Abstract

The present study is concerned with the complex ways in which alternating relative complementisers in Coptic are employed as a morphological flagging device for unbounded dependencies in various types of relative clause constructions and wh questions. We shall argue in particular that the alternation in shape is locally conditioned by properties of the complement (TAME) and the antecedent noun (definiteness), which can be modelled via selectional features such as COMPS and MOD, plus the prosodic status of right-adjacent material (phrase vs. clitic). We shall show that all applicable conditions carry over from relatives to wh in-situ, suggesting to model the polyfunctionality of these complementisers in terms a systematic alternation between resumptive SLASH and in-situ QUE dependencies, modelled in terms of a lexical rule.

Furthermore, we shall discuss the status of unbounded dependencies and argue that the pervasiveness of resumption with relatives and ex-situ wh arguments can be attributed to the absence of *gap-synsem* on ARG-ST. We shall argue that apparent subject "gaps" in relative constructions are of a highly local nature, best to be understood in terms of subcategorisation for a finite VP complement. Finally, we shall show that the ban on argument gaps does not carry over to wh ex-situ adjuncts, providing additional motivation for maintaining a systematic distinction between these two types of extraction.

1 Typological properties of Coptic

Coptic is the vernacular of Late-Antique and Early Medieval Egypt and represents the most recent stage of Ancient Egyptian [Afroasiatic] (from around the 3rd to the 13th c. CE). The language consist of at least six regional varieties, two of which gained supra-regional importance: Sahidic (from Arabic ʔaṣ-Ṣaʕīd 'Upper Egypt') and Bohairic (from Arabic ʔal-Buhairā, a province southeast of Alexandria), the latter of which functions as the liturgical language of the Coptic Orthodox Church (for dialect variation, history, and genetic affiliation, see Layton (2000, 1–4 §§1–6) and Reintges (2004, 2–6 §0.1)). All data are taken from corpora of the classical Sahidic dialect, which is renowned for its rich literary sources.

In terms of a coarse-grained morphological typology, the language falls near the isolating pole of the analytic–synthetic dimension. The language's basic word order is Subject-Verb-Object. Tense-Aspect-Mood-Evidentiality (TAME) particles furnish a broad range of conjugation patterns, in which lexical verbs can appear. TAME markers fall into two positional classes of pre-subject and pre-verbal (=post-subject) particles. The perfect tense particle *a* in (1) precedes the subject, whereas the pre-verbal future tense particle *na* in (2) follows it.

(1) a tə=sophia ket u=ɛːï na=s
PERF DEF.F.SG=wisdom build INDEF.SG=house for=3F.SG

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‘Wisdom has built a house for herself.’ (Proverbs 9, 1)

(2) pə=tʃɔeis na krine ən=nə=laos
DEF.M.SG=lord FUT judge PREP=DEF.PL=people
‘The Lord will judge the nations.’ (Psalm 28, 11)

The language has two negation strategies. The first strategy is to use the double negation *ən ... an*, where the negative scope marker *ən* is often omitted. The second strategy is to use a negative TAME particle in which negative polarity and a given temporal, aspectual or modal semantics are fused into a single, non-segmentable morph.

(3) a. arɛu əm pə=sɔn tɛt ən=hɛt an e=ʃatʃe
perhaps NEG DEF.M.SG=brother persuade.STAT of=heart not to=talk
nəmma=n
to=1PL
‘Perhaps the brother is not persuaded of heart to talk to us.’ (Apophthegmata Patrum, ed. Chaîne, n° 238 70, 21)

b. nə=f=na mu: an e=mpe=f nau e=pe=khristos
NEG=3.M.SG=FUT die not REL=NEG.PERF see PREP=DEF.M.SG=Christ
əm=pə=tʃɔeis
LINK=DEF.M.SG=lord
‘He will not die without having seen Christ, the Lord.’ (Luke 2, 26)

(4) awo: əmpe pə-kosmos sɔ:won=f
and NEG.PERF DEF.M.SG-world recognise=3m.sg
‘And the world did not recognise him (the Christ).’ (John 1, 10)

Coptic is a language without agreement inflection on the verb. Person, number, and gender marking on TAMEs, verbs and prepositions can be identified with enclitic subject and object pronouns, respectively, which appear in the same surface position as full NPs with which they are in complementary distribution. Moreover, pronominal arguments must always overtly be expressed; i.e. there is no pro-drop (Reintges, 2004).

2 Relative clauses

2.1 Converbal vs. canonical relative clauses

Coptic has a rich system of specialised syntax and morphology for relative constructions of various kinds. The two major relativisation strategies are represented by converbal and canonical relative clauses, which differ from each other in the range of antecedents that they can take. Converbal relative clauses typically modify indefinite and universally quantified NPs. In providing information necessary to establish the identity of the antecedent or to narrow down the set of potential referents, they can only be used as restrictive modifiers.

(5) a. ən=tə=he gar ən=u=roːme [e=fi na
in=DEF.F.SG=manner PCL LINK=INDEF.SG=man REL=3M.SG FUT
apodɛːmei]
go.abroad
'For like a man who is about to go abroad' (Matthew 25, 14)

b. roːme gar nim [e=wənta=f hah ən=nuːte]
man PCL every REL=HAVE=3M.SG many LINK=god
'For every man who has many gods' (Eudoxia, ed. Orlandi, 36, 11)

The complementary relativisation pattern features definite antecedents. In contrast to converbal relatives, canonical relative clauses have restrictive as well as non-restrictive uses. In the latter case, they are used as parenthetical assertions that provide supplementary information about a contextually given referent.

