

The polyfunctionality of Coptic Egyptian relative complementisers

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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*. Furthermore, we shall show that the allomorphy carries over from relatives to *wh* in-situ, suggesting a systematic alternation between resumptive *SLASH* and in-situ *QUE* dependencies, modelled in terms of lexical rules.

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 consists 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)). All data are taken from corpora of the classical Sahidic dialect.

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 preverbal future tense particle *na* in (2) follows it.

- (1) a tə=sophia ket u=ε:ī na=s
PERF DEF.F.SG=wisdom build INDEF.SG=house for=3F.SG
‘Wisdom has built a house for herself.’
- (2) pə=tʃɔeis na krine ən=nə=laos
DEF.M.SG=lord FUT judge PREP=DEF.PL=people
‘The Lord will judge the nations.’

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=het an
perhaps NEG DEF.M.SG=brother persuade.STAT of=heart not
e=ʃatʃe nəmma=n
to=talk to=1PL
‘Perhaps the brother is not persuaded of heart to talk to us.’
- b. nə=f=na mu: an e=mpɛ=f nau
NEG=3.M.SG=FUT die not REL=NEG.PERF see
e=pe=khristos əm=pə=tʃɔeis
PREP=DEF.M.SG=Christ LINK=DEF.M.SG=lord
‘He will not die without having seen Christ, the Lord.’

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.

2 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.

- (4) a. ən=tə=he gar ən=u=ro:me [e=fi na
in=DEF.F.SG=manner PCL LINK=INDEF.SG=man REL=3M.SG FUT
apodε:mei]
go.abroad
‘For like a man who is about to go abroad’
- b. ro:me gar nim [e=wənta=f hah ən=nu:te]
man PCL every REL=HAVE=3M.SG many LINK=god
‘For every man who has many gods’

The complementary relativisation pattern features definite antecedents.

- (5) pə=hou: [ənt a=u: tʃpɔ=k ənhε:tə=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)’

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 behavior distinct from run-of-the-mill subordinate conjunctions such as *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 TAME marker, while the long form *ere* is selected when it is followed by a full subject NP. 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.

- (6) a. hən u=ma [e=f ɔ: ən=ʃarʃa]
in INDEF.SG=place rel=3m.sg be.STAT in=scorching.heat
‘In a place which (is) in (a state of) scorching heat’
- b. laau ən=ʃen nim [e=a=f tʃɔ=u:]
something LINK=tree every REL=PERF=3M.SG plant=3PL
‘Every (single) one of the trees that he planted’
- c. hən u:=hou: [e=nə=f sowən əmmɔ=f an]
in INDEF.SG=day REL=NEG=3M.SG know PREP=3M.SG not
‘In an hour which he does not know’
- (7) u=hoʃ [ere pə=nu:te moste əmmɔ=f]
INDEF.SG=thing REL DEF.M.SG=god hate PREP=3M.SG
‘A thing which God hates’

In contrast to converbial relatives, canonical relative clauses display a considerable degree of complementiser allomorphy, which varies along with the TAME particle and the the polarity of the embedded relative clauses. In affirmative relative clauses, alternating relative complementisers encode a rudimentary [\pm 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*.

- (8) a. *etβe te=u:=pistis [et tʃek*
because.of DEF.F.SG=3PL.POSS=faith REL accomplish.STAT
eβɔ]
PCL
'Their faith, which is accomplished'
- b. *t=apophasis [et na ʃo:pe]*
DEF.F.SG=verdict REL FUT happen
'The verdict that will be reached'
- c. *t=ire:ne: əm=pa=tʃəis*
DEF.F.SG=peace LINK=DEF.M.SG.1SG.POSS=lord
[ənt=a=f taa=s na=i]
REL=PERF=3M.SG give=3F.SG to=1SG
'The peace of My Lord that he has given to me'

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

- (9) a. *nə=hethos [ete=n=se pət an ənsa*
DEF.PL=gentile REL.DEF=NEG=3PL FUN.STAT not after
tə=dikaiosyne:]
DEF.F.SG=justice
'The gentiles who did not pursue justice'
- b. *ʃen nim [ete=nə=f na ti karpos an*
tree every REL.DEF=NEG=3M.SG FUT give fruit not
[e=nanu:=f]]
REL=be.good=3M.SG
'Every tree, which will not give good fruit (lit. fruit which is not good)'
- c. *nai [ete=mpe hoine mate əmmə:u:]*
DEM.PL REL.DEF=NEG.PERF some obtainPREP=3PL
'These (things) which some have not obtained'

Converbial 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.

