) are the weak forms, show two kinds of neutralization. They systematically fail to exhibit a +/- animate distinction, and they show some case neutralization (Genitive = DP complements of *de/of* and Elative = Place complements of *de/from*).

We would like to propose that what is observed with **relative pronouns** is the same regularity, thus making the observation about *qui* much less surprising, with a twist: The twist is that the simple bare wh-forms are almost systematically ambiguous between a strong form and a weak form (the only exception may be *que* which may be only weak). Thus *qui* for example can be either.

Secondly, the weak paradigm shows neutralization both in animacy and Case (as traditional grammars have it): the strong nominative forms *qui* [+animate] and *quoi* [-animate] (or unmarked) neutralize to *qui*, and the strong accusative forms *qui* and *quoi* neutralize to *que*. This yields the following table, whose structure for relative pronouns we will progressively justify:

¹⁵ For expository purposes, we are borrowing the name of the Case given in the literature on Finnish to roughly what in English would be PPs headed by *from*..

Bare Forms	Pronouns						
Case		Nom	Acc	Dat	Gen	Elative	Locative
Strong	+animate	<i>lui</i>	<i>lui</i>	<i>(à) lui</i>	<i>(de) lui</i>	<i>X</i>	<i>X</i>
Strong	-animate	<i>ça</i>	<i>ça</i>	<i>(à) ça</i>	<i>(de) ça</i>	<i>de là</i>	<i>là</i>
Weak	+/- animate	<i>il</i>	<i>le</i>	<i>lui</i>	<i>en</i>	<i>en</i>	<i>y</i>
Bare Forms	Relative Pronouns						
Strong	+animate	<i>lequel qui</i>	<i>lequel qui</i>	<i>auquel à qui</i>	<i>duquel de qui</i>	<i>X</i>	<i>X</i>
Strong	-animate	<i>lequel quoi</i>	<i>lequel quoi</i>	<i>auquel à quoi</i>	<i>duquel dequoi</i>	<i>d'où</i>	<i>où</i>
Weak	+/- animate	<i>qui</i>	<i>?quoi que¹⁶</i>	<i>X</i>	<i>dont</i>	<i>dont</i>	<i>où</i>

Assuming the table to be correct, let us first note the neutralizations mirroring what happens in the pronoun system:

in the Nominative: *lequel, qui, quoi* → *qui*

in the Accusative : *lequel, qui, quoi* → *que*

and in the Genitive and Elative: *de qui, duquel, d'où* → *dont*

Let us now turn to the justification for what goes where in this table on relative pronouns (the case of pronouns is uncontroversial). Let us start from the generalizations stated by Cardinaletti and Starke (1999), which, as we will see almost all hold, once the paradigm of relative pronouns is structured as we claim it is. Cardinaletti and Starke distinguish between Strong and Deficient (i.e. weak) forms in terms of what they call “Monadic Properties”:

¹⁶ The text assumes that *que* can be a weak relative pronoun, the counterpart of weak interrogative *que* (see section 5.2). An alternative is to consider that this form is silent and that this relative *que* is a complementizer. See Section 5.6 for discussion.

(27) a. only deficient pronouns must occur at S-structure in a special derived position (syntax)

→ cannot occur in base position, dislocation, cleft, etc.

b. only deficient pronouns cannot be coordinated and c-modified (syntax)

c. only deficient pronouns may prosodically restructure (prosody)

→ liaison, reduction processes, prosodic domains

d. only strong pronouns bear their own range-restriction (semantics)

→ prominent discourse-antecedents (ostension, contrastive focus), expletives, impersonals, non-referential datives, reference to animate entities only

Qui forms can appear in situ - in interrogatives (*tu as vu qui*) - or with pied piped material in relatives (e.g. *avec qui*, *avec quoi*). In such cases, they are always interpreted as [+animate]. The same can be said of *où* (*tu vas où*, *l'endroit d'où tu viens*) with the difference that there is no +/-animate distinction for locatives, just as in the pronoun system.

Certain forms (namely *qui*, and perhaps *quoi*) are ambiguous between strong forms and unmarked weak forms. *Qui* occurs in specialized position namely in the Comp of relatives where (by the RC filter) normal +wh DPs cannot occur and is in such cases unmarked for [+/-animate] means: it can also be weak.

Tellier (1991) in a way paralleling the postulation of the *que/qui* rule, takes *dont* to be an agreeing complementizer.¹⁷ This has several advantages. First it bypasses the problem of the categorial status of *dont*, which, Kayne (1976) must assume is always a PP rather than a DP, in order to prevent its exclusion by the RC filter – not an obvious conclusion. This explains the fact that it is neutral for the animate feature, and also, albeit partially, explains why it has no in situ counterpart (as weak forms do not appear in situ). Finally it explains why, as Kayne (1976) notes, it cannot be conjoined with clearly phrasal relative wh-phrases as this would involve a category mismatch:

(28) a. l'homme de qui et avec qui Jean parle
The man of whom and with whom John speaks

b. *l'homme dont et avec qui Jean parle

¹⁷ This has several advantages: it bypasses the problem of the categorial status of *dont*, in our view most plausibly thus explaining why it does not occur in situ, why it cannot be conjoined with clearly phrasal relative wh-phrases.

The man *dont* and with whom John speaks

- c. *l'homme avec qui et dont Jean parle
The man with whom and *dont* John speaks

However conjoining *dont* with *où* markedly improves:

- (29) L'endroit où et dont il parle
The place where and *dont* he speaks

This suggests that *dont* and *où* should be categorially similar.¹⁸ The obvious path is to take *dont* to be a weak form as in the table above (since it cannot occur in situ), and to take *où* to be a weak form too. However, *où* can be strong (it may occur in situ etc.). We thus propose that *dont* forms are in fact Genitive or Elative weak forms, and *où* is ambiguous between a strong form and a weak form. Example (29) would involve conjoining the Elative *dont* and Locative *où*.

It is worth noting that such conjunction facts contradict (27b). But the facts in this respect are not as clear cut as is Cardinaletti and Starke suggested. As Sportiche (1996) notes, while conjunction of proclitic pronoun is deviant, disjunction is fine:

- (30)a. * Tu le et la verras
You him and her will see

b. ok Tu le ou la verras
You him or her will see

Still the difference between (29) and (30a) needs to be accounted for. The answer we believe is to be found in the degree of deficiency that these forms exhibit. Cardinaletti and Starke (1999) distinguish two degrees of deficiency, the most deficient forms being (super weak) clitic forms, the intermediate case simply weak forms. In French, weak wh-forms, unlike weak pronouns, are not clitics, as shown by the possibility of inserting intervening adjunct material (we will see below that *où* in such structures is unambiguously weak):

- (31)a. Le candidat qui, a mon avis, devrait gagner

¹⁸ Also potentially problematic is the impossibility of *dont* appearing, much like special *qui*, in intermediate Comp positions (viz. *l'endroit dont/que je pense dont il vient/ the place that/ 'dont' I think dont he comes).

(33)

Pronouns										
Case		Nom	Acc	Dat	Gen	Loc	Elative	Temp	Manner	Cause Reason
Strong	+animate	lui	lui	(à) lui	(de) lui	X	X	X	X	X
Strong	-animate	ça	ça	(à) ça	(de) ça	là	de là	X	X	X
Weak	+/- animate	il	le	lui	en	y	en	X	X	X
Tensed Restrictive Relative Pronouns										
Strong	+animate	<i>lequel qui</i>	<i>lequel qui</i>	auquel à qui	duquel de qui	X	X	X	X	X
Strong	-animate	<i>lequel quoi</i>	<i>lequel quoi</i>	auquel à quoi	duquel de quoi	où	d'où	<i>quand</i>	<i>comment</i>	<i>pourquoi</i>
Weak	+/- animate	qui	que	X	dont	où	dont	où	dont	[e]?
C		*	*	*	*	*	*	*	#que	#que
Tenseless Restrictive Relative Pronouns										
Strong	+animate	<i>lequel qui</i>	<i>lequel qui</i>	auquel à qui	duquel de qui	X	X	X	X	X
Strong	-animate	<i>lequel quoi</i>	<i>lequel quoi</i>	auquel à quoi	duquel de quoi	où	d'où	<i>quand</i>	<i>comment</i>	<i>pourquoi</i>
Weak	+/- animate	<i>qui</i>	<i>que</i>	X	?dont	où	?dont	?où	?dont	[e]?
C		à	à	*	*	*	*	de	de	de

We thus witness, for tensed restrictive relatives, further neutralization typically found with weak forms, e.g. between strong locative *où* (*where*) and strong temporal *quand* (*when*) as weak *où* (viz. *le moment où/*quand il est parti/ the moment where/when he left*) not an entirely unexpected outcome if we suppose, as is plausible, that temporals are locations in time). Similarly, there is further neutralization with weak manner adjuncts relative pronoun realized as *dont* (viz. *la manière dont /*comment/*comme/#que il a fait ça the way dont/how/that he did this*). Note that the weak *dont* form with manner adjuncts is a somewhat higher register, with a silent weak form possible for some, triggering (as per Kayne's generalization # 5) the presence of the tensed C *que*. The same is true of Causal adjuncts (*pourquoi*): the strong form is excluded, there is no non silent weak form (and a silent weak form is possible for some speakers yielding the presence of the complementizer *que*). For tenseless restrictive relatives, as previously mentioned (see (15) and also section 5.1 for further discussion), all wh-DP forms (*lequel, quoi, qui, que*) whether weak or strong are excluded. As for the other bare forms, only locative *où* seems clearly allowed. There

obviously is a further dependency between the Comp system and the feature value of the head coding finiteness (Rizzi's 1997 Finiteness head). We have no insight to offer here.

- (34) un endroit où aller
a place where to go

All the other wh-forms appear to be marginal at best, hence the ? sign and excluded with manner adjuncts.²⁰ This suggests for tenseless relatives

- (i) that all strong DP forms are excluded
- (ii) that all weak forms are also excluded and that the observable *où* form is a strong PP form
- (iii) that the particle *de* is the default non finite counterpart of tensed *que* (w.r.t. to Kayne's generalization #5) appearing with adjuncts.²¹

3.4 Meeting the analytical challenges

3.4.1 The form of the rule

Challenges #1 (explain what the morphological change exactly is) and Challenge #2 (explain why the rule only applies when subjects are extracted) and Challenge #4 (i. why special *qui* looks like a wh-word; ii. why complementizer *que* shares some morphology with wh-elements) now have a different status.

Regarding short extraction, challenge #2 does not arise: "special" forms, i.e. weak forms, are used throughout. It remains to discuss the case of long subject extraction which we will address in section 4 and in Koopman and Sportiche (2008).

Challenge #1 does arise, albeit in a different form: what can we say about the morphological relation between weak forms and strong forms. Here there are crosslinguistic regularities, which Cardinaletti and Starke (1999) express as one of their Relational Properties (and derive from their theory of deficiency):

²⁰ *Dont* is sometimes given as tolerable in such cases. Further subtle difference do exist, perhaps dependent on the grammatical function represented: using contrastive jugements, Elatives (*un endroit dont s'éloigner rapidement*), are better than certain genitives (e.g. ?**des fleurs dont acheter plusieurs*) or manner adjuncts (**la manière dont résoudre ce problème*). The data remain murky.

(35) Deficient pronouns are reduced w.r.t. strong ones, if a difference obtains (morphology):
 where possible, deficient pronoun are preferred over strong ones

Although this appear true crosslinguistically, whether this is observed in the pronominal system of French is unclear since there is a lot of suppletion, and this sets a standard. Suppletion is also found in the relative pronoun system. Nevertheless, it appears true to a certain extent: when we can tell, weak forms are systematically morphologically simpler than their strong counterpart and transparently morphologically related: *lequel/qui/quoi* → *qui*, *lequel/qui/quoi* → *que* (a form, recall, that can independently be characterized as a weak interrogative pronoun).