(6) a. pə=houː [ənt a=uː tʃpo=k ənhɛːtə=f]
DEF.M.SG=day REL PERF=3PL deliver.INF=2M.SG within=3M.SG
'The day on which you were born (lit. they gave birth to you)' (Koptische und Heiligen- und Martyrerlegenden, ed. Till, II 30, 13)

b. pə=houː əm-pə-hap [etere pə-tʃɔeis na ti hap
DEF.M.SG-day LINK-DEF.M.SG-law REL DEF.M.SG-lord FUT give law
ero=k]
to=2M.SG
'The day of the judgement when the Lord will judge you' (Acts of Andrew & Paul, ed. Jacques, 202,128)

2.2 Complementiser allomorphy

Besides their distributional differences, canonical and converbal relatives can also be distinguished on a morphological basis in terms of context-sensitive alternations in the shape of the relative complementiser. The language recognises five distinct relative complementisers *e, ere, et, ənt*, and *ən*, all of which show a morphosyntactic behaviour distinct from run-of-the-mill subordinate conjunctions such as *tʃe* 'that' (Reintges, 2012).

The converbal marker comes in two variants, the short form *e* and the long form *ere*. The distribution between the two allomorphs is relatively straightforward: the base form *e* is selected when the converbal marker is adjacent to an enclitic subject pronoun or a TAME marker, while the long form *ere* is selected when it is followed by a full NP subject. Given the syntactically heterogeneous character of the elements triggering the short form, we shall conclude that the distribution of *e* vs. *ere* is best understood in terms of a distinction between lexical head vs. full phrasal constituents, which is ultimately related to the presence vs. absence of a prosodic phrase boundary.

(7) a. hən u=ma [e=f ɔː ən=ʃarβa]
in INDEF.SG=place REL=3M.SG be.STAT in=scorching.heat
'In a place which (is) in (a state of) scorching heat' (Sahidic Vita of St. Pachomius, ed. Lefort 86, 24–25)

b. laau ən=ʃɛn nim [e=a=f tʃɔ=uː]
something LINK=tree every REL=PERF=3M.SG plant=3PL
'Every (single) one of the trees that he planted' (Koptische Heiligen- und Martyrerlegenden, ed. Till, II 18, 23–24)

c. hən uː=houː [e=nə=f sowən əmmɔ=f an]
in INDEF.SG=day REL=NEG=3M.SG know PREP=3M.SG not
'On a day which he does not know' (Luke 12, 46)

(8) u=hoβ [ere pə=nuːte moste əmmɔ=f]
INDEF.SG=thing REL DEF.M.SG=god hate PREP=3M.SG
'A thing which God hates' (Acts of Andrew & Paul, ed. Jacques, 202, 126–127)

In contrast to converbal relatives, canonical relative clauses display a considerable degree of complementiser allomorphy, which varies along with the TAME particle and the polarity of the embedded relative clauses. In affirmative relative clauses, alternating relative complementisers encode a rudimentary [± past] distinction, which reflects only partially the tripartite present–past–future tense system of the language. The relative complementiser *et* is selected in canonical present and future tense relatives and the allomorph *ənt* in canonical past tense relatives with the perfect tense particle *a*.

(9) a. etβe teuː=pistis [et tʃɛk eβɔl]
because.of DEF.F.SG=3PL.POSS=faith REL accomplish.STAT PCL
'Their faith, which is accomplished' (Testament of Isaac, ed. Kuhn, 233, 19)

b. t=apophasis [et na ʃoːpe]
DEF.F.SG=verdict REL FUT happen
'The verdict that will be reached' (Shenoute, ed. Amélineau, I.2 178, 14)

c. t=irɛːnɛː əm=pa=tʃɔeis [ənt=a=f
DEF.F.SG=peace LINK=DEF.M.SG.1SG.POSS=lord REL=PERF=3M.SG
taa=s na=i]
give=3F.SG to=1SG
'The peace of My Lord that he has given to me' (Testament of Isaac, ed. Kuhn, 230, 10–11)

The binary [±past] distinction that we see with affirmative relative clauses does not carry over to the corresponding negated relatives, which are consistently marked by the complex relative complementisers *ete(re)*, regardless of the negation strategy that is employed.

(10) a. nə=hethos [ete=n=se pɛt an ənsa tə=dikaiosynɛː]
DEF.PL=gentile REL.DEF=NEG=3PL run.STAT not after DEF.F.SG=justice
'The gentiles who did not pursue justice' (Romans 9, 30)

b. ʃɛn nim [ete=nə=f na ti karpos an [e=nanuː=f]]
tree every REL.DEF=NEG=3M.SG FUT give fruit not REL=be.good=3M.SG
'Every tree, which will not give good fruit (lit. fruit which is not good)' (Luke 3, 9)

c. nai [ete=mpe hoine mate əmmɔ=uː]
DEM.PL REL.DEF=NEG.PERF some obtain PREP=3PL
'These (things) which some have not obtained' (I Timothy 1, 6)

Converbal relative clauses are characterised by a generalised resumptive pronoun strategy, in which a personal pronoun replaces the relativised subject, direct object or oblique NP constituent.