- (10) a. *rɔ:me nim [e=f hitʃəm pə=kah]*
man every REL=3M.SG on DEF.M.SG=earth
'Every man who lives on earth'
- b. *laau ən=ʃen nim [e=a=f tʃə:u:]*
something LINK=tree every REL=PERF=3M.SG plant=3PL
'Every (single) one of the trees that he planted'
- c. *ma nim [e=u: na tʃə:u:=s ero=f]*
place every REL=3PL FUT send.=3PL to=3M.SG
'Every place that they will be sent to'

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

- (11) a. *ne=kʰom men ne=ʃpe:re [ənt=a=u: ʃo:pe*
DEF.PL=wonder with DEF.PL=miracle REL=PERF=3PL exist
eβol hi=tootə=f əm=pe=n=eiɔt
PCL by=hand=POSS.3M.SG PREF=DEF.M.SG=POSS.1PL=father
Apa Matheos]
Apa Matthew
'The miracles and wonders that came about through the agency of Our Father Matthew'

- b. *pə=hoβ [ənt=a pə=nu:te kjalə=f*
DEF.M.SG=thing REL=PERF DEF.M.SG=god entrust=3M.SG
ero=n]
to=1PL
'The matter that God entrusted (it) to us'
- c. *e=pə=ma [ənt=a=k kʰəntə=f ənhə:tə=f]*
to=DEF.M.SG=place REL=PERF=2M.SG find=3M.SG inside=3M.SG
'The place where you found it'

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 (12) above, use of *et* is only possible, if the complementiser is immediately followed by either the lexical verb, or a post-subject TAM auxiliary, such as future *na*.

- (12) a. *etβe te=u:-pistis [et tʃek*
because.of DEF.F.SG=3PL.POSS=faith REL.DEF accomplished
eβɔ]
PCL
'Their faith, which is accomplished'
- b. *t=apophasis [et na ʃo:pe]*
DEF.F.SG=verdict REL.DEF FUT happen
'The verdict that will be reached'

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.

- (13) a. *pə=ʃatʃe [etere pə=rəm-ε:i na*
DEF.M.SG=word REL.DEF DEF.M.SG=AGENT.NOUN-house FUT
tʃə:f]
say.INF=3M.SG
'The word that the superintendent will speak'
- b. *p=ε:i [etere pei=ʃε:re ʃem mɔwət*
DEF.M.SG=house REL.DEF DEM.M.SG=boy little die.STAT
ənhə:tə=f]
in=3M.SG
'The house in which the young boy died'

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 (9).

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-REL 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 (14a) and (14b), clause-internal interrogative pronouns such as *nim* 'who' and *u:* 'what' only assume a genuine question interpretation, when they are construed with an initial relative complementiser; otherwise they are interpreted as specific indefinites in a declarative clause. In other words, the presence of a relative complementiser is crucially implied in specifying the interrogative force of the wh in-situ construction (Reintges et al., 2006).

- (14) a. e=i na ti u: na=k ?
REL=1SG FUT give what to=2SG.M
'What shall I give you?'
b. a=i ti u: mən u: 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.'

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

- (15) a. ənt=a u: fo:pe əmmɔ=k pa=tfɔeis
REL=PERF what become PREP=2M.SG DEF.M.SG.1SG=lord
p=ərrɔ?
DEF.M.SG=king
'What happened to you, my Lord and King?'
b. ən=ti sɔwən an [tfe ənt=a u: fo:pe əmmɔ=s]
NEG=1SG know not that REL=PERF what become PREP=3F.SG
'I do not know what has happened to her.'