Finally the first part of challenge #4 still arises but in a different way. Special *qui* is now analyzed as a member of a weak paradigm systematically related to strong wh-words; the formal coincidence is thus unsurprising. Still the question arises as to how exactly to characterize these weak forms. They could be bona fide albeit weak, relative pronouns or inflected Cs. The general issue here is whether such forms, or in the pronoun domain, weak clitic forms, are heads intervening in the spine i.e. along the main projection line, or XPs specifiers of such heads. For clitics, this issue is discussed in Sportiche (1996) with conclusions not uniform across clitics. For weak forms, the tentative conclusion we will reach is that these are XPs.²²

Note also the second part of challenge #4: why does the complementizer appear to have wh morphology *qu-*. Under previous analyses, the tensed complementizer *que* was identical in form to an inanimate interrogative pronoun, suggesting that a function identification was unpromising. It is now also identical to the weak accusative relative pronoun and it becomes extremely tempting to take it to be this “neutral” weak complement relative pronoun, that is to take subordinate clauses to be, quite generally, species of relative clauses. Although we will not pursue this idea here (but see Kayne 2007 who develops the same idea for English *that*), it

²¹ See Kayne (1976) for discussion of the appearance of the particle *à* with subjects and objects relativization. While Kayne suggests that this is the non finite counterpart of the *que/qui* rule, the fact that it occurs with what appear with subject relativization from a Caseless position raises additional analytical problems.

²² Thus agreeing with the way Munaro and Pollock (2005) treat weak interrogative forms. Here, Taraldsen’s 2001 arguments against Rizzi’s proposal treating *qui* as an agreeing complementizer suggests that the weak

is worthwhile noting that it makes immediate sense of the crosslinguistic similarity found in a variety of languages between the form of the tensed complementizer and weak relative pronouns (which will become apparent for Dutch below, and would extend to the West Flemish discussed in section 2.3.2, as well as to e.g. German *dass*, and, if Kayne (op.cit.) is right, English *that*).

3.4.2 Subject Extraction

Challenge #3 asks why the *que/qui* rule exists at all. Given the assumption that the rule only applies in case of subject extraction, the answers have assumed that it is related to the observation that subject extraction is special, that is to the *that-t* effect, the Nominative Island Condition (NIC) and the Empty Category Principle (ECP).

In the cases we have discussed – namely short extraction – we have not witnessed subject/object asymmetries indicative of ECP like effects. Although subject extractions are special, it seems to us that in short extraction contexts, nothing special need be said.²³ We can establish this by looking at simple one clause subject questions

- (36) a. (On se demande) qui est parti
(We wonder) who left
- b. (On se demande) quel étudiant connaît la réponse
We wonder which student knew the answer

Given the discussion in the previous section, we can minimally conclude that, whatever constraints there are concerning short distance wh-extraction, they can be resolved for example by moving from some TP internal position to the C system leaving the wh-phrase there (or perhaps by invoking TP pied piping if the problem discussed around (116) about why pied piping cannot be applied recursively can be solved.^{24,25}

wh-forms of the text are not inflected C's, but rather reduced XPs occurring as specifiers of heads in the left periphery spine (see section 5.8.3). See also section 5.8.2.

²³ As we see in section 5.8, this is precisely why alternative accounts have problems since they predict that something special should occur which is not observed.

²⁴ This does not exclude that something special occurs, e.g. a special form of Fin as in Rizzi and Shlonsky's 2007 proposal. But if it can be silent here, we suppose, in the absence of any reason otherwise, that it can be elsewhere too.

²⁵ One way to go this way is to argue that successive steps of successive cyclic movement must in some instances move ever larger (remnant) constituents. This would have the effect of allowing pied piping once but

(37) [CP [Que] étudiant]-j ... [TP ..t-j...]

Returning to relative clauses, suppose now that the *qui* appearing in (16) is the familiar although weak version of the wh-word *qui*. Then no particular ECP-like problem arises.

We will return to the cases of long subject extraction in section 4 (and also in Koopman and Sportiche (2008)).

3.4.3 Origin of the RC Filter

One mysterious aspect of Kayne's 1976 analysis is the existence of generalization 3, analytically coded as the RC filter which we have revised to the following form:

(38) RC Filter version 2:

In the Comp of headed restrictive relatives: *[CP DP_[-wh] [C' X [TP, unless DP is silent

Challenge #5 asks why generalization #3 or this filter holds in French, and whether this is an isolated phenomenon or not. From the point of view of our analysis, this generalization is a subpart of a much broader generalization formulated as follows by Cardinaletti and Starke (1999):

(39) Where possible, deficient pronoun are preferred over strong ones

Thus, the same generalization excludes the first member of each pair below because of the existence of the second:

(40) a. * L'homme qui tu as vu
The man who you saw

b. L'homme que tu as vu
The man that you saw

not on a second step. This would remove one counterargument to Taraldsen's 2001 or Rizzi and Shlonsky's 2007 approach.

- (41) a. * Jean regarde *elle /ok ELLE (with special prosody)
 John looks at her
- b. Jean la regarde
 John her looks at

Naturally, the questions arises as to how apparent cases of competition should be theoretically treated. Proposals in terms of Economy of representation immediately come to mind and we refer to Cardinaletti and Starke's discussion, which postulates a general principle of Economy stated as **Minimize (structure up to crash)** in the context of their treatment of deficiency. Section 5.5 will discusses a particular aspect of such an Economy approach as regards French relative pronouns.

Regardless of how such competition effects are handled, it is clear that the apparent idiosyncratic character of the RC filter is reduced to a known pattern, applying much more broadly.

3.5 Cross linguistic support and extensions

Does the idea that the wh-paradigm should be so extended as to include at least strong and weak forms as we argue find support elsewhere. We believe the answer is positive. First it finds support in the realm of interrogative pronouns paradigms as is well known for French (weak inanimate interrogative *que*) and is further documented in French (see Munaro and Pollock, 2005) and in Italian (see Poletto and Pollock, 2004) as we see below. But it is also justified for relative pronoun paradigms outside of the Romance family as we see below for Dutch. Finally, Torrence's 2005 work on Wolof, which we do not discuss here, seems directly relevant, as it appears to document what in the present terms would be a systematic strong/weak distinction in the wh-paradigm, an unsurprising occurrence given the rich pronominal clitic system Wolof possesses.

3.5.1 French

We have not discussed interrogative pronoun in any detail, and in particular the question whether they display both a strong and a weak paradigm. We believe the answer is positive – although the interrogative paradigm does not display the same kind of neutralization found in relatives.

One striking reason suggesting the existence of weak elements is the existence of one construction showing that the bare simple wh-pronoun *qui* syntactically behave differently from bare complex wh-phrase and non bare complex wh-phrases as shown below (these sentences should not be read as containing an extraposed clause):

- (42) a. qui est ce qui est venu / qu'est ce qui est tombé
 who is it that came / what is it that fell
- b. *lequel est ce qui est venu
 which is it that came
- c. *quel homme est ce qui est venu
 which man is it that came
- d. *combien d'hommes est ce qui sont venus
 how many men is it that came

A comparison with object extraction is informative:

- (43) a. qu'est ce que tu as vu
 what is it that you saw
- b. lequel est ce que tu as vu
 which is it that you saw
- c. quel homme est ce que tu as vu
 which man is it that you saw
- d. combien d'hommes est ce que tu as vu
 how many men is it that you saw

These facts, noted in Obenauer (1984) do not seem amenable to simple featural differences between wh-phrases or forms. They require postulating different syntax for them (see Munaro and Pollock, 2005 for an analytic proposal). We further discuss the French interrogative paradigm in section 5.3

3.5.2 Northern Italian

In a discussion of interrogatives in Northern Italian dialects, Poletto and Pollock (2004), discuss sentences such as:

- (44) a. Ndo *e-lo* is-he *ndat* endoe?
 where is-he gone where
 ‘Where has he gone?’
- b. *Ci alo visto ci?*
 whom has-he seen whom
 ‘Who has he seen?’

As the gloss suggests, two wh-elements occur, the first one clitic like, the second apparently in situ. The details of their analysis is not directly relevant here (they argue that the in situ wh-phrase is in fact preposed with the rest of the clause remnant moved around it). The important point they make from our point of view is the existence of systematic doubling of the final and strong wh-forms with weak (in fact clitic) wh-forms occurring in designated position (in the C system) – a phenomenon they explicitly relate to clitic doubling. They thus document directly the existence of a weak (in fact superweak = clitic, if they are right) paradigm of wh-forms.

They also explicitly relate this finding regarding weak forms to the behavior of French interrogative *que* as we have done.²⁶

One of Cardinaletti and Starke’s (1999) point is that deficient paradigms are not limited to standard pronouns. They for example discuss deficiency in adverbs. A priori however, it is not entirely clear in what domain languages will exhibit deficient paradigms.

Given the existence of such a full paradigm of weak forms in interrogatives as has been found in Northern Italian dialects, it is becomes even more unsurprising to find them in relatives.

3.5.3 Dutch

More directly informative are the paradigms found in standard Dutch. Dutch has two paradigms of elements found in the C system of relatives, the D-paradigm and the W-paradigm.

- (45) a. die [*elsewhere case*: animate, inanimate, singular/ plural, nom, acc];

²⁶ Poletto and Pollock, (2004) as well as Munaro and Pollock (2005) propose much more precise analytical assumptions regarding the fine structure of the left periphery, and in particular questions directly bearing on the topics mentioned in footnote 22 and the text it comments on.

dat [neuter,sg, -oblique];

- b. wie [animate, +oblique], waar [+oblique], (*wat* [inanimate (nom, acc)]²⁷)

The D-paradigm doubles as the (distal) demonstrative paradigm, the W-paradigm as the interrogative paradigm (with one w-form ‘*wat/what*’ also belonging to the indefinite paradigm: *wat* ‘something’). The existence of a double paradigm for Dutch relative clauses recalls the double paradigm we have introduced in relatives which show some morphological differences (and to a lesser extent that which Pollock and Poletto introduce for interrogatives).

The similarity between the French and the Dutch system goes deeper:

In wh-questions, only the W paradigm can be used. In tensed relative clauses, the W-paradigm must be used if the wh-phrase is embedded in a larger constituent in the C system or an oblique.²⁸ In all other cases, unembedded wh-DPs in the C-system, D-forms must be used and they cannot be used in any other case:

²⁷ With PPs the oblique w-form ‘*waar*’ can also be used, neutralized for animacy, which is impossible in interrogatives:

- (i) The man waarmee ik gedanst heb/ the man waar/*daar ik mee gedanst hebt
The man where-with I danced have/ the man where I with danced have
The man who I dances with

²⁸ Note that the w-form *wat* ‘what’ can occur in restrictive relatives headed by the universal *alles* (all), as well as *iets* (something), *niets* (nothing) or superlatives with a silent restriction (ii) .

- (i) alles **wat**?/dat ik gedaan heb
all what/that I done have
(ii) a. Het enigste **wat**/dat je moet doen
The only-ste what you must do
b. Het enigste ding **dat**?/**wat* je moet doen
The only-est thing that/*what you must do

These environments do not accept the animate w-form *wie*- ‘who’:

- (iii) allen/iedereen die/**wie* ik gezien heb
all/ everyone that I seen have
(iv) De enigste die/**wie* je moet bezoeken
The only-est that you must visit

We have no insight to offer here about why these forms tolerate strong W-forms (although it seems clearly related to what happens in headless relatives which have definite or universal quantificational force).

It is worth noting however that a somewhat parallel situation is found in French: while bare weak forms are systematically preferred in relatives as we saw, in case the relative clause is headed by a bare universal, the weak form must be supplemented by *ce* (which we suggest in section 5.3 supplements a weak form with quantificational force):

- (i) L’homme (*ce) qui plaît / rien (*ce) qui plaît / tout *(ce) qui plaît à Marie
the man who appeals, nothing that appeals / all that appeals to Mary
(ii) L’homme que tu connais/ rien que tu connais/ tout *(ce) que tu connaît
The man that you know, nothing that you know, all that you know.

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Like their French counterpart, D-forms in relatives could be analyzed either as some form of weak relative pronouns or as a form of the complementizer *dat*, agreeing with a silent relative DP operator. Either would account for the absence of D-forms in complex DPs. If the latter, the account follows if agreement is, plausibly, restricted to structurally case marked nominals, and thus excluded for obliques or complex DPs. Importantly though, these agreeing forms are not restricted to subjects, but equally possible with subjects and objects (thus posing a problem for a straight extension of Rizzi 1990's proposal discussed in section 5.8.1).

