Virtual Relative Clauses in Middle Egyptian[*]

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1 Introduction

Middle Egyptian, spoken from approximately 2000-1300 B.C.E, is an early stage of the Ancient Egyptian language. Its canonical word order is VSO, and it has all of the usual typological properties of a VSO language (Greenberg 1966), i.e., it has prepositions, and nouns precede genitives, adjectives and relative clauses.

Middle Egyptian has two different types of relative clauses. The first I call "primary" relative clauses, and they resemble English relative clauses in gross structure. The second type has been referred to as "virtual" relative clauses in the philological literature (starting with Gardiner 1927), and they do not resemble English relative clauses at all. Virtual relative clauses do not even resemble Middle Egyptian primary relative clauses, which is what led Gardiner and subsequent scholars to call them only "virtual." Nevertheless, they have still been classified as relative clauses because, like primary relatives, they seem to modify NPs.

In this paper, I will show that all of the morphosyntactic differences between virtual relative clauses (VRCs) and primary relative clauses can be predicted by analyzing the VRC as a correlative, a kind of relative clause whose most striking property is that it is adjoined to IP. I begin with background material in section two: a brief overview of the Middle Egyptian relative clause system, and an introduction to correlatives and why they are relevant for the Egyptian data. In section three, I present a detailed analysis comparing primary and virtual relative clauses, and virtual relative clauses and correlatives. The comparison involves data from a corpus of Middle Egyptian texts, and ranges across a variety of morphosyntactic characteristics including resumptive pronoun patterns, linear order, and proximity to head NP. Section four concludes, and brings to bear some typological and philological considerations.[1]

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[1] The Middle Egyptian examples are in conventional Egyptological transliteration. They should not be taken as phonological fact, but as a record of the hieroglyphs as they appear in the texts. Note that vowels were not written in Middle Egyptian (the occasional vowels in the transliterations are actually thought to be glides). Dots indicate morpheme boundaries, and the gloss abbreviations are as follows: AUX - auxiliary; COMP - complementizer; ERG - ergative; FEM - feminine; INF - infinitive; NEG - negation; PAST - past tense; PCPLE - participle; PL - plural; REL - relative verb.

2 Background

2.1 Basic Differences

In this section, I will sketch some of the fundamental morphosyntactic differences between primary and virtual relative clauses. First, primary relative clauses always contain either a dependent clause verb form or the lexical complementizer *nty*. The dependent clause verb can be either a participle, as in (1), or a so-called "relative verb" (another kind of participle with different tense morphology) as in (2).

(1) *md.t*   *tn*   *nfr.t*   *prr.t*
     speech.FEM   this   good.FEM   comePCPLE.FEM
     'this good speech which comes

     m   *r*   *n*   *rᶜ*
     from   mouth   of   Ra
     from the mouth of Ra'
     Eloquent Peasant, B1, 319

(2) *md.t*   *tn*   *dd.t.n.f*
     speech.FEM   this   saidREL.FEM.PAST.he
     'this speech which he said'
     Eloquent Peasant, B2, 118

In (1), the participle is *prr.t* "come," and in (2), the relative verb is *dd.t.n* "said." An example of a primary relative clause with the lexical complementizer *nty* is in (3).

(3) *n3*   *n*   *it*   *nty*   *m*   *p3*   *mhr*
     that of grain COMP in   the   storehouse
     'that grain which is in the storehouse'
     Eloquent Peasant, R4

Another distinguishing characteristic of primary relative clauses is that they always agree with their head NPs in gender and number.[2] The agreement can be realized either on the dependent clause verb form, as in (4), or on the complementizer, as in (5) (the agreement suffixes are in boldface).

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[2] The one exception is future tense participles, which have an idiosyncratic, morphologically invariant form.