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

- (16) a. ere nim na na na=n?
REL who FUT have.mercy for=1PL
'Who will have mercy upon us?'
b. e=i na tfe u: na=k?
REL=1SG FUT say what to=2M.SG
'What shall I say to you?'
c. awo: ənt=a=u: ei eβɔl ton?
and REL=PERF=3PL come PCL where
'From where did they come?'
d. ənt=a=k ei e=pei=ma ən=af
REL=PERF=2SG.M come to=DEM.SG.M=place in=what
ən=he?
of=manner
'How did you get to this place?'

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

- (17) ete=mpe tfo:həm hən af əm=ma?
REL.DEF=NEG.PERF.2F.SG defile in what of=place
'In which place have you not become defiled?'

Present tense and future tense wh in-situ questions are introduced by the converbial 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 (15b), 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 *tfe*. 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.

- (18) ere əm=məɛfe tfo: əmmɔ=s [tfe ang nim]?
REL DEF.PL=CROWD say PREP=3F.SG that I who
'Who do the crowds say that I am?'

3.2 Wh ex-situ 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.

- (19) 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?'
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?'

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 *tfe*, 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.

- (20) a. ən=af ən=he əntək kə=tfɔ: əmmɔ=s [tfe
in=what of=manner YOU.SG.M 2SG.M=say PREP=3F.SG that
tet(ən)=na ər rəmhe]?
2PL=FUT become free.man
'How do you say that you will become free?'
b. ti=tfənu: əmmɔ=tən [tfe hən u: ən=fatfe 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 ...'

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; 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).

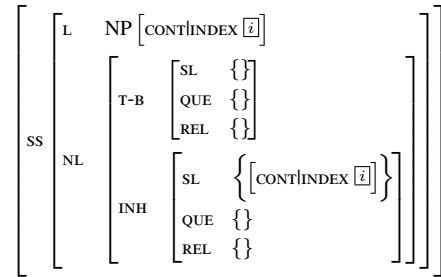


Figure 1: Bottom of the dependencies

Gaps and resumptives are then distinguished by the type or amount of information being percolated: adopting the specific proposal of Crysmann (2012), we assume that members of SL can be either of type *full-local*, containing both CAT and CONT, or of the impoverished type *index-local*, providing only HOOK features, such as INDEX, yet crucially lacking CAT information. While true gaps are characterised by structure sharing of a local value with that of the SL element, resumptive pronouns minimally share their *index* value with the CONTINDEX value in SL, as shown in Fig. 1.

Consider the schematic lexical entry for standard S-taking relative complementisers given in Fig. 2: apart from establishing modification of the antecedent noun via the MOD feature, these complementisers bind a SL dependency which they restrict to type *index-local*, thereby ensuring the presence of a resumptive at the bottom of a dependency. In addition, they equate INDEX of the resumptive pronoun 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. Similarly, the restriction of *ənt* to past relatives can be captured by means of a constraint on its complement's INDEX.

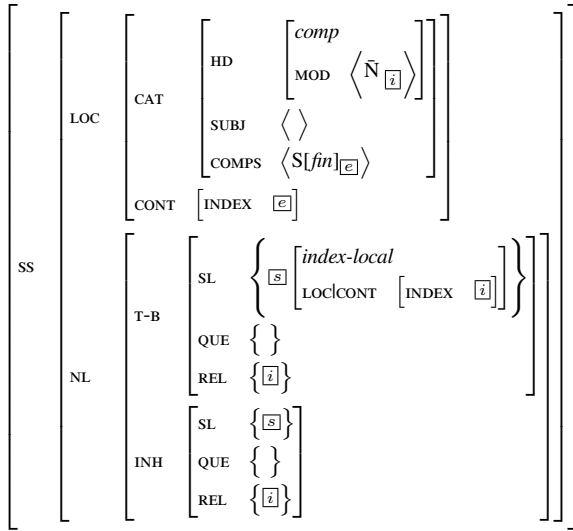


Figure 2: Relative complementisers (*ant/e(re)/ete(re)*)