3.5.4 English, briefly

Finally, let us briefly discuss English.

In tensed restrictive relatives, English shows no prohibition against any wh-phrase or word except for *what*.³⁰ Thus, with the exception of *what*, the interrogative wh-words can all be used in relatives (*which, who, when, how, why, where*). Given that these wh-words clearly can all be strong in the sense of the text, there could be two reasons for this.

First this could be due to the absence of a weak paradigm.

Second it could be because these words are systematically ambiguous between a strong form and a weak form.

It is difficult to decide between the two and we will not attempt to do this here. Some data suggest that the second option may be the correct one. These data are cases in which a “single word” wh-phrase syntactically behaves differently from a complex wh-phrase: the distribution of anti D-linking material (*the hell*) and Swiping (Sluicing with a remnant preposition). The relevant facts are exemplified below:

- (47) a. John was talking to someone but I am not sure who (to)
- b. John was talking to some girl but I am not sure which girl (*to)

- (48) a. I wonder who (the hell) he saw
- b. I wonder who's brother (*the hell) he saw

³⁰ *What* is permitted as a question word (or as free relative pronoun) but not as a headed relative relative pronoun, whether restrictive or appositive, and whether it would occur in a strong only position (e.g. complement of P, as in e.g. **here are several blankets with what you could cover him*) or not. It thus seems not to participate in the “economy competition”.

- c. He refused to tell us with who (* the hell) they spoke

Are there any clearly weak forms in English?

In Kayne (2007), Kayne reaches conclusions suggesting a positive answer as he suggests that *that* as in *the man that left, the man that John saw, the book that proved this, the magazine that you bought* is a relative pronoun (and so in fact is the complementizer).³¹

In our terms, *that* could be a weak relative pronoun. Analyzing it this way immediately accounts for the properties that had Klima (1964) take it to be a complementizer, rather than a relative pronoun. Klima's reasons, seen from the perspective of the present analysis is that *that* does not appear in strong positions:

- (49) a. the person to whom/ which /*that we were alluding
b. the person whose / *that's book we were talking about

Taking *that* to be a weak form immediately accounts for this behavior, and makes sense of the fact that it neutralizes the +/-animate opposition found with *who* / *what*.

Note however that such a conclusion interacts with the status of say, *who*: if *who* is strong only, it should, when bare, be disallowed given the existence of *that*. If *who* can also be weak, there would be two weak forms *who* and *that*, both allowed with one (who) strictly more specified than the other. Furthermore, English also allows relatives without any pronoun at all as in *the man John saw, the magazine you bought*. If there is an Economy principle involved of the type we mentioned, the fact that *that* can ever be used is unexpected.

We leave the matter at that.

3.6 Summary and final remarks

We have suggested that the paradigm of relative pronouns splits in two: a strong paradigm whose members can have the distribution of full DPs and a weak paradigms whose members are distributionally much more restricted.

This double paradigm for relative pronouns – which is likely to extend to the interrogative paradigm of French (see section 5.3), as well as to the wh paradigms of other languages –

³¹Kayne, citing others, remarks on the similarity between the complementizer *that* and the demonstrative *that*. The analogy with the Dutch or German data we discuss is immediate.

allows one to describe rather simply the morphosyntax of the French relative complementizer system without any appeal to a special *que* → *qui* rule restricted to cases of subject extraction. We can describe the complementizer system of French (tensed restrictive) relatives as always involving the presence of a relative clause marker,³² and involving a competition for insertion, systematically favoring the weak, less specified form (this is of course highly reminiscent of principles invoked within Distributed Morphology, but we will not pursue this matter here).

A look at which forms are in competition suggests that it should be understood as a competition between bare forms. Thus, for example, although *dont* is a weak form, it does not exclude the appearance of the strong form *de qui*, presumably due to the presence of *de*.

- (50) a. L'homme dont/ de qui ils parlent
The man dont/ of whom they speak
- b. L'homme dont / de qui la soeur est venu
The man dont/ of whom the sister came
- c. L'homme dont / de qui j ai vu la sœur
The man dont/ of whom I saw the sister

A number of questions have been left open or unaddressed.

One of them concerns differences between the weak wh paradigm and the weak pronominal paradigm. First, it may be (but it is not entirely clear) that weak proclitic pronominal forms are weaker than weak relatives pronouns, fitting in a different slot in the tripartite division strong-weak-clitic Cardinaletti and Starke (1999) introduce. Secondly, gender is neutralized in the wh-paradigm both for weak and strong forms (but not for wh-adjectives *quel*), whereas it is active both for weak and strong pronouns (an observation relevant to section 5.8.2).

Finally, we have left unsettled the question of the precise status and the exact syntactic location within the left periphery of both weak and strong relative forms, an issue alluded to in and around footnote 22.

³² Thus French is exactly like Kinande, as described in Rizzi (1990) (reporting work by Schneider-Zioga, 1987) in always displaying an agreeing clausal marker or typer regardless of what grammatical function is affected by wh-movement (a somewhat unexpected occurrence in the context of Rizzi's proposal which should limit their presence to the case of subject extraction – see section 5.8.1 for further discussion).

Regarding the former, two options seem reasonable:

- one is a generalized *que/qui* rule: the weak forms are combinations of a C and pronominal properties.
- the other is to take weak forms to be bona fide relative pronouns.

In settling this question, the works of Poletto and Pollock (2004) and Munaro and Pollock (2005) would be particularly important. In the remainder of this article, we will adopt the idea that we are dealing with weak XP relative pronouns and not with agreeing complementizers in the usual sense (of intervening heads in the clausal spine). There are a number of reasons favoring this option, some given in sections 5.3 and 5.8.2.

It should be kept in mind however that under one construal of what a complementizer is (albeit not the standard one), it is unclear whether these options really are different: it may well be desirable to take the complementizer *que* to be a relative pronoun itself, i.e. an XP in the specifier of some intervening head in the clausal spine (and not such a head), a very promising direction we believe, strongly suggested by the presence of *qu* morphology, which we will not pursue here.

Finally, we have left unaddressed the treatment of special *qui* in long distance subject extraction. We now turn to this question.

4 Long subject extraction

So far, we have limited our attention to cases in which the *qui* of *que/qui* alternation, which we reanalyze as a weak relative pronoun is found in a C-system in which we a priori expect any relative pronoun. For reasons that will become progressively clearer, we consider this case to be the core case. However, as we saw at the outset, this is not the only context nor the most striking for this alternation. These are extraction of subject from embedded clauses in various wh-constructions cf. (51a) to (51c):

- (51) a. Qui tu crois **qui** est venu
Who do you think came
- b. La chaise que je pense **qui** est tombée
The chair that I think fell

- c. Le type que tu dis **qui** va gagner
The guy that you say will win

First, note that the *que/qui* alternation is fully productive in case of local subject movement in a relative clause. There appears to be more speaker variation when it comes to cases of subject extraction from embedded contexts. There seems unfortunately not to be reliable empirical studies of the variation found in this area, and especially of how judgments correlate across paradigms and constructions, but it seems true that the two phenomena are sometimes dissociated.

In what follows, we will continue using as benchmark the judgments of the coauthor of this article who is a native speaker of French, judgments checked against and found in agreement with the judgments of some other speakers but surely representing only part of the whole picture.

This variation suggests that there cannot be a single factor at stake. A new challenge then is to divide the properties of embedded *que/qui* alternations between what is identical to the case of local subject extraction and what is due to the fact that the alternation appears embedded. A totally uniform treatment such as for example the Comp-indexing mechanism of Aoun, Hornstein and Sportiche (1981) seems unsatisfactory.

This said, the data in (51) raise problems with our proposal: special *qui* is found in contexts where it competes with full relative pronouns; we thus do not expect it to show up in such contexts as in (51), which do not tolerate relative pronouns in general: these constructions evoke partial wh-movement, which (standard) French does not have, and partial wh-movement is at best uncommon in relatives as (51a, b) if it even exist. Clearly, if this special *qui* is not a relative pronoun, it must arise in some other way.

4.1 A Version of the Standard Approach and its problems

4.1.1 Trace Spellout

Assume for now that we accept the idea, implicit in all the analyses we are aware of (including those we discuss in section 5.8) that cases of embedded *que/qui* alternations

involve straight (successive cyclic) wh-movement relating an embedded subject to the C system of a different clause. How could our proposal accommodate the presence of *qui* in embedded clauses?

In the context of the copy theory of movement, something has to be said about why traces are not phonologically overtly realized. A minimal statement must capture the fact that the following generalization typically holds:

(52) Delete all copies of chain CH but the highest one

A number of instances of pronunciation of a non-top copy have been proposed, see Nunes (2004), Pesetsky (1998, 2000) Bošković (2002b), Grohmann (2003), Bobaljik (1995, 2002) suggesting that this statement has to be relativized from an absolute requirement to an optimal requirement tolerating departures from it just in case other principles require a non silent phonological realization of some other copy than the highest.

(53) Minimize all copies of chain CH but the highest one

We will not discuss cases of minimization in A-movement cases here (but cf. Fujii 2005 for one such case, or Sportiche, 2006a,b,c,d for others). As for A-bar movement cases, we will limit ourselves to cases relevant to the *que/qui* alternation: tensed restrictive relatives, wh-questions and clefts.

In the French under investigation, clefts function exactly like tensed relative clauses in requiring minimization of bare wh-DPs in the C system down to *qui* in the relevant cases, but allowing non DP material otherwise:

- (54) a. C'est Jean qui/*lequel/*que est venu
It is John who/which/ that came
- b. C'est Jean *qui/*lequel/que tu as vu
It is John who/which/ that you saw
- c. C est avec Jean *qui/*lequel/ que j'ai dansé

It is with John who/which/ that I danced

- d. C'est Jean avec qui/ avec lequel/*que j'ai dansé
It is John with whom/ with which/ that came

This pattern being at least extremely common in French, except for the d examples not allowed, it seems, by some speakers.

In the case of wh-questions, the actual wh-operator can typically not be minimized without loss of information (unrecoverable deletion), yielding the effect that the top copy is not minimized.³³

4.1.2 The treatment of extraction from embedded contexts.

The following cases of embedded *que/qui* alternation are fully acceptable and their treatment is immediate:

- (55) a. C'est Jean que tu crois que/*qui tu as vu t
It is John that you think that/*qui you saw
- b. Les gens que tu crois que/*qui tu as vu(s) t
The people that you think that/*qui you saw
- c. Qui/Que crois tu que/*qui Jean aimera
Who/what do you think that /*qui John will like
- (56) a. C'est Jean que tu crois *qui/que t est venu
It is John that you think that/*qui you saw
- b. Les gens que tu crois qui/*que t sont venus
The people that you think *that/qui you saw
- c. Qui/Que crois tu *que/qui plaira à Jean
Who/what do you think *that /qui John will like

Looking at a schematic representation of the successive cyclic derivation for such sentences:

³³ One may wonder why it is the top copy of the operator that subsists. This is relevant when movement takes place, which means that some C has an EPP feature to check, i.e. needs an operator in the C-system of the question clause. Perhaps it is most economical to do both at the same time: check this EPP feature and overtly spell out in the same position. If the “direct dependency” analysis of partial wh-movement is correct, such constructions require additional principles.

- (57) a. Topcopy_j tu crois [_X t1_j que [t2_j sont venus]]?
 b. Topcopy_j tu crois [_X qui_j que [t2_j sont venus]]?
 c. Topcopy_j tu crois [_X qui_j ~~que~~ [t_j sont venus]]?

We see in (57a) that the configuration in the X constituent is the one familiar from relative clauses. Assuming as we have done that the minimization economy principle applies to all copies, it will apply to the intermediate copy – which is in principle minimizable without loss of information and will cause it to be realized as *qui* (and consequently will as usual trigger the absence of the tensed complementizer *que*:

The effect we want is to have t1 spelled out as *qui*, which is, by the general minimization requirement, the weakest form available, as in (57b). Since French normally prohibits doubly filled Comps, (57b) is derived.