(11) a. rɔːme nim [e=f hitʃəm pə=kah]
man every REL=3M.SG on DEF.M.SG=earth
'Every man who lives on earth' (Testament of Isaac, ed. Kuhn, 233, 12)

b. laau ən=ʃɛn nim [e=a=f tʃɔ=uː]
something LINK=tree every REL=PERF=3M.SG plant=3PL
'Every (single) one of the trees that he planted' (Koptische Heiligen- und Martyrerlegenden, ed. Till, II 18, 23–24)

c. ma nim [e=uː na tʃɔuː=s ero=f]
place every REL=3PL FUT send.=3PL to=3M.SG
'Every place that they will be sent to' (Precepts of St. Pachomius, ed. Kuhn, no. 129)

The generalised resumption strategy carries over to canonical past relatives introduced by the complementiser *ənt* (Reintges, 2012).

(12) a. ne=kʲom men ne=ʃpɛːre [ənt=a=uː ʃoːpe eβol
DEF.PL=wonder with DEF.PL=miracle REL=PERF=3PL exist PCL
hi=tootə=f əm=pe=n=eiɔt Apa Matheos]
by=hand=POSS.3M.SG PREP=DEF.M.SG=POSS.1PL=father Apa Matthew
'The miracles and wonders that came about through the agency of Our Father Matthew' (Koptische Heiligen- und Martyrerlegenden, ed. Till, II 18, 14–16)

b. pə=hoβ [ənt=a pə=nuːte kjalɔ=f ero=n]
DEF.M.SG=thing REL=PERF DEF.M.SG=god entrust=3M.SG to=1PL
'The matter that God entrusted (it) to us' (Shenoute, ed. Amélineau, I.1 36, 5)

c. e=pə=ma [ənt=a=k kʲəntə=f ənhɛːtə=f]
to=DEF.M.SG=place REL=PERF=2M.SG find=3M.SG inside=3M.SG
'The place where you found it' (Acts of Andrew & Paul, ed. Jacques, 204, 145–146)

Relativisation in Coptic Egyptian involves a non-local dependency between the antecedent and the resumptive element, mediated by the relative complementiser. As illustrated in (13), relativisation out of an embedded (conjunctive) clause is indeed attested, showing that the dependency is clearly not clause-bound.

(13) nim pe pei-ke-wa [et hən te=tən-mɛte]
who COP.M.SG DEM.M.SG-other-one REL in DEF.F.SG=POSS.2PL-midst
[et<e>=mp=ei əmpəʃa [n=f ʃatʃe nəmma=i]]
REL=NEG.PERF=1SG be.worthy CONJ=3.M.SG speak with=1SG
'Who is this other one who is in your midst that I was not worthy that he speaks with me?' (Koptische Heiligen und Martyrerlegenden, ed. Till, II 30, 18-19)

Coptic recognises one construction where an apparent gap is found inside the relative clause: when introduced by the complementiser *et*, the relativised subject remains unexpressed. However, in contrast to the other relative complementisers, a subject relative marked by *et* is of a highly local nature: as shown by the data in (14) above, use of *et* is only possible, if the complementiser is immediately followed by either the lexical verb, or the post-subject future *na*.[1]

(14) a. etβe te=uː–pistis [et tʃɛk eβɔl]
because.of DEF.F.SG=3PL.POSS–faith REL.DEF accomplished PCL
'Their faith, which is accomplished' (Testament of Isaac, ed. Kuhn, 233, 19)

b. t=apophasis [et na ʃoːpe]
DEF.F.SG=verdict REL.DEF FUT happen
'The verdict that will be reached' (Shenoute, ed. Amélineau, I2 178, 14)

The complex complementiser *ete(re)* must be used in non-subject present and future tense relatives, which are characterised by the presence of a resumptive pronoun for the relativised argument.

(15) a. pə=ʃatʃe [etere pə=rəm-ɛːi na
DEF.M.SG=word REL.DEF DEF.M.SG=AGENT.NOUN-house FUT
tʃɔɔ=f]
say.INF=3M.SG
'The word that the superintendent will speak' (Precepts of St. Pachomius, ed. Kuhn, no. 122)

[1] Besides future *na* Coptic witnessed two more raising TAM markers, i.e. conditional *šan* and deontic modal *e*. However, these two markers are not attested in side relative clauses.

b. p=ɛːi [etere pei=ʃɛːre ʃɛm mɔwət ənhtə=f]
DEF.M.SG=house REL.DEF DEM.M.SG=boy little die.STAT in=3M.SG
'The house in which the young boy died' (Acts of Andrew & Paul, ed. Jacques, 206, 163–164)

Furthermore, if a pre-subject TAM auxiliary or a negative marker is present, use of a resumptive is again obligatory, together with one of the standard non-local relative complementisers *ənt* or *ete(re)*, as shown in (10) above.

Given the highly local nature of zero subjects following *et*, together with the general absence of argument gaps in the language, the Coptic data are of high significance for a general theory of resumption, ultimately providing evidence against a conception of resumption as a "last resort" operation (Shlonsky, 1992).

3 Wh questions

3.1 Wh in-situ constructions

Alternating relative complementisers are not restricted to relative clauses but may also appear in various non-relative environments, such as yes/no and wh questions, declarative focus sentences, coordinate structures, comparative constructions, predicative adjunct, temporal adverb clauses, conditionals and so on. The concern here is with Wh questions. As shown by the contrast between (16a) and (16b), clause-internal interrogative pronouns such as *nim* 'who' and *uː* 'what' only assume a genuine question interpretation, when they are construed with an initial relative complementiser; otherwise they are interpreted as specific indefinites in an ordinary declarative clause. In other words, the presence of a relative complementiser is crucially involved in specifying the interrogative force of the wh in-situ construction (Reintges et al., 2006; Reintges, 2007).