(4)   *md.**t***   *tn*   *ḏd.**t**.n.f*
               speech.FEM   this   saidREL.FEM.PAST.he
               'this speech which he said'
               Eloquent Peasant, B2, 118

(5)   *nṯr.**w***   *nb.**w***   *nt(y).**w***   *m*   *pt*
               god.PL   all.PL   COMP.PL   in   sky
               'all the gods which are in the sky'
               Heqanakht 3,1

In (4), the feminine gender of the head NP *md.t* "speech" is indicated by the suffix
-t, and the relative verb also has this suffix: *ḏd.t.n* "said." In (5), the plural
number of the head NP *nṯr.w* "gods" is indicated by the suffix *-w*, and the
complementizer also has this suffix: *nt(y).**w*** (as does *nb.**w*** "all").

      Virtual relative clauses have neither of the characteristics described above.
They always use independent clause verb forms and are never introduced by *nty*.
Also, they never agree with their head NPs in gender or number. (6) is a
canonical virtual relative clause.

(6)   *ḥr(y)-šnˁw*   *n*   *rdi.n.f*   *sw3*   *šw*
               manager-warehouse   NEG   let.PAST.he   pass   poorman
               'a warehouse manager who does not let a poor man pass'
               Eloquent Peasant, B1, 173-174[3]

In (6), the verb *rdi.n* "let" is an independent clause form. No overt agreement is
actually predicted to occur in (6); the head NP *ḥr(y)-šnˁw* "warehouse manager" is
masculine singular, and the masculine singular suffix is null in Middle Egyptian.
However, agreement would be expected in the VRC in (7).

(7)   *m3ˁ.t* …   *h33.s*   *m-ˁ*   *irr.s*   *r*   *ẖrt-nṯr*
               justice.FEM   enter.she   with   doer.her   to   graveyard
               'justice, which enters with its doer into the graveyard'
               Eloquent Peasant, B1, 307-308[4,5]

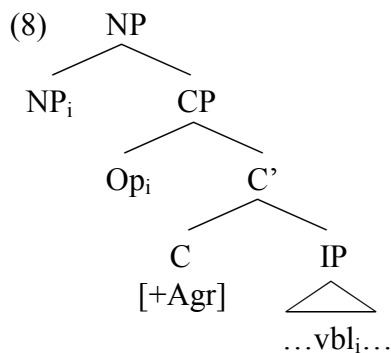[3] Under negation, a past tense morpheme like *n* in (6) indicates the present tense.
[4] Even though (7) is nonrestrictive, there is no correlation between virtual relative clauses or
primary relative clauses and restrictiveness. Restrictive and nonrestrictive relative clauses occur
in both kinds.
[5] The clause beginning with *h33.s* in (7) is a "second tense" or "nominal" clause, which is not
usually considered to be able to be subordinated. However, it is clear that second tense clauses

The head NP in (7), *m3ꜥ.t* "justice," is feminine, so we might predict a feminine *-t* suffix on the verb *h33.* However, there is no such suffix.

Reintges (2000) has proposed an analysis of the primary relative clause system which elegantly accounts for their morphosyntax. His analysis will later provide a basis for the comparison of primary relative clauses and VRCs. It is beyond the scope of this paper to provide a full syntactic analysis of VRCs, but it will be informative to delineate exactly where a primary relative clause analysis would fail to properly account for the VRC facts.

Reintges' analysis assumes that a primary relative clause is a CP adjoined to an NP complement of D. Within the relative clause, Reintges posits that dependent clause verb forms and the lexical complementizer *nty* both occupy C, thus explaining their complementary distribution. The lexical complementizer is base-generated in C, whereas the verb is base-generated in V and raises. A null operator occupies the specifier of CP, and is coindexed with the head NP. Agreement results from a process of Spec-Head agreement between the null operator and either the dependent clause verb form or the complementizer in C (which is exactly where agreement is morphologically realized). These assumptions are reflected in (8).