For this account to work, it must be required that t1 be spelled out. But why? The standard answer is in term of ECP: given that t2 is the trace of a subject, t1 must be phonologically realized to circumvent an ECP effect.

4.2 Analytical difficulties with the spell out approach

There are a number of difficulties, conceptual and empirical with the spell out approach we have outlined above that we now review.

4.2.1 Conceptual

The main conceptual problem is one pointed out in Bouchard (1984): it is crucial for this spell out account to work to somehow require an antecedent for the local subject trace that is phonologically realized. This seems to contradict the principle of independence of linguistic components otherwise firmly established: whatever property the subject trace has that requires such an antecedent, it does not seem to have anything to do with phonology. Why then should the antecedent have to be both local, and pronounced?

4.2.2 English *that*

There is a perennial problem with the idea that subject traces have to be locally controlled by an overt antecedent, based on English subject relativization relative clauses.

- (58) a. The man t_1 that t_2 left
 b. *The man that I think t_1 that t_2 left
 c. The man t that I think t_2 left

The problem is the following:

Suppose *that* is a complementizer. Then (58a) is unexpected as it is exactly the kind of configuration that we want to exclude in French. Suppose, following Kayne 2007 – cf. section 3.5.4 – that *that* is a weak relative pronoun. In such a case t_1 is *that*. Then (58a) is unsurprising: t_2 is locally bound by an antecedent. However now (58b) is surprising: why wouldn't trace spell out of t_1 as *that* be allowed with the complementizer *that* (if it is indeed different) disappearing as we know it can (and perhaps sometimes must) do.

4.2.3 French: The Case problem

Consider again the structure of the such relevant examples as below:

- (59) a. la chaise Op_j que je pense **qui** t_j est tombée
 b. Le type Op_j que tu dis **qui** t_j va gagner

In both cases, there is a Case problem: we expect Op to be nominative and thus show up as *qui* – an outcome that is ill formed – rather than the *que* form that is observed.

Given that in sentences under consideration, we extract a nominative element, a trace spell out approach wrongly predicts that in such cases the nominative weak wh-word will show up twice, once in the embedded C-system, and again, as in the case of simple relative clauses, in the main C-system.³⁴

- (60) a. *La chaise **qui** je pense **qui** est tombée
 The chair *qui* I think *qui* fell

³⁴ Note that in (51a), we are dealing with an interrogative to which the RC filter does not apply.

- b. *Le type **qui** tu dis **qui** va gagner
The guy who you say who will win

A conceivable way out of this problem would take the minimization of chains one step further (essentially Milner'1982 proposal). The following could be claimed:

- (i) under normal circumstances, the highest member of a chain is spelled out.
- (ii) if another member of a chain must be spelled out (e.g. to circumvent an ECP effect), other chain members cannot be spelled out if they do not have to be.

This would have the effect of preventing the spell out of the top *qui* in (60a or b), since it need not be spelled out, as the lower one must be. The same principle would allow two *qui*'s if the top one is a question word, and thus, because of its quantificational import, cannot be silent. We are not going to explore further such a proposal for several reasons, in addition to the fact that it lacks independent motivation and thus explanatory force. First, it makes it unclear why any relative pronoun is spelled out (why spell out the top copy at all?), given that under such an account, they need not, and in practice they are not as in e.g. infinitival relatives. Second, it does not generalize to other cases (e.g. Dutch – see Koopman and Sportiche, 2008 for discussion) etc...

Finally, such an account would say nothing of other properties that the special *qui* in special context constructions display, to which we now turn.

4.3 Contextual effects

In addition to these problems, the embedded *que/qui* phenomenon is subject to contextual restrictions that do not hold for subordinate *que* headed clauses.

Given a structure involving an embedded special *qui* such as:

- (61) Wh-j [TP-1 ... [X qui [TP-2 t-j sont venus]

There are severe constraints on what can occur in TP-1 intervening between wh-j and *qui* (intervention effects) and what can occur in TP-2 (other contextual effects). The facts which we will illustrate in turn (with the exception of (v)) are the following:

“CED” effects

- (i) X must be in a complement structure of a predicate P

Intervention effects: between the wh-operator and the *que/qui* site:

- (ii) P must belong to a particular subset of predicates
- (iii) No negation can intervene
- (iv) No negative quantifiers can intervene
- (v) *No weak island can intervene (Pesetsky’s 1984 surprising subject/object asymmetries)*

And other contextual effects

- (vi) If P allows an alternation between subjunctive mood and Indicative mood,
Subjunctive is excluded.

4.3.1 Intervening Embedding predicates

First of all, (and apart from relatives), special *qui* can only be found in complement clauses that are surface “bare objects”.

Special *qui* in subject or adjuncts clauses is sharply excluded, and non bare complements are also disallowed. This last point is illustrated by the following examples:

- (62) a. *la fille que je tiens à ce qui vienne (Kayne, 1981/1984)
The girl that I care about (her) coming
- b.?? la fille que je tiens à ce que tu épouses
The girl that I care about you marrying

Furthermore, only some predicates can intervene between wh and *qui*. Thus in a structure like (63) instantiated as in (64), the result will be fine if PRED belong to the class in **Erreur ! Source du renvoi introuvable.**) but if it belongs to the class in **Erreur ! Source du renvoi introuvable.**).³⁵

- (63) WH_j [... PRED... [*QUI_j / ok QUE ... t_j .. unless PRED well chosen

- (64) a. L’homme qu’il PRED qui t est malade The man that Subject PRED is sick

³⁵ The judgments are Dominique Sportiche’s and are intended to indicate contrasts in a given semantic class (e.g. verba dicendi). The list is far from exhaustive of course. Informal speaker surveys suggests that there is at

b. Qui il PRED qui t est malade

Who subj PRED is sick

- (65) Special *qui* ok: verba dicendi, epistemic verbs, desiderative verbs..
dire ‘say’, *affirmer* ‘assert’, *déclarer* ‘declare’, ?*annoncer* ‘announce’, ?*remarquer* ‘notice’,
croire ‘believe’, *penser* ‘think’, ?*savoir* ‘know’, *considérer* ‘consider’, *juger* ‘judge’,
estimer, ? *être sûr* ‘be sure’, ? *être certain* ‘be certain’, *prétendre* ‘pretend’, *supposer*
‘suppose’, *imaginer* ‘imagine’.
- (66) Special *qui* harder or excluded: Manner of speaking verbs, Non attitude predicates, ...
Murmurer ‘murmur’, *souffler* ‘whisper’, *grommeler* ‘grumble’, *ignorer* ‘ignore’, *douter*
‘doubt’, *contester* ‘contest’, *parier* ‘bet’, *mériter* ‘deserve’, *écrire* ‘write’, *falloir* ‘be
necessary’, *promettre* ‘promise’, *ordonner* ‘order’, *être important* ‘be important’, *être*
évident ‘be obvious’, *être clair* ‘be clear’, *convaincre* ‘convince’, *persuader* ‘persuade’, *avoir*
l’impression ‘have the impression’, ..

Although we are a bit more liberal in our judgments (see below), we very substantially agree with Godard’s generalization (cf. Godard, 1986:53ff) who claims that the class of allowable main predicates is a subclass of bridge verbs, which otherwise allow infinitivals CP complements and extraction of the (Caseless) subject of this infinitive (under circumstances to be specified)³⁶. This is exemplified with the verb *croire*:

- (67) a. L’homme qu’on croit qui t apprend l’allemand
The man that we believe *qui* is learning German
- b. Qui tu crois qui t apprend l’allemand
Who do you believe *qui* is learning German
- c. L’homme qu’on croit t être malade
The man that we believe to be sick

Special *qui* in CP complements of prepositions, and some CP complements of non verbal predicates are sharply excluded, as are complements of certain factive verbs.

- (68) a. * la fille qu’il est important qui vienne
The girl that it is important *qui* come

least a core of agreement in all subsequent judgments, with some variability in the “strength” of the contrast for certain pairs.

³⁶ For many speakers though not for all, there must be an embedded auxiliary verb and it must be *être*/ *be*.

- b. la fille qu'il est important que tu voies
The girl that it is important that you see
- (69)
- a. * la fille que je regrette qui voit Jean
The girl that I regret *qui* sees John
 - b. la fille que je regrette que tu voies
The girl that I regret that you see

Although the link between the special *qui* case and the infinitival case is certainly not accidental, we are, as mentioned above, more liberal than Godard (1986) and Anne Abeillé p.c. They exclude verbs of desire '*vouloir/want, désirer/desire*' and but we allow them, and these are cases in which extraction from the infinitival is absolutely excluded.:

- (70)
- a. Qui tu veux/ ?désires qui réussisse
Who you want/desire *qui* succeeds
 - b. La fille que je veux/ ?désire qui gagne la course
The girl that I want/desire *qui* wins the race
 - c. * La fille que je veux/désire t'être la gagnante
The girl that I want/ desire to be the winner

Similarly (thus agreeing with what is reported in Kayne, 1976, p.294 fn19) we allow cases with adjectives, in which extraction from the infinitive subject is sharply excluded:

- (71) a. ? L'homme que je suis sûr qui gagnera
The man that I am sure *qui* will win
- b. * L'homme que je suis sûr (d') être le gagnant
The man that I am sure to be the winner

Although it is unclear how to account for such facts, it is clear that a purely local process – such as trace spell out - restricted to the internal structure of the embedded C system is insufficient. Some account must be taken of the nature of the embedding predicate.

Descriptively, the “ rule” allowing the appearance of special *qui* can be formulated so as to make reference to the choice of the embedding predicate: this is for example what Rizzi

(1990) does, accepting Godard's generalization, by requiring that the embedded C be governed by an appropriate type of Verb.

Further however, it is necessary to explain why this sensitivity exists and to the particular type of predicate.³⁷

4.3.2 Intervention by Downward Entailing Elements.

Much more difficult to explain in terms of local selection of special *qui* is the sensitivity to intervention effects by downward entailing operators in both questions and relatives, a fact that, to the best of our knowledge, has not been previously noted. Again, it is important to note that this does not hold for object extraction (neither in wh-questions nor relatives).

(72) and (73) illustrate intervention effect for subject relativization and object relativization, in which the object case is fine, the subject degrades somewhat with upward entailing or non monotonic DPs, but more sharply with a negative quantifier or with sentential negation:

(72)a. ? L'homme que tous les (/plusieurs/ deux ou trois) témoins croient qui a sauté
The man that all the (several. two or three) witnesses believe *qui* jumped

b. * L'homme que personne/ aucun témoin ne croit qui a sauté
The man that nobody /no witness believes *qui* jumped

c. L'homme que personne/ aucun témoin ne croit que tu as rencontré
The man that nobody /no witness believes that you met

(73)a. * La fille que je ne dis pas qui a vu Jean
The girl that I do not say *qui* saw John

b. La fille que je ne dis pas que tu as vue
The girl that I do not say that you saw

c. * l'homme que tu ne crois pas qui as vu ce film
The man that you do not believe *qui* saw this movie

³⁷ There may be a link with an approach à la Lasnik and Saito (1984). According to such an approach glossing over technical details, the trace of a subject (say t2 in (58b)) requires the presence of an intermediate trace (say t1 in (58b)), which in turn must be lexically governed (e.g. by the right kind of embedding predicate). The same treatment would apply to adjuncts (in particular to derive weak island effects or CED effects) and would predict that contexts where special *qui* is excluded are islands for adjuncts.

- d. l'homme que tu ne crois pas que tu as vu
The man that you do not believe that you saw

It is clear that such effects are non local, and cannot be reduced to some kind of lexical triggering for the *que/qui* rule, suggesting again that an approach such as trace spell out (or those discussed in section 5.8), which, apart from spelling out the trace (or licensing subject extraction locally in one way or another) treats subjects and objects alike is not feasible.³⁸

4.3.3 Mood Effects

Finally, we can observe surprising mood selection effects. The following configuration holds, if the subjunctive is optional:

- (74) WH_j [...PRED ...[*QUI_j /ok QUE [SUBJUNCTIVE ... t_j ...]]