(16) a. e=i na ti uː na=k ?
REL=1SG FUT give what to=2SG.M
'What shall I give you?' (Genesis 30, 31)

b. a=i ti uː mən uː ehun e=pei=ma
PERF=1SG give what and what PCL to=DEM.M.SG=place
'I gave such and such a thing to this place.' (Shenoute, ed. Leipold, IV 105, 16)

Wh in-situ has a broad syntactic distribution, appearing in main and embedded clauses, introduced in the latter case by the finite subordinating complementiser *tʃe* 'that'.

(17) a. ənt=a uː ʃoːpe əmmɔ=k pa=tʃɔeis p=ərrɔ?
REL=PERF what become PREP=2M.SG DEF.M.SG.1SG=lord DEF.M.SG=king
'What happened to you, my Lord and King?' (Eudoxia, ed. Orlandi, 36, 24)

b. ən=ti sɔwən an [tʃe ənt=a u: ʃo:pe əmmɔ=s]
NEG=1SG know not that REL=PERF what become PREP=3F.SG
'I do not know what has happened to her.' (Hilaria, ed. Drescher, 7, 30-31)

Multiple wh in-situ questions are only marginally attested and display a pair-listing reading, in the next example, pairs of informers and informs.

(18) ənt=a nim tsaβɔ=f e=nim?
REL=PERF who teach=3M.SG about=who
'Who taught him about whom?' (Shenoute, Wessley 9, 110a: 9f)

Neither wh arguments nor wh adverbs show any resistance to wh in-situ interrogation.

(19) a. ere nim na na na=n?
REL who FUT have.mercy for=1PL
'Who will have mercy upon us?' (Shenoute, pap. Paris 13154v, a14)

b. e=i na tʃe u: na=k?
REL=1SG FUT say what to=2M.SG
'What shall I say to you?' (Apophthegmata Patrum, ed. Chaîne, n°28 5, 25)

c. awo: ənt=a=u: ei eβɔl ton?
and REL=PERF=3PL come PCL where
'From where did they come?' (Apocalypse 7, 13)

d. ənt=a=k ei e=pei=ma ən=aʃ ən=he?
REL=PERF=2SG.M come to=DEM.SG.M=place in=what of=manner
'How did you get to this place?' (Coptic Martyrdoms, ed. Budge, 206, 29)

It is also possible, although not very common, to have wh in-situ in negated questions.

(20) ete=mpe tʃo:həm hən aʃ əm=ma?
REL.DEF=NEG.PERF.2F.SG defile in what of=place
'In which place have you not become defiled?' (Besa fragment 35 116, 14-15)

Present tense and future tense wh in-situ questions are introduced by the converbal relative markers *e(re)*, while affirmative and negative past tense wh in-situ questions are marked by the relative complementisers *ənt* and *ete(re)*, respectively and pattern in this respect with canonical relative clauses. A question arises with respect to the scope of the wh in-situ constituent in embedded clauses. As shown by (17b), the in-situ wh word generally takes the embedded scope, which produces an indirect question interpretation. In this context, the relative complementiser surfaces

immediately to the left of the subordinating complementiser *tʃe*. However, there are also attested examples in which the in-situ wh constituent scope out of the embedded clause and takes matrix scope, with the resulting interpretation being that of an indirect question. When this happens, the relative complementiser occurs in the matrix clause over which the wh in-situ takes scope.

(21) ere əm=mɛɛʃe tʃoː əmmɔ=s [tʃe ang nim]?
REL DEF.PL=crowd say PREP=3F.SG that I who
'Who do the crowds say that I am?' (Luke 9, 18)

The attentive reader might have noticed that both *e(re)* and *ete(re)* are attested in wh in-situ constructions, alongside perfective *ənt*. We tentatively attribute this somewhat free variation to the absence of an antecedent noun that could restrict the use of either complementiser on the basis of a definiteness distinction.

3.2 Wh ex-situ constructions

In terms of Cheng (1991)'s typology of wh-constructions, Coptic can be classified as an optional wh fronting language, in which wh ex-situ is available as a marked alternative to the canonical Wh in-situ pattern. Relative complementisers are systematically absent in wh ex-situ questions. In contrast to wh in-situ constructions, wh ex-situ displays an argument/adjunct asymmetry, as fronted wh arguments are always construed with a resumptive pronoun, while fronted wh adjuncts are not (Reintges, 2007).

(22) a. nim a=f ent=k e=pei=ma?
who PERF=3SG.M bring=2M.SG to=DEM.SG.M=place
'Who brought you here?' (Koptische Heiligen- und Martyrerlegenden, ed. Till, I 3, 7-8)

b. eβɔl ton a=tetən ei e=pei=ma?
PCL where PERF=2PL come to=DEM.SG.M=place
'From where did you come here?' (Coptic Martyrdoms, ed. Budge, 220, 8)

The scope of wh ex-situ is contingent on the syntactic position of the wh constituent. When the wh phrase appears to the left of the subordinating complementiser *tʃe*, it takes the embedded scope and the entire construction is interpreted as an indirect question. On the other hand, if the wh phrase appears in the matrix clause, the resulting interpretation is that of a direct question.