(8)
```
        NP
       /  \
    NP_i    CP
          /   \
       Op_i    C'
              /   \
             C     IP
           [+Agr]  /\
                 …vbl_i…
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(adapted from Reintges 2000: ex. 13)

Note that the null operator binds either a trace or a resumptive pronoun within the relative clause.

Analyzing virtual relative clauses this way would not capture how they are different from primary relative clauses. Instead, I propose to analyze VRCs as correlatives.

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can be subordinated in Late Egyptian (the next stage of the language; Junge 1999: 131), and there is no a priori reason why they could not have been in Middle Egyptian.

2.2 Introducing Correlatives

A correlative is essentially a subordinate clause adjoined to an IP. It contains a DP coindexed to a DP in the main clause, and it can be interpreted as modifying this main clause DP. A schematic structure of a correlative can be found in (9).

(9)

$$IP$$

$$XP_{rel} \qquad IP_{main}$$

$$\ldots DP_{rel} \ldots \qquad \ldots DP_{ana} \ldots$$
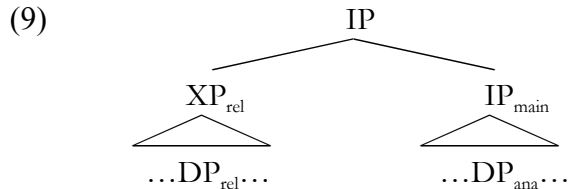
(adapted from Keenan 1985: ex. 56)

In (9), the XP_{rel} is the correlative, and it contains a DP_{rel} that is coindexed with the DP_{ana} in the main IP. Although the correlative is adjoined in (9) to the left of the main IP, correlatives are attested adjoined on either side: on the left (Hindi, Bulgarian) or on the right (Warlpiri). Languages which have correlatives include most modern Indo-Aryan languages, many Australian languages, some South Slavic languages, some Dravidian languages, and a few assorted other languages like Hittite and Medieval Russian (Downing 1973, Keenan 1985, Bhatt 2003).

The question of whether correlatives are base-generated adjoined to IP, or whether they move there from an NP-adjoined position, has been extensively discussed (Hale 1976, Srivastav 1991, Dayal 1996, Izvorski 1996, Bhatt 2003). Much of the evidence used to decide between the two alternatives (e.g., sensitivity to islands, reconstruction effects, Condition C effects) is unfortunately not directly applicable to Middle Egyptian because it crucially involves testing for ungrammaticality. Some initial evidence discussed below suggests that VRCs might be base-generated adjoined to the IP, but I will not be addressing this question in detail.

VRCs and correlatives share a number of basic characteristics. Just looking at the properties discussed in section 2.1, we see an immediate match. Cross-linguistically, correlatives usually have independent clause verb forms, and tend not to agree with their head NPs in gender or number (Keenan 1985: 164), just like VRCs. In section three, further evidence will be presented demonstrating that all of the morphosyntactic properties of VRCs can be accounted for under a correlative analysis.

3 Virtual relative clauses as correlatives

Throughout this paper, I use a corpus of 323 relative clauses (239 primary and 84 virtual) as data. The relative clauses are from two texts, the first of which is a work of literature called *The Eloquent Peasant* (Parkinson 1991) which was

written circa 1825-1760 B.C.E. The second text is an archive of letters written by a priest named Heqanakht around 1950 B.C.E. (James 1962). (See the Appendix for more information on the texts.) For each morphosyntactic difference between primary and virtual relative clauses found in the corpus, I will present in the following sections the primary relative clause and virtual relative clause data, and show how the virtual relative clause data follows from a correlative analysis.

3.1 Resumptive Pronoun Distribution

Primary relative clauses have a complex pattern of gaps and resumptive pronouns that Reintges' (2000) analysis captures elegantly. The VRC resumptive pronoun pattern is significantly different, and cannot fully be accounted for under Reintges' analysis. Under a correlative analysis, though, the VRC resumptive pronoun behavior is fully expected.

Beginning with the primary relative clause data, primary relative clauses have gaps systematically when a subject or direct object is relativized. (Note that Middle Egyptian is not a pro-drop language.)

Subject gap:
(10)   *md.t*   *tn*   *nfr.t*   *prr.t*   ____
       speech.FEM   this   good.FEM   comePCPLE.FEM
       'this good speech which ____ comes