This is illustrated with the main verb *croire/believe*, which may optionally select the subjunctive mood in its complement under certain conditions (see Homer, 2007, for recent discussion and references):

- (75) a. Qui crois- tu que Jean veut/**veuille** voir **t**
who do you believe that John wants/want-SUBJ to see
- b. Qui crois-tu **qui** veut/ ***veuille** voir Jean?
who do you believe wants/want-SUBJ to see John

This prohibition remains even with the introduction of modal verbs which facilitates the use of the optional subjunctive in such embedded contexts:³⁹

- (76) a. Qui croyait-il que Jean pouvait/**puisse** voir **t**
who do you believe that John wants/want-SUBJ to see
- b. Où croyait-il que Jean pouvait/**puisse** aller **t**

³⁸ Rizzi's Relativized Minimality comes to mind. However, argument extraction is usually immune to the kind of intervention effects observed here.

³⁹ It should be noted that a more register seems required for the subjunctive to be allowed, than the colloquial register we have used throughout.

who do you believe that John wants/want-SUBJ to see

- c. Qui croyait-il **qui** pouvait/ ***puisse** voir Jean?
 who do you believe wants/want-SUBJ to see John

Verbs such as *vouloir/want* which require the subjunctive in such contexts are not sensitive to this constraint:

- (77) a. Où tu veux que Jean aille
 Where do you want that John go-subj
 b. Qui tu veux qui aille à Paris?
 Who do you want qui go-subj to Paris

4.4 Summary and Concluding Remarks

Here is what emerges from the discussion in this section.

If we accept the conclusions of section 3, special *qui* in long subject extraction displays a number of properties that makes it rather implausible to invoke any kind of *que/qui* rule of the sort that has been classically invoked since Kayne's seminal work.

The consequences of the reanalysis of the relative pronoun system, coupled with the observations presented in the preceding section raise some new analytical challenges:

- How does Long Extraction of subject work in French?
- Why is such extraction sensitive to the choice of intervening predicates?
- Why is it sensitive to the mood of the subordinate clause?
- Why are the allowed predicates these and not others and what is the connection between that set, and the set of Predicates listed in Godard's generalization?
- What explains the intervention effects by DE expressions?

It is hard not to notice that the last properties are strongly reminiscent of effects found in partial wh-movement constructions in languages such as German and Hindi that have them: what is the connection?

We address these questions in Koopman and Sportiche (2008).

5 Appendices

5.1 Partially justifying the distributional generalizations for wh-phrases

We stated a number of descriptive generalizations in (15). This section provides the relevant data. We illustrate these generalizations by contrasting what happens in relative clauses and in interrogatives .

In tensed restrictive relatives: Complex pronouns and *quoi* cannot occur bare.

Bare contexts:

- (78) a. Lequel est venu / *L'homme lequel est venu
 b. Lequel as tu vu ? / *L'homme lequel tu as vu
 c. * Quoi il acheté ? / *La table quoi il a achetée

Non bare contexts

- (79) a. Avec lequel a t-il parlé ? / L'homme avec lequel il a parlé
 b. Sur quoi s'est-il appuyé ? / quelque chose sur quoi il s'est appuyé

In tensed restrictive relatives: of the other simple pronouns:

- The status of *que* is unclear (it could be a relative pronoun, as analyzed in traditional grammars or a complementizer as analyzed by Kayne).

This is about the *que* appearing in relative clauses. This is discussed in the text and further in section 5.2.

- *Qui* never occurs as direct object, and a *qui* form appear in subject relativization (which is analyzed as the complementizer in Kayne, and which we will analyze as a wh form).

- (80) a. Qui est venu ? / L'homme qui est venu

- b. Qui as tu vu ? / * L'homme qui tu as vu
- c. * Que plait à Jean ? / Les choses qui plaisent à Jean
- d. Qu'a acheté Jean ? / Les choses que Jean a achetées

In tenseless restrictive relatives: All bare DP forms are excluded. Of the other forms, only locative *où* is allowed.

This is similar to what is observed in English.

- (81) a. Qui inviter ? / *Un homme qui inviter / un homme à inviter
who to invite/ a man who to invite / a man *à* to invite
- b. Quoi faire ? / quelque chose quoi faire / quelque chose à faire
what to do / something what to do / something *à* to do
- c. Où aller ? / un endroit où aller
where to go/ a place where to go
- d. Quand dormir ? / * le moment quand/où dormir / le moment de dormir
When to sleep/ the momeent when/where to sleep/ the moment *de* sleep
- e. *Dont parler ? / ?*un enfant dont parler / un enfant de qui parler
Dont speak / a child *dont* to speak/ a child of whom to speak
- f. Comment faire ? / *la manière comment faire / la manière de faire
how to do (it)/ the way how to do (it) / the way *de* to do (it)
- g. Pourquoi partir ? / la raison pourquoi partir / la raison de partir
Why leave/ the reason why to leave / the reason *de* leave

With direct objects (and subjects), the relative clause is introduced by a “complementizer” *à*, elsewhere, when a wh-element is disallowed, the unmarked tenseless “complementizer” *de* appears.

Appositive relatives function like their restrictive counterparts with one difference which is perhaps marked (it feels somewhat literary): complex wh-phrases can occur by themselves, perhaps more readily for subjects than for direct objects,

- (82) a. Lequel est venu / Cet homme, lequel est d'ailleurs venu hier
b. Lequel as tu vu ? / Cet homme, lequel j'ai d'ailleurs aperçu hier,

and they can be followed by an overt noun:

- (83) a. Le cousin du marin, lequel (marin) venait de Bretagne,
 b. Le cousin du marin, lequel (marin) j'avais déjà rencontré

For headless relatives (which can only be tensed and restrictive), we stated that all bare simple bare wh-forms elements are allowed except *quoi* and all complex bare wh-forms are excluded. In light of the conclusions of the text, we revise this description concerning bare simple wh-forms: only strong bare simple wh-forms are allowed by themselves.

- (84) a. L'homme qui voulait / J'inviterai qui(/ *lequel) voudra
 The man who wanted/ I will invite who (the-which) will want
- b. La table qui est cassée / Je réparerai *(ce) qui (/ *laquelle) cassera
 The table what is broken/ I will fix *ce* what (the-which) will break
- c. L'homme que tu connais /J'inviterai qui/ *que /*lequel tu connais
 The man that/what you know/ I will invite who/ that/ the-which you know
- d. La table que tu as cassée / Je réparerai *(ce) que tu casseras
 The table that/what you broke/ I will fix *ce* that/what you broke
- e. Le type dont on a parlé / * Je parlerai de qui/ *dont on parlera
 The guy *dont* we spoke / I will speak of whom/ *dont* we spoke
- f. L'endroit où on est allé / J'irai où tu iras
 The place where you went/ I will go where you will go
- g. Le moment où il partira / Je partirai quand/ #où il partira
 The moment where he will leave/ I will leave when/where he will leave (to)
- h. La façon dont il a fait ça / Je ferai ça comme/*dont tu le feras
 The way *dont* he did this/ I will do this how/ *dont* you will do it
- i. *La raison pourquoi il est parti / *Il démissionnera pourquoi tu démissionneras
 The reason why he left/ He will resign why you will resign

We already made suggestions bearing on this choice. Strong forms can have 'what we will call "quantificational force", weak forms cannot. In questions and headless relatives quantificational force is semantically required and must thus be somehow represented (as we have discuss for interrogatives below in section 5.3). In the case of headless relatives, this will force the use of strong forms with the right semantics throughout when possible. In

particular – cf. below section 5.4, *lequel* forms are excluded. When no strong form is possible (cf. the discussion of *quoi* and *que* below in sections 5.2 and 5.3) a weak form can be used provided that the necessary quantificational force is introduced some other way (e.g., we surmise, by *ce* in examples (84b,e) above).

5.2 Interrogative Que/ Quoi

Quoi, the apparently simple inanimate wh-word, has a very limited distribution as a relative pronoun: it can never appear bare. Two independent factors conspire to limit its appearance in relative clauses:

First, although *quoi* is a bona fide inanimate wh-question word occurring as such in situ or embedded under Ps etc., bare DP *quoi* is never allowed in the C system of tensed clauses (see e.g. Obenauer, 1976, Koopman 1983, Plunkett 2000, Munaro and Pollock 2005), with one exception we will see below.

- (85) a. Tu as vu quoi (*you saw what*)
 b. * .. (On se demande) quoi tu as vu (*we wonder what you saw*)
 c. Tu as mangé avec quoi (*you ate with what*)
 d. Avec quoi tu as mangé (*With what did you eat*)

As a result, it is independently excluded from tensed relative clauses, (including free relatives which should normally allow simple wh-word as relative pronoun:

- (86) a. Je verrai qui tu verras (*I will see who you will see*)
 b. *J'achèterai quoi tu achèteras (*I will buy what you will buy*)

Secondly, while *quoi* may appear in the C system of infinitival interrogatives, the second factor is the previously mentioned prohibition (also found in English), preventing bare wh-DPs from appearing in the C system of infinitival relatives.

- (87) a. (On se demande) quoi acheter / qui inviter (*we wonder what to buy/who to invite*)
 b. *Un article quoi acheter (*an item what to buy*)
 c. *Un type qui inviter (*a guy who to invite*)

Given the impossibility to use *quoi* in interrogatives, another form is used in its stead: *Que*.

The status of interrogative *que* in (88a) has been substantially debated. Under one view (Obenauer's 1976), it is just the tensed complementizer *que*, hence is not part of the wh paradigm. Under others (Goldsmith 1978 and most recently Pollock and Poletto 2004), the now accepted view, rightly so we think, is that it is a weak form of *quoi*, restricted to appearing in the C system (never in situ, cf. (88)), only as accusative cf. (88c)⁴⁰, and apparently an enclitic immediately preceding the highest verb of its clause, cf. (88d) and (88e) (we gloss *quoi* as *what* and *que* as *who*):

- (88) a. Que dis tu ? Que fait Jean ? (*who are you saying, who is John doing*)
 b. *Tu dis que (*you say who*)
 c. *Que tombe du ciel (*who is falling from the sky*)
 d. *Que tu dis ? (*who you say*)
 e. *On se demande que tu fais (*we wonder who you say*)

In one context in which *que*, due to its weak or clitic character, cannot occur, the strong form *quoi* is allowed to appear: namely in a CP remnant under sluicing:

- (89) a. Je sais ce que Jean a acheté / *Je sais quoi Jean a acheté
 I know ce who John bought / I know what John bought
 b. Jean a acheté quelque chose, mais * je ne sais pas (ce) que ~~Jean a acheté~~
 John bought something, but I do not know ce who ~~John bought~~
 c. Jean a acheté quelque chose, mais * je ne sais pas quoi ~~Jean a acheté~~
 John bought something, but I do not know what ~~John bought~~

5.3 Weak and Strong Interrogatives in French

We now provide a short discussion of some issues related to the clitic/strong/ weak paradigms in interrogatives. Repeating what was said in section 0, there is evidence that French interrogatives have weak or clitic forms, namely interrogative *que* – as proposed as far back as Goldsmith (1978) - and one species of *qui* as argued in Munaro and Pollock (2005) on the basis of the following paradigm showing different distribution between subject *qui* (in bold) and phrasal wh-constituents:

⁴⁰ It can also seemingly appear as nominative in cases such as (i) *Que dis-tu qui est tombé*, but this depends on the analysis of long subject extraction.

- (90) a. **qui** est ce qui est venu / qu'est ce qui est tombé
 who is it that came / what is it that fell
- b. *lequel est ce qui est venu
 which is it that came
- c. *quel homme est ce qui est venu
 which man is it that came
- d. *combien d'hommes est ce qui sont venus
 how many men is it that came

Contrasting with direct objects:

- (91) a. qu'est ce que tu as vu
 what is it that you saw
- b. lequel est ce que tu as vu
 which is it that you saw
- c. quel homme est ce que tu as vu
 which man is it that you saw
- d. combien d'hommes est ce que tu as vu
 how many men is it that you saw

This conclusion that *que* intrinsically, and *qui* in this *qu'est-ce-qu-* construction are not strong is also supported by the following facts,⁴¹ which suggests further differences:

- (92) a. que (*diable) est ce que tu as acheté
 what (the hell) is it that you bought
- b. que (*diable) est ce qui est tombé
 what (the hell) is it that fell
- c. qui (*diable) est ce qui est venu
 who (the hell) is it that came
- d. qui (diable) est ce que tu as vu
 who (the hell) is it that you saw

⁴¹ The first two were discovered by Jean Yves Pollock, who we would like to thank for useful discussions on these topics (and who, unlike us, accepts (92c) with *diable*).

