"A Note on Some Even More Unusual Relative Clauses"*

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1. Some general points on relative clauses

In the spirit of Chomsky (1970) on 'passive', the notion 'relative clause' is unlikely to be a primitive of the language faculty.  This was explicitly recognized in Chomsky (1977), to the extent that the wh-movement operation that plays a role in the derivation of relative clauses also plays a role elsewhere (e.g in interrogatives).  Rizzi (1997) might be interpreted as backtracking from this position insofar as the landing site for wh-movement in relatives is different (Spec,ForceP) from the landing site in interrogatives (Spec,FocP/IntP).

The difference in landing site, though, could be factored out from the common movement operation, and taken instead as something to be explained.  The following proposal is based on the fact that the wh-phrase in headed relatives is in a relation to the 'head' of the relative in a way that has no exact counterpart in interrogatives, which lack a comparable 'head':

(1)  Wh-movement in relatives cannot (normally) land below ForceP (or TopP) because of locality requirements holding between the 'head' of the relative and the wh-phrase.

The informal formulation in (1) abstracts away from the question of the correctness of the raising analysis of relatives.  In what follows, I will assume the raising approach (perhaps not crucially).

In addition to wh-movement, a second, related aspect of relative clauses that is not specific to them is the very presence of overt wh-words.  A proposal expressing this non-specificity would be (cf. Postma (1994)):

(2)  a.  The *which* of English (headed) relatives is identical to the *which* of English interrogatives (and to the *which* of *every which way*).

b.  The *where* of English relatives is identical to the *where* of English interrogatives, as well as to the *where* of *somewhere, nowhere, anywhere, everywhere, elsewhere.*

c.  and similarly for other wh-words in whatever language.

Needless to say, the surrounding syntactic environment must be at least partially different in relatives, interrogatives and indefinites.

Note that (2) does not state that the sets of wh-words occurring in relatives and interrogatives and indefinites have to match perfectly.  In English *where* occurs in all three, but *who* occurs only in relatives and interrogatives.  In Italian *quale* ('which') occurs in both relatives and interrogatives, but *cui* ('who/what') occurs only in relatives and *chi* ('who') occurs only in interrogatives (and free relatives).

This point about wh-words not being specific to relative clauses carries over to those relative pronouns that are clearly related to demonstratives (such as German relative *d*-words).  If Kayne (2010a) is correct, this point also holds for English *that*, which occurs both as a relative pronoun and as an ordinary demonstrative.

The proposal in (2) can be understood as a particular case of a more general approach that is also illustrated by English numerals.  Consider:

      (3)  They have seven children.
      (4)  Their youngest child has just turned seven.
      (5)  It'll be exactly seven in a couple of minutes.

Example (3) shows an ordinary instance of the numeral *seven*.  In (4) and (5), a bare *seven* appears to be interpreted as an age and as a time of day, respectively.  Kayne (2003) argued that cases like (4) and (5) are best analyzed in terms of the presence of silent nouns, with (4) containing (at least) the noun YEAR (capitalization indicates silence) and (5) containing (at least) HOUR.

## 2.  Unusual relative clauses (with more than one relative pronoun).

Like interrogatives, relatives can sometimes to some extent contain more than one wh-word:

      (6)  (?)Mary Smith, whose husband's love for whom knows no bounds, is a famous linguist.
      (7)  ?The only woman whose husband's love for whom knows no bounds is Mary Smith.

In (6) and (7), both of the wh-words/relative pronouns are related to the head of the relative.  It may be that *whose husband's love for whom* in (6) and (7) has been pied-piped by the initial *who(se)*, rather than by *whom*.  This *whom* appears in any case to be 'in situ' within the larger wh-phrase.  Yet there is evidence that this *whom* is involved in a movement relation, perhaps of the parasitic gap sort.  This is suggested by the existence of ECP-like effects, as in:

      (8)  ?Mary Smith, whose husband's desire for me to paint a picture of whom is perfectly understandable, is a very famous linguist.
      (9)  *Mary Smith, whose husband's desire for whom to paint a picture of me is perfectly understandable, is a very famous linguist.

## 3.  Even more unusual relative clauses.

There also exist relative clauses containing two relative pronouns such that only one of them is related to the head of the relative.  These are for me somewhat more marginal than the preceding, but are still surprisingly close to acceptability (in the English of some speakers).  An example is:

      (10)  ?That car over there belongs to my old friend John Smith, whose long-standing attachment to which is well-known to all his friends.

Here, *who(se)* is related to the head of the relative *my old friend John Smith*, but *which* is not; rather, *which* is related to the subject of the matrix sentence, *that car over there*.

As in (8)-(9), sentences like (10) show ECP-like effects.  These can be detected by comparing the following two examples.  The first is:

      (11)  ??That car over there belongs to my old friend John Smith, whose long-standing desire for me to buy which is well-known to all his friends.