       m   *r*   *n*   *rᶜ*
       from   mouth   of   Ra
       from the mouth of Ra'
       Eloquent Peasant, B1, 319

Direct object gap:
(11)   *md.t*   *tn*   *ḏd.t.n.f*   ____
       speech.FEM   this   saidREL.FEM.PAST.he
       'this speech which he said ___'
       Eloquent Peasant, B2, 118

In (10), we would expect an overt subject after the participle *prr.t* "comes," and in (11), we would expect an overt direct object after the verb-subject complex *ḏd.t.n.f* "he said," but both have gaps.

Primary relative clauses systematically have resumptive pronouns when an object of a preposition, a genitive or an embedded subject is relativized.[6] An object of a preposition example with a resumptive pronoun (in boldface and underlined) is in (12).

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[6] There were no examples of an embedded object relativized in the corpus.

(12) *hrw*   *spr*   *tw*   *s3-ḥwt-ḥr*   *im.**f***
      day   reachREL   you   Sa-Hathor   on.**it**
      'the day that Sa-Hathor reaches you on (it)'
      Heqanakht 1, V14

Reintges 2000 accounts for the gap and resumptive pronoun distribution in the following way. Firstly, the gaps in (10) and (11) are traces of a null operator which has moved to Spec,CP. Resumptive pronouns (like in (12)) are only used as a last resort when a trace would not be properly head-governed (and thus would render the sentence ungrammatical). To explain why resumptive pronouns only occur in certain positions, Reintges proposes that only the following categories are proper head-governors in Middle Egyptian: a C that agrees with the head NP (C[+Agr]), and V. The traces in (10) and (11) are thus licit because they are properly head-governed by either a C[+Agr] in the case of the subject trace or a V (more accurately, the trace of a V) in the case of the direct object trace. A trace would be ungrammatical in examples like (12) since it would not be properly head-governed. Prepositions are not proper head-governors, and the preposition is the closest (and only) available head governor for the gap site in (12). Similarly, nouns and Cs which do not agree are not proper head-governors, and this rules out traces in genitive and embedded subject positions.

Virtual relative clauses do not have the same distribution of gaps and resumptive pronouns as primary relative clauses. They simply always have resumptive pronouns, no matter what position is relativized. The key examples involve resumptive pronouns in subject and direct object position, and these can be found in (13) and (14) respectively.

Subject resumptive pronoun:
(13) *ḥr(y)-šnʿw*   *n*   *rdi.n.**f***   *sw3*   *šw*
      warehouse-manager   NEG   let.PAST.**he**   pass   poorman
      'a warehouse manager who (he) does not let a poor man pass'
      Eloquent Peasant, B1, 173-174

Direct object resumptive pronoun:
(14) *šmsw.k …*   *h3b.i*   *n.k*   **sw**   *ḥr.s*
      servant.your   send.I   to.you   **him**   about.it
      'a servant of yours who I will send (him) back to you about it'
      Eloquent Peasant, B1, 38-39

Applying Reintges' analysis to VRCs, the subject resumptive pronouns are (surprisingly) expected. VRCs never have agreement on the verb in C, so there will never be a proper head-governor for a trace in subject position. However, the direct object resumptive pronouns, like in (14), are a puzzle. The (trace of the) verb should be able to properly head-govern a trace in direct object position regardless of agreement. However, the presence of consistent resumptive

pronouns in VRCs is predicted if virtual relative clauses are correlatives. Cross-linguistically, correlatives almost always contain all of their arguments overtly (Keenan 1985: 164).

3.2 Proximity to Head NP and Linear Order

As we saw in (9), correlatives can be adjoined on either side of an IP. This makes a robust prediction about their linear order. They will always be either first or last, depending on which side they are adjoined to. Additionally, correlatives should not have to directly follow their head NPs. Either they will always precede them (in the case of left-adjunction), or there will be able to be the rest of the IP in-between the two (in the case of right-adjunction).

These predictions are borne out for Middle Egyptian VRCs. VRCs always appear last, indicating that they are right-adjoined, and they can be separated from their head NPs.