(23) a. ən=aʃ ən=he əntɔk kə=tʃɔː əmmɔ=s [tʃe tet(ən)=na
in=what of=manner YOU.SG.M 2SG.M=say PREP=3F.SG that 2PL=FUT
ər rəmhe]?
become free.man
'How do you (sg) say that you (pl) will become free?' (John 8, 33)

b. ti=tʃənu: əmmɔ=tən [tʃe hən u: ən=ʃatʃe a=tentən mu:te
1SG=ask PREP=2PL that with what of=word PERF=2PL say
erɔ=i]
about=1SG
'I ask you with which reason do you say about me ...' (Acts 10, 29)

4 Analysis

4.1 Relative constructions

As we have seen in section 2, the relative complementisers *ənt*, *e(re)*, and *ete(re)* mark the top of an unbounded dependency, with the bottom of that dependency realised as a resumptive pronoun. Following recent work on resumption within HPSG (Taghvaipour, 2005; Crysmann, 2012; Borsley, 2010; Alotaibi and Borsley, 2013), we assume that resumption involves ordinary SL(ASH) passing, rather than a separate non-local feature RESUMP, as postulated by Vaillette (2001).

For the purposes of this paper, we shall adopt the specific proposal of Borsley (2010) and Alotaibi and Borsley (2013) who suggest that resumptive dependencies require an amendment of standard lexical SLASH AMALGAMATION (Ginzburg and Sag, 2001) to permit optional termination of a SLASH dependency by way of index-sharing between the element in SLASH with that of a pronominal on ARG-ST, to license structures as illustrated in Figure 1.

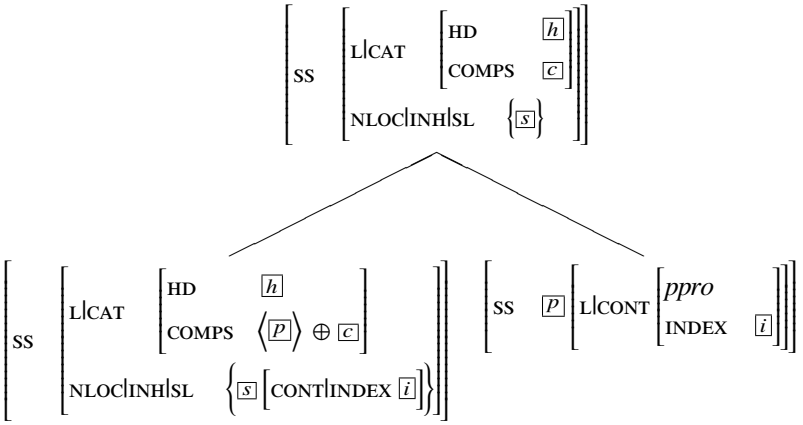

Figure 1: SLASH termination by resumption (cf. Borsley, 2010)

In order to license termination of a SLASH dependency by way of a (resumptive) pronoun, introduce this option by means of the two constraints shown in Figure 2.

Given this revised version, there are essentially three ways of satisfying this principle: either by co-indexation of the word's SLASH element with a (bound or free) pronoun (=resumption), standard termination of the SLASH dependency by a *gap-ss*, or else by a *canon-ss* that itself is slashed. As we have argued above, the grammar

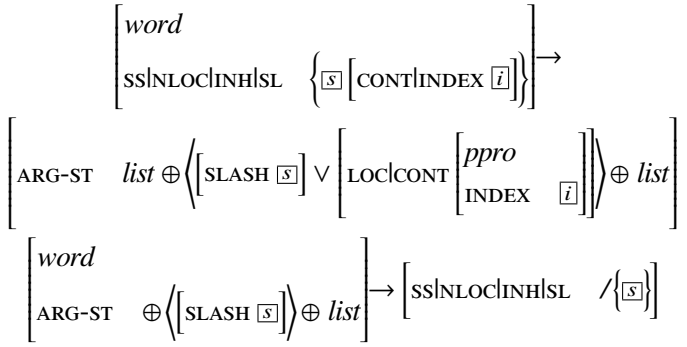

Figure 2: Revised SLASH AMALGAMATION for resumption (Alotaibi and Borsley, 2013)

of Coptic does not seem to allow for argument gaps. In order to capture this empirical generalisation about the language, all it takes is to ban termination of SLASH dependencies by way of *gap-ss*, as captured in Figure 3.

$$word \rightarrow \left[\textsc{arg-st} \quad list(canon\text{-}ss)\right]$$

Figure 3: Ban on argument gaps

Having discussed how SLASH dependencies can be terminated by means of pronominals, let us turn to the top of the unbounded dependency construction. Consider the schematic lexical entry for standard S-taking relative complementisers given in Fig. 4: apart from establishing modification of the antecedent noun via the MOD feature, these complementisers bind a SL dependency which they restrict to be an NP. In addition, they equate INDEX of the element in SLASH with that of the antecedent noun. Additional properties of individual relative complementisers, e.g. the constraint regarding definite antecedents for *ənt* and *ete(re)* can be stated by reference to the MOD value: e.g. the specific entries for *ənt/ete(re)* will require the antecedent noun to be definite, whereas those for *e(re)* will restrict it to be indefinite. Similarly, the restriction of *ənt* to past relatives can be captured by means of a constraint on its complement's INDEX.

