

## Diagnosing phase boundaries in participial relative clauses

**1. PHASEHOOD.** Most approaches to phases aim at an *intrinsic* definition of phasehood, and try to provide a static list of categories that are phasal heads (Chomsky 2008). We will argue instead for a *derivational* definition, by which the phasal status of a given configuration depends on how it is syntactically derived. So far research has mainly focused on finite clauses. We will extend the empirical domain by looking at participial relative clauses (PRCs).

**2. REDUCED RELATIVES.** Participles are hybrid lexical categories with both verbal and nominal features, as reflected by their morphology and syntactic distribution. This makes them particularly interesting for the study of phasehood. PRCs are crosslinguistically varied, with different structures and forms corresponding to different derivations (Doron & Reintges 2007). The best-known type is past participial relatives, which display typical unaccusative/passive diagnostics in only allowing object relatives without an overt subject, as in (1).

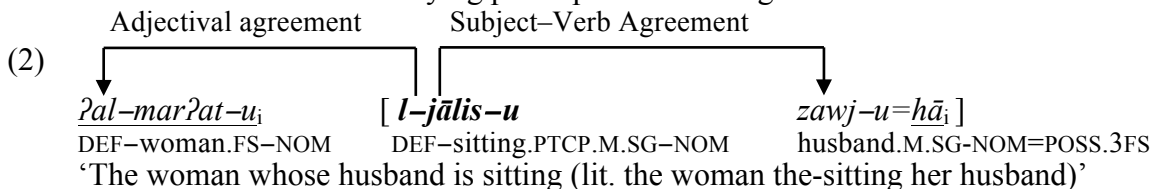
(1) *The philosopher admired \*(by) everybody*

Past participial relatives are structurally minimal, whence their analysis as reduced relatives. In refuting both the earlier deletion account and Kayne's (1994) silent CP analysis, we argue that these structures are simple VPs. Yet, they are strong islands and hence impenetrable phases, as in (1').

(1') *\*By whom did you meet the philosopher admired by whom?*

In principle, the phasehood could come either from the complex NP itself or from the PRC alone. To tease apart these two options, we study more complex PRCs with a full argument structure including an overt subject. In allowing the relativization of in/direct objects, adjuncts and possessors, such PRCs instantiate a fully-fledged relativization paradigm.

**3. DOUBLE AGREEMENT.** In entertaining two agreement (feature-sharing) relations, PRCs with overt subjects in Modern Standard Arabic shed light on the interrelation between phasehood, non/movement and labelling. In (2), the participle *l-jālis-u* 'the sitting' agrees, on the one hand, with the subject *zawj-u=hā* 'her husband' in singular number and masculine gender, and, on the other hand, with the relative head *ʔal-marʔat-u* 'the woman' in definiteness and nominative case. The double agreement pattern may produce agreement mismatches: in the case at hand, the relative head has feminine and the modifying participle masculine gender.



The participle must surface in the immediate postnominal position, thereby excluding Subject-Verb order within the participial clause, as exemplified in (2').

(2') *\*ʔal-marʔat-u<sub>i</sub> [zawj-u=hā<sub>i</sub> l-jālis-u]*

The double agreement pattern provides evidence for two domains for feature valuation—one pertaining to subject-verb agreement with the participial clause, and the other one pertaining to adjectival agreement with the modified DP. The situation is quite paradoxical in phase-theoretic terms. PRCs behave like phases, which define agreement domains (van Koppen 2005; Embick 2010; cf. Bobaljik 2008 for an opposing view). On the other hand, PRCs don't behave like phases in remaining accessible to agreement with the external DP.

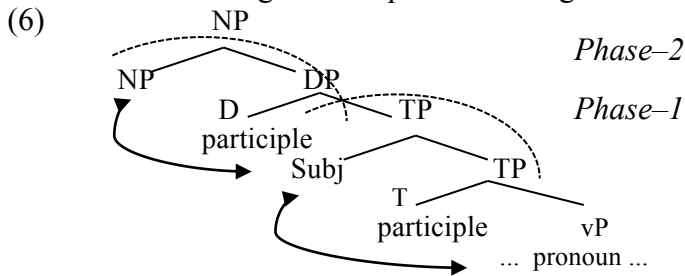
**4. OBLIGATORY PRONOMINALIZATION.** The double agreement correlates with another peculiarity of Arabic PRCs, viz. the presence of a pronoun at the relativisation site, as in (4). The impossibility of having gaps contrasts with finite object relative clauses, in which gaps alternate with resumptive pronouns, as seen in (5).