(15)   *iw*   *swt* *mꜣꜥ.t*   *r*   *nḥḥ*   *hꜣꜣ.s*
        PARTICLE   but   justice.FEM   to   eternity   enter.she

        m-ꜥ   *irr.s*   *r*   *ẖrt-nṯr*
        with   doer.her   to   graveyard
        'But justice, which enters with its doer into the graveyard, is for eternity.'
        Eloquent Peasant, B1, 307-308

The head NP in (15) is *mꜣꜥ.t* "justice," the subject of the sentence. The VRC begins with *hꜣꜣ.s* "she enters" and is the last clause in the sentence. In-between the head NP and the VRC is *r nḥḥ* "to eternity," the entire predicate of the sentence, i.e., the rest of the IP. The VRC thus has the same distribution as a right-adjoined correlative.

This distribution strongly contrasts with the distribution of primary relative clauses. In general, primary relative clauses directly follow their head NPs.

(16)   *sḫti.w.sn*   *iw.w*   *n*   *kt*
        peasant.PL.their   comePCPLE.PL   to   another
        'their peasants who come to another'
        Eloquent Peasant, B1, 45-46

In (16), the head NP *sḫti.w.sn* "their peasants" is immediately followed by the relative clause, which starts with the participle *iw.w* "come." The only material that can intervene between an NP and a relative clause is NP-internal (or possibly

DP-internal[7]) like adjectives, possessives, and demonstratives (see (1), (2) above and (18) below for examples). This is consistent with Reintges' (2000) analysis that primary relative clauses are right-adjoined to the NP.

Reintges' analysis also predicts the two linear order patterns attested for primary relative clauses. First, primary relative clauses that modify direct objects tend to appear last, which results from the fact that primary relative clauses follow their head NPs. If their head NPs are last in the sentence (VSO word order), then the relative clauses will also be final in the sentence. This is schematized in (17) and an example is given in (18).

(17)   V S O Relative Clause

(18)   *m33.f*   [NP *ꜥ.(w)*   *n*   *sẖty*   *pn*
        see.he   donkey.PL   of   peasant   this
        'He sees the donkeys of this peasant

        [CP *ꜥ3*   *by(3).w*   *ḥr*   *ib.f*]]
        greatly   bewondrous.PCPLE.PL   on   heart.his
        which are greatly wondrous on his heart.'
        Eloquent Peasant, R41-42

The direct object *ꜥ.(w) n sẖty pn* "the donkeys of this peasant" is modified by the relative clause *ꜥ3 by(3).w ḥr ib.f* "which are greatly wondrous on his heart," and the relative clause is last in the sentence.

Primary relative clauses that modify subjects tend to appear with their head NPs in a sentence-initial position. This is because there is a strong tendency to shift prosodically "heavy" subject NPs to the left. The subject is resumed within the main clause by a pronoun, so this results in a schematic structure like (19) and examples like (20).

(19)   S Relative Clause V pronoun O

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[7] The post-nominal demonstratives found in (1) and (2) are somewhat puzzling. Other determiners in Middle Egyptian precede the NP, e.g., *p3 mẖr* = "the storehouse" in (3).

(20) [NP *gr*   [CP *ˁnn*   *sw*   *r*   *ir.t*   *ts(w)t*   *n.k*]]
      silentman   turnPCPLE   him   AUX   do.INF   reproachPL   to.you
      'A silent man who returns (lit. turns himself) to reproach you,

      n   *snd.n.f…*
      NEG   fear.PAST.he
      he is not afraid.'
      Eloquent Peasant, B1, 298-299

The subject in (20) is *gr* "silent man" and it is modified by a following relative clause *ˁnn sw r ir.t ts(w)t n.k* "who returns to reproach you." After the relative clause is the verb *snd.n* "feared" and a resumptive pronominal subject *f* "he." Like the sentence-final primary relatives, this follows naturally if the relative clause is base-generated adjoined to the NP. As part of the NP constituent, it would add a fair amount of prosodic weight, which would force the whole NP to move leftwards.

VRCs clearly do not fit either of these patterns. In (15), the head NP is not a direct object yet the VRC is last. Also in (15), the head NP is a subject and yet the VRC has not been shifted to the left. Both of these facts are explainable under a correlative analysis. As discussed above, if VRCs right-adjoin to the IP, they will always be last. Also, if a VRC is base-generated right-adjoined to the IP, it would not be expected to shift leftwards with its head NP. They would not form a constituent and the VRC would not make the head NP heavy in the first place (this is an argument that VRCs do not move to adjoin the IP). In sum, the distribution of VRCs with respect to linear order and proximity to head NP cannot be explained in the same way as the distribution of primary relative clauses, but follows naturally from an analysis of VRCs as right-adjoined correlatives.