Although more marginal than (10), (11) nonetheless contrasts sharply with:

      (12)  *That car over there belongs to my old friend John Smith, whose long-standing desire for which to be sold quickly is well-known to all his friends.

Replacing the embedded infinitive following *desire* with a finite sentence results in an

appreciable drop in acceptability, but the contrast remains clear:

        (13)  ???That car over there belongs to my old friend John Smith, whose long-standing desire that I buy which is well-known to all his friends.

        (14)  **That car over there belongs to my old friend John Smith, whose long-standing desire that which be sold quickly is well-known to all his friends.

It seems clear that the extra deviance of (12) and (14), as compared with (11) and (13), is akin to the greater difficulty that holds in a general way for extraction of or from within subjects as compared with extraction of or from within objects.

## 4.  Steps toward an analysis.

    The raising approach to ordinary relative clauses, when extended to cover relative pronouns, leads one to take what we call relative pronouns to come about as the result of stranding a particular kind of determiner.  For example, a head + relative clause structure such as:

        (15)  books which I've read

will have a derivation that looks like:

        (16)  I've read which books  ->  wh-movement

           which books I've read <which books>  -->  raising of NP to 'head' position, stranding the relative determiner *which*

           books which <books> I've read <which books>

    The convenient informal term 'relative pronoun', then, is usually to be understood as short for 'determiner occuring within a relative clause and stranded by movement of its associated NP to the position of the 'head' of the relative'.  Let me call the movement operation that strands *which* in the last pair of lines in (16) 'relative pronoun stranding', henceforth abbreviated as RPS.

    It seems natural, however, to also take the *which* of (10)-(14) to be a relative pronoun (in almost exactly the same sense), despite the unusual position of its antecedent.  This is supported by the fact that it is also possible to find examples of such unusual relatives in which the unusual relative pronoun is *who(m)*:

        (17)  ?My old friend Mary Jones is still unaware of yesterday's discovery, the capacity of which to surprise whom cannot be exaggerated.

In (17), *which* is related to the nearby 'head' *yesterday's discovery* in a familiar way, whereas *whom* is related not to that head, but rather to the matrix subject *my old friend Mary Jones*.

    To say that the *which* of (10)-(14) and the *whom* of (17) are relative pronouns is to say, then, that they have been stranded by RPS, despite the fact that the antecedent in question is not the head of the relative.  Put another way, in (10)-(14) and in (17) RPS has moved the NP associated with *which* and *whom* to the position of matrix subject, hence out of the relative clause entirely.

    That RPS can apply out of a relative clause might seem surprising, but the difficulty of extraction out of a relative clause is often exaggerated.  For a detailed survey, see Cinque (2010).  To his examples of extractions leaving a gap might well be added, thinking back to Ross (1967), examples in which the extraction leaves behind a resumptive pronoun.

    For all of (10)-(14) and (17) the question arises as to what precisely has been moved.  RPS may perhaps be moving a full DP in such examples, rather than a NP.  Alternatively,

RPS may be moving just NP, in a more familiar way, if sideways movement is allowed.

That the *which* of (10)-(14) and the *whom* of (17) are relative pronouns (and not just pronouns) is also suggested by the following considerations. Sentences like (10)-(14) and (17) require that *which* or *whom* be pied-piped as part of a phrase containing the other (ordinary) relative pronoun. This is shown by the contrast between (17), for example, and the unacceptable:

(18) *My old friend Mary Jones is still unaware of yesterday's discovery, which will definitely surprise who(m).

The pied-piping in (17) now recalls the pied-piping of ordinary relative pronouns seen in:

(19) the book the first chapter of which is being widely discussed.

That the *which* of (10)-(14) and the *whom* of (17) are not just ordinary pronouns is shown by:

(20) *My old friend Mary Jones is still unaware of yesterday's discovery, even though it's very likely to surprise who(m).

As a final point to this squib, we can note that the 'head' of the relative cannot be 'skipped' entirely (even if the relative contains a resumptive pronoun linked to it):

(21) **That car over there belongs to my old friend John Smith, a picture of which shows how tall he is.

This may be due to a requirement that the head of a relative clause must in all cases originate together with some relative pronoun (and that in (21) there is no option for a silent relative pronoun).

Conclusion:

Relative clauses can be found that contain a relative pronoun whose antecedent is not the head of the relative. The familiar relation between the head of a relative and the relative pronoun can thus be seen as a special (even if overwhelmingly frequent) case of a more general relation between a relative pronoun (a stranded determiner) and its antecedent (whose movement has stranded that determiner). The piece of relative clause syntax that is the antecedent - relative pronoun relation is less specific to relative clauses that it might have seemed.

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