- e. où (diable) est ce qu'il va
where (the hell) is it that he is going

the inability of *que* and nominative *qui* to allow *diable*, unlike other simple forms such as accusative *qui* or locative *où* suggest again a different syntax, one which we can attribute to the weak (or even perhaps clitic character) of the former (as mentioned a standard conclusion when it comes to interrogative *que*, typically analyzed as a weak form of *quoi*).

Interrogative weak forms seem much less available than their relative counterpart and one may wonder why. We will not discuss this question in detail here but a reasonable speculation would proceed along the following lines: in relative clauses, the role of the Comp system is to provide a lambda operator, a property that can be carried by strong or weak relative pronouns. In questions however, further quantificational force is needed. We can speculate that weak interrogative pronouns, by the very fact that they are deficient, are incapable of carrying such force. As a result, not only is there no “competition” between strong and weak forms since weak forms crucially lack a necessary semantic property, but weak forms are normally excluded for this reason. The only cases in which weak forms will be allowed to appear are cases in which the requisite quantificational force is encoded in some other way. We can speculate further that:

- (i) this is the cases in the *qui est-ce qui/ qui est-ce que* constructions in which the interrogative force is carried by the *est-ce* form – itself a marker of question (as e.g. yes/no questions viz. *est-ce qu'il pleut/ is it raining*).
- (ii) this is the case in indirect interrogatives introduced by *ce qui/ce que* in which *ce* – a determiner (correctly analyzed, if our speculations are on the right track - as a clausal determiner in Zaring, 1992) - provides the necessary quantificational force in combination with weak *que* as in (93a) below:

- (93)a. On se demande ce qu'il fait/ que fait Jean / qui se passe (* V inversion)
One wonders what he is doing/ what John is doing / what is happening
- b. *Que* fait-il?/ Que fait Jean (obligatory V inversion)
What is he doing What is John doing

Note however that interrogative *que* is surprising as it can occur by itself in direct questions, (but not in indirect questions) as in (93a). When it does, it must be adjacent to the verb. The fact that interrogative *que* requires an adjacent verb has long been attributed to its being a weak clitic form. But this seems incorrect as it may be separated from this verb by *diable* in such cases as (94a) below, an observation made particularly significant given Jean Yves Pollock observation about (92b,c) repeated below as (94b):

- (94) a. *Que diable fait-il?* / *Que diable fait Jean*
 What the hell is he doing What the hell is John doing
- b. *Que/qui (*diable) est ce qui est tombé*
 what/who (the hell) is it that fell

To handle this, we suggest that the interrogative paradigm actually not only has strong forms (which may appear in situ etc..) but also both weak forms (never in situ, but non clitic) and clitic forms (even more restricted distribution and necessarily adjacent to their host).

Normal interrogative *que* is simply a weak form: it does not require adjacency to a verb. In cases such as (93a), the verb “raises to C” not because *que* is a clitic, but to encode the required interrogative force not carried by *que*. In indirect questions such as (93b), this role is played by *ce* (V raising to C, as is usually the case, is prohibited in non root contexts). Finally, in *qu’est-ce que*, *qui est-ce qui* cases, the *que* and *qui* forms are indeed (and in such cases must be- cf. Munaro and Pollock’s 2005 proposal as to why) clitic forms, thereby prohibiting intervention by *diable*.

Putting aside the clitic cases, we have the following full paradigm:

- (95) a. *Qui dort* / * *Que dort* *On ne sait pas qui dort* / * *que dort*
 who sleeps/ what sleeps We do not know who sleeps/ what sleeps
- b. **Qui est cassé* / * *Qu’est cassé* *On ne sait pas *qui est cassé / ce qui est cassé*
 Who/ what is broken We do not know who is broken/what is broken
- c. *Qui tu connais* / *Que connais- tu* *On se sait pas qui tu connais / ce que tu connais*
 who do you know/what do you know We do not know who you know/what you know

In the interrogative paradigm, the animate/inanimate distinction is not neutralized. Bare *qui* is consistently +animate and preferably used for animate referents. *Qui* can be a strong form

(e.g. in situ), a clitic in *qui est-ce qu* constructions. It never seems to be a weak form: *qui* cooccurring with *ce* (as in (95b)) only gets an inanimate reading.

For the inanimate paradigm, the strong form is *quoi*, and generally prohibited as bare (cf. section 5.2). We find a weak form *que* sometimes by itself with V inversion (direct questions), sometimes supplemented by *ce* (indirect questions, but also headless relatives).

And we find an homophonous clitic form *que* in *qu'est-ce qu*- constructions.

What case is *que*? Clearly it can stand for an accusative as in (93b). Can it be nominative?

Here the evidence seems contradictory: (95a and b) suggests not. In the former, *que* is simply excluded. In the latter, *que* is excluded and an inanimate weak (glide formation with the following verb is possible) *qui* form appears. This suggests that *que* cannot be nominative and that the weak inanimate nominative form is *qui*, as in the relative system.

If this is on the right track, the following three observations must be explained away:

- (96) a. qu'/*qui est- ce qui est cassé
what is it that is broken
- b. que/*qui crois tu qui est cassé
what do you think is broken
- c. *qui est cassé
what-inam is broken

Starting with the last one, we must explain why weak inanimate *qui* is prohibited in main clauses. we would like to suggest that the weak character of *qui* requires V raising to C, as described above for weak accusative *que*, but that such a movement is prohibited on general grounds (as discussed for English in Koopman, 1983) to exclude *do*-support in main clause subject wh-questions (* non emphatic *who did leave*).

As for (96b and c), these are in effect both cases of long subject extraction. We must explain why the nominative weak inanimate form is excluded and the weak inanimate accusative form is allowed. A full discussion of such cases is found in Koopman and Sportiche (2008).

Anticipating their conclusions let us accept that long extracted subjects are not nominative but accusative (or objective): this predicts that the *que* forms appearing in such cases should not be nominative, but accusative forms.

This suggest the following picture for the interrogative paradigm (with questions marks in places where we do not have direct evidence):

Interrogative Pronouns				
Case	Nom		Acc	
	+animate	-animate	+animate	- animate
Strong	qui	quoi	qui	quoi
Weak	qui	qui		que
Clitic	?	?	qui	que

The richness of the interrogative paradigm and the partial tripartite distinction it illustrates consistent with Cardinaletti and Starke's 1999 proposal bears on the question of how best to analyze weak relative pronouns. As they argue, strong/weak/clitic distinction can readily be described in terms of richness of specification of an XP. An account of the weak relative pronoun paradigm in terms of agreeing complementizer (in the sense of an agreeing intervening head on the spine) becomes much less appealing given what we conclude for interrogative pronouns, as the distinction between weak and clitic forms as differences in agreeing complementizer properties is implausible.

5.4 Differences between the simple and the complex relatives pronouns

Simple and complex bare wh-phrases differ morphologically. Recall that *lequel* forms are unspecified for animacy, and visibly inflected for number and gender (the plural marking can be pronounced in liaison contexts in non restrictive relatives... *lesquels* [z] *amis*..). These obvious differences underlie other less obvious differences, semantic and distributional.

Semantically, the *lequel* forms (which we gloss as *the-which*) are incompatible with certain kinds of heads (and most likely the reason for their unavailability in headless relatives - see section 5.1) presumably because of the article they contain:

- (97) a. Personne avec qui / *avec lequel j'ai parlé n'est revenu
 Nobody with whom/ with *the-which* I spoke came back

- b. Rien sur quoi /*sur lequel poser ceci
Nothing on what/ *the-which* put this
- (98) Quelque chose avec quoi/ *avec laquelle/*avec lequel tu pourrais...
Something with what/ with *the-which* you could..

The relevant factor seems to be the absence of an overt nominal restriction.⁴² In the case of inanimate heads (thus incompatible with the strong form *qui*), the heads that *lequel* is compatible with are exactly the heads that *quoi* is not compatible with, and vice versa.

- (99) a. Une pelle avec laquelle/*quoi tu devrais creuser
a shovel with the-which/ what you should dig
- b. Une pelle avec laquelle/*quoi creuser
A shovel with the-which/what to dig

This suggest that *quoi* (at least qua relative pronoun) which has a feature [-F] and the *lequel* forms have the feature [+F].

The strong form *qui* is not intrinsically specified for gender, person, or [+/-F].

In addition it is unspecified for number. This is clearly true for relative pronoun *qui* as shown above. It is also true of interrogative *qui* as shown by the following :

- (100) a. qui est là (*who is here*)
b. *qui sont là (*who are here*)
c. qui sont les gagnants (*who are the winners*)
- (101) Personne/ Un homme avec qui j'ai parlé
Nobody/ A man with whom I talked

⁴² Note that *chose* in *quelque chose* does not act as a genuine restriction : even though *chose* by itself is of feminine gender, it does not trigger feminine agreement in *quelque chose* unlike say the noun *table*: (i) *quelque table qui soit grand*(e) / some table(fem) that is big(fem)* (ii) *quelque chose qui soit grand (*e) / something that is big (*fem)*.

The fact that *qui* is unspecified for number means that default agreement must show up on the verb as in (100a) and (100b). As in (100c), *qui* may come to be specified for number under agreement with a plural DP, triggering plural agreement.

Complex wh-phrases, *lequel*, *laquelle*, *lesquel(le)s* seem also incompatible with pronouns (as can only be seen in non restrictive relatives)

- (102) a. Les amis avec qui/ lesquels/*laquelle/*lequel je suis parti
The friends with whom/the-which I left
- b. Moi/ toi, avec qui /*avec lequel on peut discuter
Me/ you with whom/the-which we can talk
- c. Nous/Vous, avec qui /*avec lesquels on peut discuter
Us/you(pl) with whom/ the-which we can talk
- d. Eux, avec qui / ??avec lesquels on peut discuter
Them with whom/ with the-which we can talk
- (103) a. Moi (toi), qui/*lequel est/ suis (es) fatigué
Me/ you who/the-which is tired
- b. Nous (Vous), qui/ *lesquels sommes (êtes) fatigués⁴³
We (you-pl) who/ the-which are tired
- c. Elles, ??lesquelles sont d'ailleurs fatiguées
Them (fem), the-which are tired by the way

This property seems to be related to the property [+F] since the heads in all such cases do not have any overt range.

Finally, as we have already mentioned in section 5.1, semantic differences between the complex *lequel* paradigm and the simple *qui* paradigm are illustrated by their different behavior in headless relatives:

- (104) a. Je verrai qui /*lequel tu verras (*I will see who/the-which you will see*)
b. Je danse avec qui/*lequel tu dances (*I dance with whom/ the-which you dance*)
c. Je parle de qui/*duquel tu parles (*I speak of whom/the-which you speak*)

⁴³ We could exclude *nous* from the paradigm as it does not belong to colloquial speech (replaced by *on*) and requires the 1st person plural verb form, here *sommes*.

Speculating on the content of the feature F, its positive value seems to impose a non maximal reading or strict partitive reading on the relative pronoun denotation: a set must be introduced out of which the relative pronoun picks out a strict subset. Thus *les tables avec lesquelles P.* / *the tables with the-which P.* attributes some property to a strict subset of the set of tables. This is why *lequel* is incompatible with constructions imposing a maximality requirement (such as headless relatives) or in heads introducing no relevant set (bare quantifiers) or possible subset (pronouns).

The relevant property thus does not seem to be D(iscourse)-linking, although in questions, the *lequel* paradigm has the D-linking flavor. This would follow if the relevant set could be introduced in discourse with interrogatives, a speculation requiring an answer as to why this cannot be done with restrictive relatives.