3.3 Adverbial and Coordinate Structures

An interesting property of VRCs is their morphosyntactic similarity to adverbial clauses and to coordinated clauses. Coordinated clauses (*…and she left the room*), adverbial clauses (*…while/when/because she left the room*), and VRCs (*…who (she) left the room*) all share the following morphosyntax in Middle Egyptian: they have independent clause verb forms, they have overt arguments, and they follow a main clause. There is nothing that links coordinated or adverbial clauses to their preceding main clauses since Middle Egyptian does not have overt coordinators and adverbial clauses almost never have prepositions (*before, when, although,* etc.). Thus, there can be a three-way syntactic ambiguity between VRCs, adverbial clauses and coordinated clauses.

It could be argued that VRCs are simply coordinated clauses, so that (15) would have a translation like "Justice is forever and it enters with its doer into the graveyard." It could also be argued that VRCs are just adverbial clauses, so that (15) would have a translation like "Justice is forever because it enters with its

doer into the graveyard." Both analyses are untenable. The coordination analysis makes a false prediction about the "resumptive" pronouns in VRCs. As for the adverbial analysis, there is evidence from sets of parallel clauses that VRCs were treated just like relative clauses in the language itself.

The coordination analysis predicts that the "resumptive pronoun" in the virtual relative clause should actually be anaphoric to a discourse referent introduced by the so-called head NP. However, it is possible for a VRC to have a head NP that does not introduce a discourse referent. For example, a VRC can have a head NP that is the predicate DP of a predicative copular sentence.

(21)   *mk*   *tw*   *wdpw*   *rš.**f*   *pw*   *rḥs*
          PARTICLE   you   cook   joy.**his**   COPULA   slaughtering
          'Look, you are a cook whose joy is slaughtering.' **VRC Translation**
          'Look, you are a cook and his joy is slaughtering.' **Coordination
          Translation**
          Eloquent Peasant, B1, 176

In (21), the main clause lacks an overt copula and the VRC is *rš.f pw rḥs* "his joy is slaughtering." The third person masculine singular pronoun *f* "his" in the VRC cannot be anaphoric to *tw* "you" in the previous clause since they disagree in person features. However, it also cannot be anaphoric to the predicative DP *wdpw* "a cook," since "a cook" does not set up a discourse referent. Even in English (as the translation above suggests), a pronoun cannot be used anaphorically with a predicative DP.

(22)   *I am a cook$_i$ and she$_i$ is skillful.

In (21), therefore, the pronoun cannot be anaphoric to any discourse referent in the previous sentence. This is clear evidence against the coordinate clause analysis.

Evidence against the adverbial clause analysis also comes from (21). (21) is part of a series of parallel clauses which indicate that the VRC was thought of as a typical relative clause. During long petitions to the authorities, the eloquent peasant is fond of using parallel syntactic structures to make his rhetorical points. From B1, 171 to B1, 177, all the sentences begin with a *mk tw* "look, you are" followed by an NP of some sort ("cook," "hawk," etc.) followed by a relative clause. In other words, they all have the form you are a ___ who ___. The interesting part of this passage is that some of the relative clauses are primary relative clauses and some are virtual relative clauses. If virtual relative clauses were truly just adverbial clauses (or coordinated clauses), it would utterly break the parallelism. This strongly suggests that virtual relative clauses were being treated just like relative clauses, and not like adverbial clauses.

However, the similarity between adverbial clauses and VRCs may be more than just syntactic coincidence. A certain kind of correlative found in