Besides standard relatives featuring a non-local dependency with a resumptive at its foot, we observed exactly one construction with an apparent subject gap, involving the complementiser *et* . As detailed above, zero realisation was restricted to those constructions where an overt subject would otherwise surface at the left edge. Given the highly local nature of zero relativised subjects and the general absence of argument gaps in the language, we conclude that the properties of *et* are best captured in terms of local subcategorisation: as detailed in Fig. 5, *et* is subcategorised for a VP complement, i.e., a partially saturated verbal projection with an open subject valency, the INDEX of which is structure shared with the INDEX of the antecedent noun. Making the somewhat standard assumption that post-subject TAME markers are raising auxiliaries, whereas pre-subject TAME markers and negation combine with a fully saturated verbal projection, the distribution of *et* can be correlated with the different

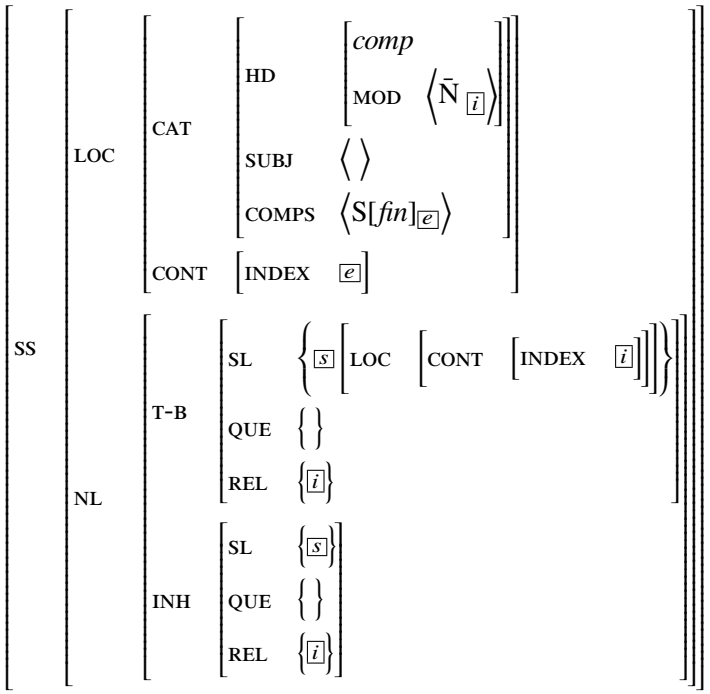

Figure 4: Relative complementisers (*ənt/e(re)/ete(re)*)

placement properties of pre-verbal TAME markers.

Having shown that apparent subject gaps in relatives are best understood as a local phenomenon, the generalisation that Coptic lacks argument gaps can be straightforwardly accounted by means of the constraint in 3 which restricts argument structure to consist entirely of canonical synsem objects.

4.2 Wh constructions

As we have seen in section 3, Coptic has (at least) two alternative constructions for wh questions: (i) wh ex-situ which is characterised by fronting of a wh phrase to the left of the clause or sentence, possibly involving pied-piping, and (ii) wh in-situ characterised by the absence of fronting and the presence of a "relative" complementiser.

4.2.1 Wh ex-situ

Similar to fronting in languages such as English (Pollard and Sag, 1994; Ginzburg and Sag, 2001), wh ex-situ phrases, as well as other fronted material, such as ex-situ focus are licensed in Coptic by a filler-head schema along the lines of Fig. 6: most crucially, this schema identifies the filler daughter's LOC information with a singleton element in the head-daughter's T(O)-B(IND)|SL(ASH).

Furthermore, the T-B|QUE value of the head daughter is constrained to be token-identical to the INH|QUE value of the filler daughter, thereby inhibiting percolation of

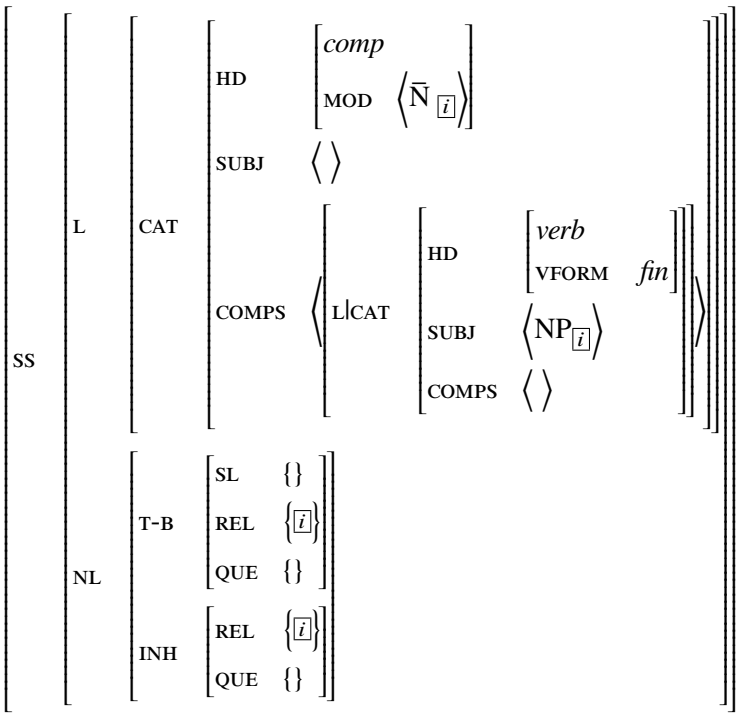

Figure 5: VP-taking complementiser *et*

a QUE dependency from an embedded ex-situ wh construction to the matrix clause. Interrogative illocutionary force can then be determined on the basis of a non-empty T-B|QUE value: if the filler contains a wh word, i.e. a word with a non-empty INH|QUE value (see Fig. 7), this value will be present on the INH|QUE of the filler daughter, by virtue of the Non-local Feature Principle (Pollard and Sag, 1994). Similarly, if no such wh word is present in the filler, the filler's INH|QUE value will be empty. Thus, as far as the filler and the determination of interrogative force are concerned, Coptic ex-situ wh constructions do not differ much from corresponding constructions in languages such as English.