5.5 Further thoughts on challenge #5

In the text, we have adopted the version of Kayne's filter given below:

(105) RC Filter v.2:

In the Comp of headed restrictive relatives: *_{[CP DP_[-wh] ..[TP, unless DP is silent}

In the context of Cardinaletti and Starke (1999) work and our introduction of weak and strong relative pronouns, we have understood it as coding that the strong forms (*lequel, qui*) are excluded if weak forms (*qui, que*) can be used instead.

Although it is formulated in a different context, Kayne (1976) raises an objection to considering what we call the weak forms to be alternatives to the complex strong forms of the *lequel* paradigm (cf. Kayne, 1976, p. 262).

We believe this objection is grounded although not for the reason Kayne (1976) suggests.

It is apparent from the discussion in section 5.4 that the two strong paradigms (*qui, quoi*) and *lequel* are semantically different, yet they are “replaced” by the same weak forms. What happens to the definite article *le*?

From the Economy principle we have (at least descriptively) invoked, it would have to be that weak forms are unspecified for the feature +/F (see section 5.4), and thus can count as less specified but compatible with either. This seems indeed to be the case. Thus the weak

nominative form *qui* or accusative form *que* are equally compatible with + or – F heads (i.e. restrictionless heads or not), e.g.:

- (106) a. Rien/ la chose qui lui plaît (*nothing/ the thing qui appeals to her*)
 b. Rien/ la chose que Jean aime (*nothing/the thing que John likes*)

Yet there is one reason to accept Kayne's objections : the behavior of relative pronouns in appositive relatives: the relevant fact is that even though the bare complex *lequel* forms become acceptable in such contexts, the bare simple strong forms are excluded:

- (107)a. Les amis de ces hommes, lesquels (hommes)/qui avaient dit que....
 The friends of these men, the-which/who had said that..
 b. Les amis de ces hommes, lesquels (hommes)/*qui/que j'avais déjà rencontré...
 The friends of these men, the-which/who I had already met..
 c. Les pieds de ces tables, lesquelles (tables)/ qui proviennent de...
 The feet of these tables, the-which (tables)/ qui come from
 d. Les pieds de ces tables, lesquelles (tables)/ que j'avais acheté ...
 The feet of these tables, the-which (tables)/ que I had bought

This shows that it is necessary in one case anyway to restrict the set of targets of the Minimization Economy principle to the bare simple paradigm. It seems reasonable to revise it so in general.

In turn, if this is done, this raises the question why, in restrictive relatives, the complex *lequel* forms are excluded bare, but not otherwise, e.g. when they occur within PPs (or larger DPs). We do not have a seriously motivated answer. One speculative proposal would link this directly to the presence of the definite article, which doubles as a pronominal clitic: the fact that non embedded *lequel* is excluded why more deeply embedded *lequel* is fine suggests that a notion of syntactic distance is involved.

This recalls Condition B effects with pronouns. While weak direct object pronouns give rise to strong disjoint reference effects, strong pronouns (which, recall, are excluded if bare) or further embedded pronouns do not:

- (108) a. Jean_j le*_j regarde (*John looks at him*)
 b. Jean_j ne regarde que lui_j (*John look only at himself*)
 c. Jean_j en_j parle (de lui_j) (*John of-himself talked (of himself)*)
 d. * L'homme lequel est venu (*The man the-which came*)
 e. * L'homme lequel tu as vu (*The man the-which you saw*)
 f. L'homme duquel tu as parlé (*The man of the-which you talked*)

Although it is not clear how exactly to achieve this result, the idea would be that the subset relation that must hold between the set of objects denoted by the relative pronoun and the set of objects denoted by the restriction of the relative clause head must be disjoint.

5.6 Relative que: complementizer or pronoun?

So far, we have assumed that *que* appearing in short relatives is a weak relative pronoun rather than the complementizer *que*. Given the data we have surveyed in relatives, it is instead equally possible to reach a conclusion identical to Kayne's, namely that *que* is the complementizer and that the weak accusative form found in relatives is silent.

One advantage to take *que* to be a weak relative pronoun is that it would regularize the paradigm with interrogative *que*: this parallelism between relative *que* and interrogative *que* would otherwise be lost.

If we pursue the parallelism, a number of problems have to be solved:

- i. why does interrogative *que* appear to have clitic properties while relative *que* does not.
- ii. why does relative *que* neutralize the +/-animate distinction, while interrogative *que* does not

On the second point, we have nothing useful to say: as seen in section 5.3, the interrogative paradigm retains the +/-animate distinction throughout. On the first however, the discussion in that section is relevant since it concludes that "normal" interrogative *que* is actually weak and not a clitic.

Note also that pursuing seriously the idea that complementizer *que* is in fact a relative pronoun would cast the problem in a different light: if such was the case, all cases of "deletion" of wh-phrases in Comp triggering the appearance of *que* would have to be reanalyzed, as it would appear unlikely that one relative pronoun (*que*) presumably with its own grammatical

function would ever substitute for another with a different grammatical function, except if it can be argued that the type of neutralization found in weak paradigms is at play.

5.7 Appositives

We have seen that the syntax of appositive relative clauses bears on a number of issues, most notably (i) the precise characterization of the RC filter, that is of the competition space the Economy principle of structure minimization operates on (ii) the meaning of the various kinds of relative pronouns. The comparative syntax of appositives may bear on the question of how best to analyze the weak relative clause paradigm.

One striking fact about English appositives is that they require the presence of a *wh*-element. In particular, relative *that* is excluded. Given that weak relatives are not excluded in principle in appositives as shown in French, this suggests that relative *that* is actually not a weak relative pronoun (cf. the discussion in section 3.5.4) but rather the complementizer, whatever that means. At the very least, the complementizer lacks some (interpretive?) property that weak relative pronouns possess.

If the prohibition against the complementizer *that* in English is significant, it may have several consequences for the French system:

First, since relative *que* is acceptable in appositives, it may signal that this *que* is not the complementizer *que* but rather a weak relative counterpart of interrogative *que*, as discussed in section 5.6.

Secondly, since weak relative forms are clearly allowed (inanimate *qui*, *dont*, temporal *où*), it suggests that weak relative pronouns are not inflected complementizers (and thus makes it more plausible that they XP specifiers of functional heads in the structural spine of the C system).

5.8 Kayne's successors

Since Kayne (1976), the basic analysis taking *qui* as a modified complementizer *que* has essentially remained the norm. In this context, the assumption has consistently been that the phenomenon is related to ECP effects, and most of the attention has been devoted to meeting the first two challenges.

In this section, we briefly review such proposals. Clearly, by hypothesis, none of these analyses meet challenge #4. And it should be kept in mind that, ultimately, we reject the two premises of such analyses, namely that *qui* is or contains the finite complementizer *que* and that ECP effects are involved.

Kayne's 1976 article established the existence of the rule without trying to address these challenges (which emerged as such later). As a starting point, we may think of Kayne's rule as essentially formulated as (109a) or (109b):

- (109) a. $que \rightarrow qui / __ V$
 b. $que \rightarrow qui / t-i __ t-i$

Such a rule states that *que* must be immediately followed by an extraction site and immediately preceded by a trace coindexed with this extraction site.

These formulations not only are stipulative but also overgenerate.

The first overgenerates for example in cases of Subject (Stylistic) Inversion as a), and both overgenerates in cases of subextraction from subjects such as b):

- (110) a. [Quelle valise]_j tu crois ok $que / *qui \ t_j \text{ va acheter Jean}$
 b. Combien_k tu crois ?# $que \text{ d'enfants} / *qui \ t_k \text{ d'enfants partiront}$

Formulations have been modified to take care of the overgeneration problem – essentially guaranteeing that the *que/qui* rule applies in a clause whose subject has been extracted, no satisfactory solution has emerged.

5.8.1 Qui as an agreeing Complementizer: Rizzi (1990)

Later work by Koopman (1984), Rizzi (1990), built on previous proposals by Taraldsen 1978, Aoun, Hornstein and Sportiche (1981), Pesetsky (1982), among others, does try to address some of the challenges mentioned earlier. Rizzi (1990) takes *qui* to be an agreeing variant of *que*; a wh element passing through the Spec/C can trigger agreement of C with this wh-element, morphologically manifested by the form *qui*. This answers the first challenge.

Rizzi further proposes that this agreement on *que* has the property of making the specifier of *que* into an A-position. This explains why the *que to qui* rule is limited to applying to cases in which an adjacent subject is extracted: nothing else than the subject is allowed to A-move to the C system past an intervening subject. This meets challenge #2.

5.8.2 Qui as a contracted form version I : Rooryck (2000)

Rooryck (2000) explicitly takes up challenge #4 and argues that both interrogative *qui* and (what we call weak, but he takes – following Kayne 1976 – to be complementizers) relative *qui* and *que*, as well as *que* are contracted forms *qui* = *qu+il* and *que* = *que+le* (with, in both cases the *l* obligatorily dropping).⁴⁴

In the context of Kayne's analysis, such analysis runs into all sorts of problems,⁴⁵ the direst of which is the fact that interrogative and relative *qui* distribute very differently (the first one can be - but in fact does not have to be- strong while special relative *qui* never is). This prompts a different syntactic analysis for the two – with *-il* the head of *qui* for interrogatives, and *qu-* the head of *qui* for relatives which is hardly independently justified, and runs against one of the most robust generalization holding crosslinguistically in particular in French for (at least synthetic) forms in French, namely Williams' 1981 Right Hand Head Rule demanding that the head be the leftmost element.⁴⁶

⁴⁴ Rooryck (2000) rightly also points out that the analogy extends to predicate nominals as in (i) *Que serait-il devenu?* / 'What would he have become?', (ii), *Jean le serait devenu* / *John would have become it*.

⁴⁵ One is why we do not have *qu+elle* or *qu+la* forms: this is what led 17th century grammarians to reject such an analysis.

⁴⁶ In addition, the animacy difference raises difficulties, and the reported judgments – here ?? - (Rooryck, op.cit. p.8) trying to justify a default animate interpretation for weak forms are not shared by this author (and some other speakers):

[(15)] a. Speaker A: Sophie l'a déjà lavé. Speaker B: Quoi???Qui?
 'Sophie already washed it???him' 'What???who?'
 b. Speaker A: Paul l'a envoyé au doyen Speaker B: Quoi???Qui?
 'Paul sent it???him to the dean' 'What???who?'

Note however that in the context of the present proposal distinguishing weak and strong forms, Rooryck's decomposition could be adopted in a natural, although slightly different way.

First we may suggest the idea that clitics *il*, *le* and *lui* are in fact morphologically complex, decomposing (at least) in respectively *i+l*, *l+e*, *l+ui*. On that basis, we could postulate the following *qui* is *qu+i*, and that *que* is *qu+e* (thus accounting for the otherwise mysterious obligatory disappearance of the *l* and) with the second morpheme always the head, assigning the different distribution of strong and weak forms to the present/absence of other (mainly semantic) features with no visible morphological reflexes (at least in some cases). This unfortunately would not address the objection in footnote 45.

5.8.3 Qui as a contracted form version II : Taraldsen (2001)

More recently, Taraldsen (2001), which present some valid criticisms of Rizzi's agreement proposal,⁴⁷ has suggested, on analogy with what happens in the Vallader dialect of Retho-Romance that the special complementizer *qui* is a contracted form of *que* and of a numberless expletive element *i* (a near allomorph of the expletive subject *il*) with very limited distribution: it is and must be found in subject position when a subject is extracted (from a position lower than the normal preverbal subject position – very much as argued by Rizzi 1982 for Italian).

(111) [Quels enfants]-j crois-tu [t2-j **que** [**i** vont t1-j partir avec Jean]]

Here we have indicated the position t1-j where the subject *quels enfants* is extracted from, as well as the intermediate trace t2-j required under Bounding/Phase theory. The expletive *i* satisfies the EPP property of the embedded T. That the expletive *i* is (personless and) numberless is required under this analysis given its compatibility with various person and number feature values on the finite verb. Finally, *i* is limited to occurring when the subject is extracted because the number feature on T is not checked by *i*. Instead, Taraldsen suggests

⁴⁷ One is the wrong prediction that *Qui_k t_{k-1} semble t_k qui t_{k-2} est parti*, with improper movement from t_{k-2} to t_{k-1} should be allowed, given that t_{k-2} is an A-position. That this position should not count as an A-position is also suggested by the Kinande facts Rizzi (1990, p. 55) cites, as agreement there is found with wh-movement of non subjects, or even non DPs. The other is that complementizer agreement in languages that have it does not behave like special *qui*. All this is of course highly relevant, and consistent, with the analysis we adopt here.

that the T number feature raises to C where it is checked by t2-j. Challenge 1 is met (*qui* is composed of *que + i*).