(4) *ʔas-sayyārat-u<sub>i</sub> [ s-sāriq-u=hā<sub>i</sub> / \* \_\_\_<sub>i</sub> ʔahmad-u ]*  
 DEF-car.FS-NOM DEF-stealing.PTCP.M.SG-NOM=CLITIC.3.F.SG Ahmad-NOM  
 ‘The car that Ahmad stole (lit. the car the-stealing it Ahmad)’

(5) *ʔar-raǰul-u<sub>i</sub> [ lladi raʔay-tu \_\_\_<sub>i</sub> / =hu<sub>i</sub> ]*  
 DEF-man.M.SG-NOM REL.COMP.M.SG.NOM see.PERF-1SG =CLITIC.3.M.SG  
 ‘The man that I saw’

We argue for a non-movement analysis of Arabic PRCs with overt subjects, in which the obligatory pronoun represents the internal relative head. Participle movement to T, and subject raising to the specifier of TP of the internally headed relative clause creates the relevant Spec-Head relation for

subject–verb agreement to take place. This agreement domain defines a lower Phase–1. The nominalization that goes together with relativization (Cecchetto & Donati 2015) is then brought about by the relabeling movement of the participle itself. Thanks to the nominal features of the participle, this operation creates an additional D label on the top of TP, thereby labelling the entire structure and turning it into a phase. The higher Phase–2 is the domain for agreement with the DP.



5. OBLIGATORY GAPPING. Early Egyptian (2600–2000 BCE), a neighboring Afroasiatic language, has a minimally different PRC, in which the presence of a direct object gap is mandatory. There are no attested examples of the kind in (7)–(8) with a corresponding direct object pronoun. The participle, unlike its Arabic counterpart, agrees in number and gender with the external relative head only, while there is no overt manifestation of subject–verb agreement.

(7) *f<sub>i</sub>w<sub>i</sub>*      *pw*      [*j-jr-Ø-n*      *nt<sub>i</sub>r-w*          <sub>i</sub> /\**sw<sub>i</sub>*      *jr=k* ]  
 curse.M.SG      DEM.M.SG      AUG–make–PTCP.M.SG–PERF      god–M.PL      CLITIC.M.SG      against=2M.SG

‘This curse which the gods made against you’ (Pyramid Texts 957b/P)

(8) *mw<sub>i</sub>*      *jpn*      *rnp-w*      [*rdØj-w-n=j*      *n=k*          <sub>i</sub> /\**sw<sub>i</sub>* ]  
 water.M.PL      DEM.M.SG      fresh–M.PL      give–PTCP.M.PL–PERF=1SG      to=2M.SG      CLITIC.M.SG

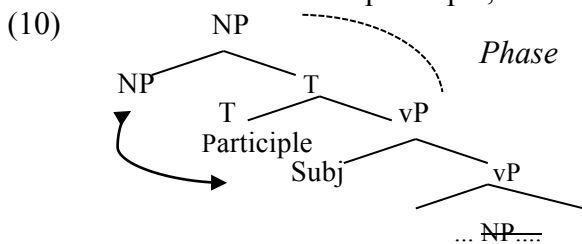
‘These fresh waters which I have given to you’ (Pyramid Texts 1002c/M)

The obligatory gapping pattern that we see here contrasts with the obligatory pronoun in Arabic PRCs, which we have identified as the clause-internal relative head. In finite relative clauses, the two languages pattern alike, in that gaps alternate with pronouns (9a-b).

(9) a. *nt<sub>i</sub>r<sub>i</sub>*      *pw*      [*ntj*      *n*      *rx=k*          <sub>i</sub> ]  
 god.M.SG      DEM.M.SG      COMP.REL.M.SG      NEG      learn=2M.SG  
 ‘This god whom you do not know’ (Coffin Texts V 111d/T1C)

b. *nt<sub>i</sub>r<sub>i</sub>*      *pw*      [*ntj=k*      *rx=k*      *sw<sub>i</sub>* ]  
 god.M.SG      DEM.M.SG      COMP.REL.M.SG=2M.SG      learn=STAT.2SG  
 ‘This god whom you do know’ (Coffin Texts V 111d/M2C)

Since there is no subject–verb agreement, there can be no lower Phase 1—a salient feature of this PRC that correlates with the obligatory direct object gap. For the PRC to be labelled, the relative head must raise into the specifier of the TP. In this position it can relabel the structure and turns it into a proper phase. The resulting spec–head relation triggers adjectival agreement between the raised relative head and the participle, but blocks subject–verb agreement.



6. CONCLUSION. The two types of PRCs instantiate two possible sources for the phasehood triggered by relativization. If the PRC is internally headed by means of a pronominal element, the participial clause is a phase per se, as in the case of Modern Standard Arabic. If, on the other hand, the PRC is externally headed involving head raising, only the entire complex NP constitutes a phase, as in the case of Early Egyptian. The phasehood of PRCs is defined by their syntactic derivation.

REFERENCES. Bobaljik, J.D. 2008. Where's Phi? Agreement as a Postsyntactic Operation; In D. Harbour et al. (eds.) *Phi Theory: Phi features across Modules and Interfaces*. Oxford • Chomsky, N. 2008. On Phases. In Freidin et al. (eds.) *Foundational issues in linguistic theory*, Cambridge. • Donati, C. & C. Cecchetto 2015. (Re)labeling. Cambridge • Doron, E. & C. Reintges 2007. On the syntax of participial modifiers. MS Hebrew University. • Embick, D. 2010. *Localism versus Globalism in Morphology and Phonology*. Cambridge. • Kayne, R.S. 1994 *The Antisymmetry of Syntax* Cambridge. • van Koppen, M. 2005. One Probe – Two Goals: Agreement in Dutch dialects. PhD Leiden.