TP is a phase in relative clauses

**Overview.** Standard approaches to relativization posit A’ movement of a relative operator into the C domain, stopping along the way on the edge of any intermediate vP or CP phases. In this paper I argue that A’ movement in relative clauses must also stop on the edge of the TP domain, and that this behavior is relative clause-specific. I propose that the TP sister to relative C is a phase, while TP otherwise is not a phase. This result is in line with other recent work arguing that the phasal status of a projection is determined in part by its syntactic environment (i.a. Den Dikken 2007, Bošković 2014). Evidence is drawn from relative pronoun placement in Nez Perce, that-trace obviation in English, and resumption patterns in Palestinian Arabic.

**Nez Perce relative pronouns.** Relative pronouns (RPs) in Nez Perce may appear to the left or right of relative C. In either order, the RP may appear external to the finite clause in which it originates, (1), but may not be separated from the corresponding gap by an island, (2). Thus, both orders involve A’ movement.

(1) 'iniit { yoš ke / ke yoš } Jack hihice ‘iin haniya _nom
    house.NOM { RP.NOM C / C RP.NOM } Jack.NOM say 1SG.NOM made _
    the house that Jack says he built

(2) *haama { ko-nim kem / kem ko-nim } pro liloyno’qa c’alawí _erg paaniyo’qa cepeepy’uxtiiis-ne
    man { RP-ERG C / C RP-ERG } 2SG be.happy if _ made pie-ACC
    the man that you would be happy if _ made pies

In either order, nothing may come between the RP and the C ke(m). This suggests that the higher RP position is Spec,CP, and that the lower RP position is immediately subjacent to C. If it is possible for Nez Perce subjects to occupy Spec,TP, the lower landing site must be either an outer Spec of TP (given that the RP appears to the left of the subject, as in (1)), or a low Spec in a split CP domain. I propose the former: RPs move cyclically through the TP edge on their way to Spec,CP, and the order alternation reflects optional coverness for the final step (Spec,TP → Spec,CP). Because the low RP is in TP, fully internal to the CP phase, it is not able to participate in case attraction. Compare (3), where the high RP is optionally attracted to the head noun’s case, to (4), where the low RP is barred from attraction by the intervening CP phase.

(3) 'aayato-na [CP { ko-nya / yoš } ke _nom hipayn ]
    woman-ACC [CP { RP-ACC / RP.NOM } C _ arrive ]
    the woman[ACC] who just arrived

(4) 'aayato-na [CP ke [TP { *ko-nya / *yoš } _nom hipayn ]]
    woman-ACC [CP C [TP { *RP-ACC / *RP.NOM } _ arrive ]]
    the woman[ACC] who just arrived

If relative operators move to the highest phase edge in the relative clause, as is standard, then A’ movement in (4) must terminate in Spec,CP, given that CP behaves as a phase. The low RP (in Spec,TP) must occupy an intermediate position in the A’ chain. Insofar as successive cyclic movement through intermediate positions results from the phase theory, this furnishes an argument for the phasehood of TP in relative clauses.

**English that-trace effects.** Bresnan (1972) observed an exception to the that-trace effect in relative clauses: When the subject is extracted from the TP sister of relative C, that is not only possible, but indeed obligatory when the relative pronoun is null. Compare the RC pattern in (5b) with the standard pattern, (5a).

(5) a. What did she say (*that) __ helped them?    b. We build [machines *(that) __ help people]

Pesetsky and Torrego (2001) provide a phase-based approach to that-trace which successfully captures (5a) but not (5b). They posit that C must check [uwh] and [uT] features (where T features on a DP = nominative case). In (5a), subject movement to the embedded Spec,CP checks both features: the subject bears both [wh] and [T] (NOM case). Although it has been checked in Spec,TP, [T] on the subject remains visible at the CP level because checked features are deleted only at the completion of the phase. That arises when C checks
its [aT] feature by attracting T0. This is ruled out in (5a) by economy: since C’s two features can be checked by one movement (subject movement), they cannot be separately checked by subject- and T0-movement.

This analysis crucially requires TP not to be a phase in standard embedded clauses, as in (5a). The checked [T] feature on the subject remains visible to C because checked-feature deletion happens only upon phase completion, i.e. at the CP level. Bresnan’s observation about (5b) is immediately explained if, by contrast, TP is a phase in relative clauses (in particular, as sister to relative C). In a relative clause, the subject’s checked [T] feature is deleted at the TP level, and there is therefore no derivation in which the subject is able to check both [wh] and [aT] on C. C must satisfy its two requirements by independently attracting the subject operator (bearing [wh]) and T0 (bearing [T]). Attraction of T0 results in the surface form that.

The Highest Subject Restriction in Palestinian Arabic. Many languages with resumptive relatives are subject to what McCloskey (1990) dubbed the ‘Highest Subject Restriction’ (HSR): the highest subject position in the relative clause cannot be occupied by a resumptive pronoun. This pattern is particularly clear in Palestinian Arabic, where relativization of the highest subject requires a gap, but all other relativization sites require a resumptive pronoun (Shlonsky 1992, 2002).

(6) a. l-bint ʔillī {*hiya /∗_} raayha ʔal biesth  
   the-girl that {*she /∗_} going to house 
   b. l-bint ʔillī šufti {-{ˈha /∗_}}  
   the-girl that (you.F) saw -{ˈher /∗_} 
   the girl that you saw

One approach to the HSR extends Principle B to A’ binding, requiring resumptives to be A’ free in their domain (McCloskey 1990, 2006). If binding domains are understood in terms of phases (i.a. Hicks 2009, Rooryck and Vandenberg 2011), this means that the highest subject position must be within the same phase as the A’ binder in Spec,CP, whereas other positions in the relative clause are within a lower phase. This asymmetry follows at once if only the subject is in Spec,TP, and TP is a phase in relative clauses.

An alternative takes resumption to arise as a last resort when movement is blocked (Shlonsky 1992, 2002). Spec,CP is treated as a A-position in relative clauses; movement of anything other than the highest subject to Spec,CP violates minimality, producing the HSR. The idea that resumption is a last resort can explain the HSR in an arguably more straightforward way if (a) TP is a phase in relative clauses, and (b) T0 in Palestinian Arabic is not able to host a formal [iwh] feature driving successive-cyclic movement. Thus only the subject, which independently moves to Spec,TP, may move to Spec,CP; Spec,CP remains strictly an A’ position. Notably, in questions, both subjects and objects may move to Spec,CP in Palestinian Arabic:

(7) a. Miin l-ʔasād ṭakal __ mbarriḥ?  
   who the-lion ate __ yesterday  
   Who did the lion eat yesterday? 
   b. Miin ḥall l-muškile?  
   who __ solved the-problem  
   Who solved the problem?

On the phase-based approach, the asymmetry between (6) and (7) follows from the difference in the status of TP. In relative clauses, the TP phase prevents movement to Spec,CP of any argument that cannot move to Spec,TP independently of [wh]. In questions, however, TP is simply not a phase. This repeats the pattern in English (5), supporting the conclusion that TP’s phasehood is determined by its syntactic environment.

Overall, the phasal status of TP in relative clauses is supported by 3 separate properties of phases: they serve as intermediate A’ landing sites (e.g. in Nez Perce); they are domains in which checked features are deleted (e.g. in English); and they are domains for binding/movement locality (e.g. in Palestinian Arabic).


2