Where Coptic differs from English, however, is at the bottom of the dependency: as witnessed by the data in sections 2 and 3.2, as well as the discussion in section 4.1 above, the language does not recognise any argument gaps. Besides argument fronting, which involves resumption at the bottom of the dependency, Coptic also features wh and focus fronting of modifiers, in which case there will be a gap at the extraction site.

Following the arguments presented by Levine (2003), we shall assume that adjunct extraction differs from argument extraction in being syntactic, rather than lexical in nature. Thus we shall assume that adjunct gaps are introduced by a syntactic unary rule, along the lines of Fig. 8. Given that filler-head structures equate the entire LOC value of the filler with the T-B|SL of the head daughter, a full local representation is sent down the tree, including both CAT and CONT information of the filler, thereby ac-

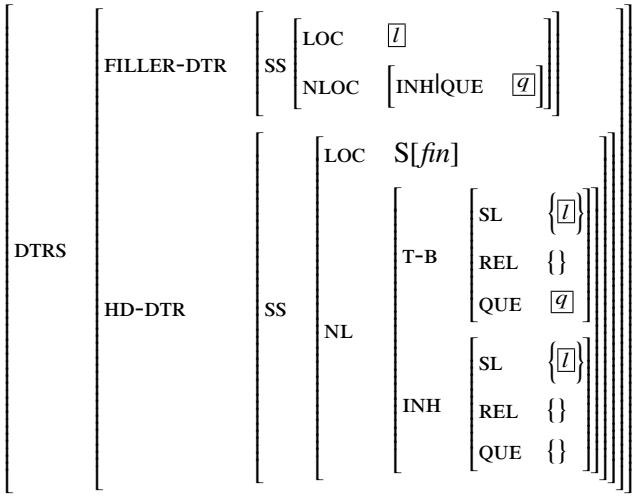

Figure 6: Filler-head schema

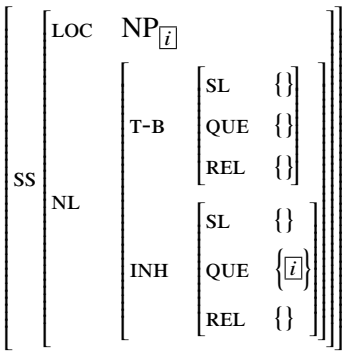

Figure 7: Lexical representation of wh words

counting for a matching effect between a modifying filler and its semantic integration at the gap site.

4.2.2 Wh in-situ

Having laid out our analyses of relative clauses and wh ex-situ constructions, we are now in a position to integrate the analysis of in-situ wh questions. To this end, we shall build on the proposal by Johnson and Lappin (1997) who exploit the non-local nature of QUE percolation for an account of in-situ wh question formation in Iraqi Arabic. Essentially, they generalise the QUE feature used for pied-piping in English wh fillers and apply it to non-local percolation from the sentence body.

The particularly compelling property of Coptic relative complementiser lies with the fact that the intricate morphosyntactic patterns regulating the choice of form generalise from relative constructions to their use in wh in-situ question formation, modulo, of course, the definiteness distinction, which we take to be neutralised by the

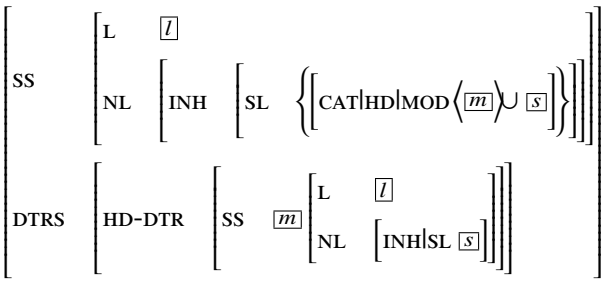

Figure 8: Adjunct extraction

absence of an antecedent noun in wh in-situ constructions. We shall therefore propose to model the polyfunctionality of these markers by means of the lexical rule depicted in Fig. 9. In essence this rule converts a relative complementiser terminating a SL dependency into a complementiser terminating a QUE dependency.

Since the output of the lexical rule, a wh complementiser, specifies a non-empty T-B|QUE value, interrogative illocutionary force will ensue, in much the same way as with overtly dislocated wh fillers. Most importantly, this illocutionary force is fixed at the level of the first complementiser or filler. Finally, conversion of a SL terminating complementiser into a QUE terminating one, already correctly rules out use of *et* in wh constructions: since the relative complementiser *et* represents a local relativisation strategy, devoid of (resumptive) SL dependency, it cannot be converted into a QUE dependency to serve in-situ wh constructions.

4.3 QUE islands

A final issue that has been brought to our attention by Bob Borsley (p.c.) concerns the locality conditions on QUE passing. Johnson and Lappin (1997) observe that island status varies according to the non-local feature involved (SL vs. QUE) and propose a parameterisation of the Non-local Feature Principle to capture these differences. Following previous observations made by Wahba (1991); Ouhalla (1994) and Simpson (1995), they note that in Iraqi Arabic, by contrast, finite clauses are QUE islands, but not SL islands, as witnessed by the data in (24) below.