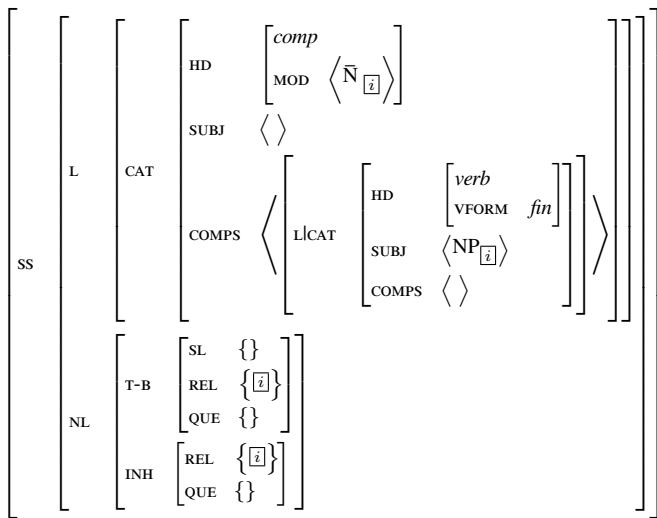


Figure 3: VP-taking complementiser *et*

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. 3, *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 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 for by means of the absence of the Complement Extraction Lexical Rule of Pollard and Sag (1994).

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. 4: 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).

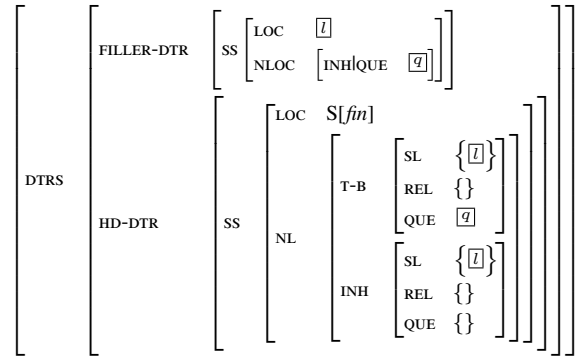


Figure 4: Filler-head schema

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 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. 5), this value will be present on the INH/QUE of the filler daughter, by virtue of the Nonlocal 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.

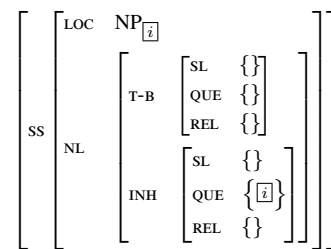


Figure 5: Lexical representation of wh words

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

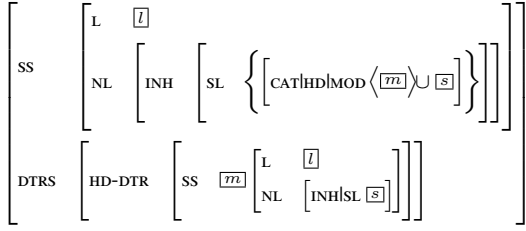


Figure 6: Adjunct extraction

Since resumptives, as pictured in Fig. 1, only have a minimal requirement towards sharing of INDEX information as part of their SL value, they are of course compatible with sharing the entire SL value as well, provided the INDEX of the filler matches with that of the resumptive.

4.2.2 Wh in-situ

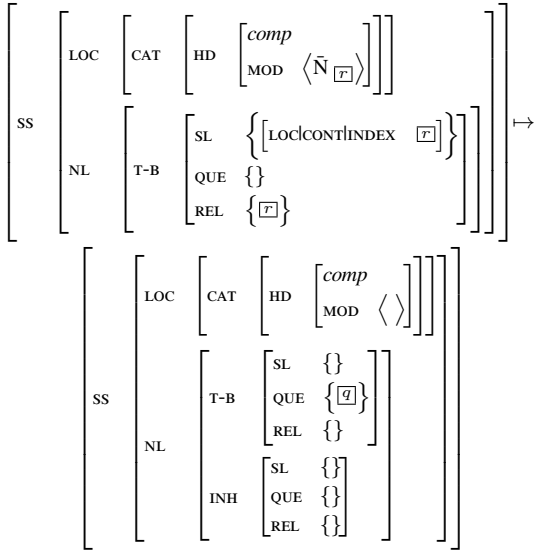


Figure 7: QUE-complementiser LR

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. We shall therefore propose to model the polyfunctionality of these markers by means of the lexical rule depicted in Fig. 7. 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.

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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