Object extraction is incompatible with *qui* because *i* is in complementary distribution with unmoved subjects, meeting challenge 2, without the problematic assumption that agreement turns Spec, CP into an A-position.

Although such an analysis seems plausible for Vallader, it seems less so for French: Rizzi and Shlonsky 2007 (to whose paper we refer for details), convincingly show that *i* does not have the distribution of an expletive subject, but rather seems to be higher in the clause; for example, it cannot be separated from *que* by anything.^{48, 49}

Additionally, it is unclear what happens in simple subject wh-questions under such an analysis, as e.g. in:

- (112) a. (On se demande) quel homme est parti (*we wonder which man left*)
 b. (On se demande) lesquels sont partis (*we wonder which left*)
 c. (On se demande) lesquels ~~sont partis~~ (*we wonder which-left*)
 d. (On se demande) qui diable est parti (*we wonder who the hell left*)

If wh-movement of the subject is involved, why doesn't *-i* appear?

Rizzi and Shlonsky (2007) argue that it is implausible to derive this absence from the (possibly vacuous) wh-movement of the subject not taking place in such cases. They point

⁴⁸ Taraldsen's proposal requires particular technical assumptions. For French, the account must be designed so that this expletive appears if and only if the subject is wh-moved (notwithstanding the case of the yes/no question particle *ti* mentioned below).

For Taraldsen, this has to do with the fact that *i* is numberless which he takes to mean that it is unable to check the number feature on T.

In the minimalist framework, feature checking on T is done under Agree concurrently with Case checking on the nominative DP. Under Agree, the postverbal subject in t1-i can check all features on T (but the EPP) under Agree. In Taraldsen's account, this option must be excluded: instead the DP subject must raise to check this number feature now in C. Taraldsen supposes that feature checking can be done under feature movement. He suggests however that raising the number feature on D in French requires pied piping of the whole DP (whereas this is not true in Vallader; other features are free to move without pied-piping and can thus be checked by feature movement – thus akin to Agree in its effects).

This guarantees that a DP with unchecked features and agreeing with T must raise to the C system, and only such a DP. In effect, this mimics the subject getting its Case checked in the C system, making Taraldsen's proposal very close to Rizzi (1990)'s.

⁴⁹ Taraldsen suggests that there is independent support for the existence of this expletive by pointing to the existence of constructions such as: (i) *Jean a- ti mangé*, in which he analyzes *ti* as epenthetic *t* + expletive *i*. This seems implausible, in part because typically, this colloquial construction is found in dialects lacking the *que-qui* alternation in embedded contexts. Conversely, varieties of Québec French display the *que/qui* alternation, but use a different question particle *tu*: the expected form [ky] is unattested,

out two reasons to assume that wh-movement does take place: TP deletion under sluicing is fine with subject questions as in (112c), and aggressively non D-linked subject phrases are fine as in (112d). Both of these suggest that the wh-phrase must be in the C system.

We are not entirely convinced by this line of argumentation.

The sluicing data could be taken to show that vacuous wh-movement occurs but only as last resort, taking place only if needed to feed unmarked processes such as sluicing.

As for the d-linking data in (112d), Koopman's 2000 observation that *the hell* can be suffixed to a subconstituent of a wh-moved constituent is relevant:

(113) who the hell's book did you buy

This allows the d-linking data to be treated as TP pied piping as below:

(114) [CP [TP quel homme est parti]_{-i} C [TP _{-i} e]]

given that this option seems to exist independently (cf. Sportiche, 1995, Koopman, 2000a, Nkemkji, 1995 and later work).

Furthermore, the possibility of:

(115) John bought someone's book but I do not know whose

shows that preposed constituents can be partially deleted, so that the sluice in (112c) could be a remnant in the C system of a TP pied piped by its subject to the C system).

On difficulty with TP pied piping implausible is the unavailability of (116):

(116) * (On se demande) [Quel homme est parti] tu crois (que je pense)

For now, then, we will assume with Rizzi and Shlonsky (2007) that (112) are simple cases of wh-movement to the C system from subject position. In Taraldsen's analysis, this must mean that extraction has proceeded from a lower position as discussed earlier:

(117) [Quels enfants]-j [(*i) vont t1-j partir avec Jean]]

But now, the required absence of the expletive *i* is puzzling: it should be just as obligatory as in (111).⁵⁰

5.8.4 Qui as a contracted form III: Rizzi and Shlonsky (2007)

Rizzi and Shlonsky's 2007 recent proposal tries to meet the first three challenges.

It assumes that extraction from subject position is excluded for "criterial" reasons: the highest head within TP – call it Subj – requires a specifier (an EPP property) to satisfy a criterial property. Since this property is "criterial" further movement from it, here the specifier of Subj, is excluded on general grounds as proposed in Rizzi (2004).

To handle the *que/qui* alternation, it adopts some central ideas of Taraldsen's analysis according to which *qui* is composed of *que* + *i*. Accepting Taraldsen's critique, it modifies Rizzi's earlier proposal in the context of Rizzi's 1997 cartographic proposal regarding the fine structure of the left periphery: this proposal distinguishes various heads in the C system comprising (at least) a head F hosting *que* above a Finiteness head Fin. It then takes *qui* to be the conflation of *que* in F with a finiteness morpheme *i* in Fin, thus addressing challenge #1. Fin with *i* in it is assumed to be allowed to satisfy the EPP property of Subj (under an extension of standard assumptions about checking which we will not discuss). As a result, in the presence of *i*, the external argument need not raise to the spec of Subj, and is therefore free to move out of TP. To have its number property checked, *i* in Fin (a non criterial projection) requires raising of the local subject to its specifier thus addressing challenge #2 (the subject being the closest DP with number, is the only one that can raise).⁵¹

To see how this works, consider the relevant derivational stage, when the nominal Fin head *i* is merged immediately above the Subj layer, where it satisfies the Subject Criterion:

⁵⁰ This was the point made in Koopman (1983) for Dutch which show expletive *er* with subject wh-extraction: main clauses and embedded environments behave in parallel fashion.

⁵¹ Note that just as in Taraldsen analysis, it must be assumed that checking of the unvalued number feature on Fin cannot be done under Agree but instead requires a spec/head relation.

(118) $[_{Fin-i}]$ Subj Jean Agr [t va aider quelles étudiantes]

i being postulated to have an unvalued number feature, this number feature in *i* must be valued by attracting a nominal element (recall that this cannot be achieved under Agree, so it must be for EPP reasons). But this nominal cannot be the thematic subject, *Jean*: if it was attracted to Spec/ $[_{Fin-i}]$, it would end up in a non-criterial position, in violation of movement as last resort (in this configuration, $[_{Fin-i}]$ and Subj are the two elements involved in criterial satisfaction; Spec/ $[_{Fin-i}]$ is not.) The wh object would not run into this problem: as a wh element, it would eventually move to a criterial position, a Q position in the main complementizer system. But the object cannot be attracted to Spec/ $[_{Fin-i}]$, if the attractor is the unvalued number feature, because of locality / Relativized Minimality. The closest potential attractee is the subject, *Jean*. So, no grammatical output is derivable, and the only case in which selection of *i* in Fin can lead to a well-formed structure is when the local subject is a wh element.

Along similar lines, one can exclude selection of *i* when no A' movement to the left periphery takes place :

(119) *Je crois qui Jean va aider les étudiantes
'I believe qui Marie will help the student'

Here *Jean* cannot be attracted to Spec/Fin-*i* for the same reason as above: the DP would end up in a non-criterial position, (**je crois Jean qui va aider les étudiantes* in the interpretation "I believe that Jean will help the students" is ruled out by the last resort principle), and if no attraction takes place, the number feature on *i* would remain unvalued, and the derivation would crash.

Accordingly, in a simple relative clause, we get (Op being a silent relative pronoun):

(120) L'homme [Op-*j* que [t2-*j* $[_{Fin-i}]$ [Subj [t1-*j* Agr [va [t-*j* partir t]]]

A similar analysis can be proposed for the (dialect specific) case of *que-qui* which permits subject extraction from an embedded declarative, as in: ?*Quelle étudiante crois-tu qui va partir?*

Here is the sequence of derivational steps Rizzi and Shlonsky (2007) provide:

- (121) a. Subj [quelle étudiante Agr [va [t partir t]]
 →_[Fin-i] is merged and satisfies the Subj Criterion →
 b. [_{Fin-i}] Subj [quelle étudiante Agr [t' va partir t]]
 → the wh phrase moves to Spec/_[Fin-i] and values the number feature →
 c. Quelle étudiante [_{Fin-i}] Subj [t'' Agr [t' va partir t]]
 → *que* is merged, the main clause structure is merged, and then wh moves to the main clause C system →
 d. Quelle étudiante crois-tu [que t''' [_{Fin-i}] Subj [t'' Agr [t' va partir t]]

As for the variation on the judgment on (121d), it can be assumed that the selection of *i* is generally available in the relative C-system, while the extension of this option to a declarative C-system is dialect-specific

We will not discuss this proposal in detail⁵² except to note that this proposal faces two problems similar to those faced by Taraldsen's .

Observationally, *que* and *i* must end up conflated. Mirroring the distribution problem found with Taraldsen's proposal taking *i* to be a subject expletive is the fact that *qui* conflates two heads. The existence of two distinct heads F and Fin is justified on distributional grounds precisely because some (typically adjunct like) material is or should be able to appear between F and Fin. We would expect then to find at least some material X being inserted between them, predicting the existence of sentences with the string *que X i*. This is however never possible. It seems clear that under any of the accounts just discussed, something must guarantee that the putatively composite *qui* form – “special *qui*” - can always be formed, e.g. by forcing (structural and perhaps linear) adjacency between its component parts to allow for normal epenthesis rules to apply.

Some additional assumption seems to be required, e.g. taking [Fin *i*] to be an enclitic on *que*, thus weakening the idea that *qui* is composed of two heads (note that Taraldsen's analysis could be amended in the same way – making expletive subject *i* a clitic on *que* - to circumvent Rizzi and Shlonsky's criticisms).

Similarly, just as under Taraldsen's analysis, in main clause questions like (122a), we would expect (122b), which is ill formed:

- (122) a. Quel enfant est parti
b. [Quel enfant]-j [F e] t-j [Fin i] [Subj t-j

Recognizing the problem, Rizzi and Shlonsky (2007) suggests that in main clauses, a silent version of [Fin *i*] is allowed, perhaps because of doubly filled comp problems.⁵³

A difficulty with such an hypothesis is raised by the questions why the silent [Fin *i*] option is not exercised elsewhere, e.g. in:

- (123) a. L'homme que *(i) est venu
b. L'homme que tu crois que *(i) est venu

Although Rizzi and Shlonsky (2007) write:

“In French subject relatives and in extraction from embedded questions, Fin cannot be null due to the requirement that embedded finite clauses express the C-system in French. In order to comply with this requirement, the language always resorts to the overt nominal Fin in this context, and qui is always pronounced”

⁵² The ingredients that make it work, apart from an exploded left periphery and “criterial freezing” are the following properties of *-i*: (i) un unvalued number property, (ii) being non criterial (iii) the ability to satisfy the criterial property of Subj.

⁵³ Note that in the exploded C system Rizzi (1997) convincingly defends, how exactly the doubly filled Comp prohibition should be enforced is not entirely clear. In effect, Rizzi and Shlonsky require that *-i* be a nominal [+F] and can only appear in contexts where the F head *que* actually appears.

it seems difficult to accept this as a solution given that [Fin *i*] is routinely absent in declarative tensed clauses (and even in object relatives, in such analyses) and that *que* alone can surface in such contexts.

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