(24) a. Mona shaafat meno?
Mona saw whom
'Who did Mona see.'

b. Mona raadat tijbir Su'ad tisa'ad meno?
Mona wanted to.force Su'ad to.help who
'Who did Mona want to force Su'ad to help?'

c. * Mona tsawwarat Ali ishtara sheno?
Mona thought Ali bought what

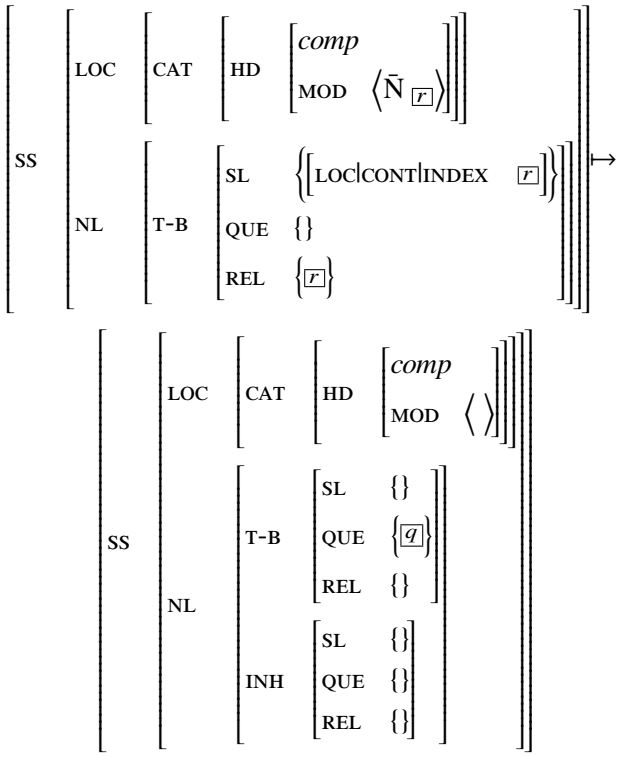

Figure 9: QUE-complementiser LR

d. Sheno tsawwarit Mona Ali ishtara?
what thought Mona Ali bought
'What did Mona think Ali bought?' (Johnson and Lappin, 1997)

While matrix scope of wh in-situ phrases contained in non-finite phrases is indeed possible, suggesting non-local QUE passing, matrix scope from wh in-situ phrases embedded in finite clauses is ruled out. Instead, fronting of the wh phrase remains the only option.

Pied-piping in English has been shown to involve unbounded QUE dependencies (Ross, 1967), Ginzburg and Sag (2001) argue that the bottom of a QUE dependency can only involve the least oblique argument. They suggest that all elements of ARG-ST except the first must be restricted to [QUE { }].

In Coptic, however, finite clauses do not constitute islands, neither for resumption, nor for adjunct extraction, nor for wh in-situ, as we have shown above, in contrast to Iraqi Arabic. Similarly, wh in-situ does not seem to observe any restriction with respect to the obliqueness of the argument involved, being attested for subjects and objects alike.

Although more extensive corpus research on the marked pied-piping alternative in Coptic wh-formation is necessary, the data we have so far investigated currently give us very little reason to believe that the level of unboundedness, in particular the

absence of clause-boundedness observed for wh in-situ, will carry over to pied-piping in wh ex-situ constructions: while QUE dependencies originating somewhere within the complement of a relative/wh complementiser may easily cross clause boundaries, we hypothesise that QUE dependencies within fillers observe somewhat stricter conditions, presumably disallowing QUE passing across finite clause boundaries.

Assuming for the sake of the argument that the locality conditions on pied-piping in Coptic do not differ in crucial respects from those observed for English, we would need to parameterise the locality condition according to the distinction between wh pied-piping and wh-in situ, i.e. we need to be able to impose QUE island constraints relative to the origin of the dependency (filler or complement). Since the value of QUE is a set (of indices), all it takes is to impose on the elements of the set a distinction between bounded and truly unbounded elements. Technically, this can be done either by cross-classifying the hierarchy of *index* types along the bounded/unbounded distinction, or else by means of an appropriate feature. Let us settle for the type-based approach: in order to establish a distinction with respect to the origin of the dependency, all it takes is to constrain the QUE set of filler daughters to be of type *bounded-index*. Constraints on wh pied-piping will then be formulated by restricting the QUE value of relevant members of ARG-ST to be a set of *unbounded-index*. As a result, boundedness will be selectively enforced for filler daughters, i.e. in pied-piping, but not for the complement daughter of a wh complementiser, ensuring true unboundedness of wh in-situ.

5 Conclusion

We have shown in this paper that Coptic observes a blanket ban on argument gaps observable in both relative clauses and wh ex-situ constructions, arguing that the apparent exception regarding zero subjects in *et*-relatives is of a highly local nature, to be modelled in terms of subcategorisation for a VP complement. Furthermore, we have discussed the local conditioning of complementiser allomorphy that generalises from relatives to in-situ wh constructions, militating for a treatment that systematically derives the latter use from the former. More specifically, we have suggested to model the wh usage of relative complementisers by means of a lexical rule that converts a (resumptive) SLASH dependency into a QUE dependency, enabling us to capture the assignment of interrogative force uniformly across in-situ and ex-situ constructions, while at the same time accounting for complementiser allomorphy.

The Coptic data discussed here are of utmost relevance to a general theory of resumption: since gap strategies are non-existent for arguments in both relatives and ex-situ wh questions and since wh in-situ is actually always available, these data should cast some serious doubts on theories such as Shlonsky's that picture resumption as a "last resort" rather than a grammatical option in its own right. Finally, the asymmetry between argument resumption and adjunct gaps lends further support for a distinction in terms of lexical and phrasal SLASH introduction.

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