Warlpiri (and other Australian languages) can be ambiguous between relative clause and adverbial clause interpretations.

(23)   ngatjulu-lu   Φ-na   yankiri   pantu-nu
         I-ERG   AUX   emu   spear-past

         [CORREL kutja-lpa   ngapa   nga-nu]
              COMP-AUX   water   drink-PAST
         'I speared the emu which was drinking water.'   **Translation 1**
         'I speared the emu while it was drinking water.'   **Translation 2**
         (Hale 1976: ex. 1)

Perhaps the virtual relative clause and the adverbial clause in Middle Egyptian are one and the same correlative, parallel with the correlatives in Warlpiri.[8] It should be noted that there are a handful of differences between Middle Egyptian VRCs/adverbial clauses and Warlpiri correlatives: Warlpiri has a correlative marker (*kutja* in (23)) and its correlatives (unusually) have gaps instead of pronouns. However, looking at almost every other morphosyntactic characteristic, there is a compelling resemblance between Middle Egyptian VRCs/adverbial clauses and Warlpiri correlatives.

First, the range of adverbial readings available in the Warlpiri correlative (*while, so that, although, because,* etc.) are identical to those available to the adverbial clause in Middle Egyptian. In fact, Middle Egyptian examples that are ambiguous similarly to (23) are not difficult to find (the head NP and VRC are underlined in (24)).

(24)   *sp*   *pw*   *rdi.t(w)*   *iw.t*   *n.i*   *šmsw.k*
         case   COPULA   cause.one   come.INF   to.me   servant.your

         n   *ḥrt*   *ib.k*   *h3b.i*   *n.k*   *sw*   *ḥr.s*
         of   desire   heart.your   send.I   to.you   him   about.it
         'Could it be the case that a servant of yours of your choice who I may send (back) to you about it be caused to come to me?' **Translation 1**
         'Could it be the case that a servant of yours of your choice be caused to come to me so that I may send him (back) to you about it?' **Translation 2**
         Eloquent Peasant, B1, 37-39

Another interesting parallel between Warlpiri correlatives and Middle Egyptian VRCs is the fact that neither form free relatives. There were no free virtual relative clauses at all in the corpus. This may seem perhaps an accident of the corpus, but free relatives were extremely common otherwise, primarily

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[8] How one single construction can be interpreted as either modifying a noun or an event is an interesting and thorny semantic problem, most notably explored in Larson 1983.

because they are the main way to form "doer-nouns," e.g. "punisher" = "(one) who punishes." Moreover, these kinds of doer-nouns were quite frequent in *The Eloquent Peasant* simply due to its plot: the peasant is constantly insulting his interlocutor with a variety of doer-noun epithets. Given these conditions, we might reasonably expect at least a small number of virtual relative clauses to be free, and the lack of any free VRCs at all turned out to be highly statistically significant.

Table 1: Chi-square

	Free relatives	Headed relatives
Primary relative clauses	189	50
Virtual relative clauses	0	84

p < .001

Other correlatives cross-linguistically are capable of forming free relatives (Grosu 1994; Bhatt 2003), so this is another exceptional trait of Middle Egyptian and Warlpiri correlatives.

Warlpiri and Middle Egyptian correlatives generally pattern together from a cross-linguistic perspective, especially as compared to, say, Hindi (and other Indo-Aryan) correlatives, which make up the majority of attested correlatives. Hindi correlatives are left-adjoined, can have internal heads, can have multiple heads, have correlative markers inflected for case, and cannot receive adverbial interpretations. Warlpiri correlatives and Middle Egyptian VRCs/adverbial clauses are right-adjoined, do not have internal or multiple heads, do not have correlative markers inflected for case and can receive adverbial interpretations.

4 Conclusion

Virtual relative clauses are best analyzed as correlatives. This analysis correctly predicts that VRCs have independent clause verb forms, consistent resumptive pronouns and that they do not agree with their head NPs. It can account for why VRCs are always last in linear order, why they can be separated from their head NPs, and why they do not undergo heavy NP shift to the left. Finally, VRCs have similar morphosyntax to coordinate clauses and adverbial clauses, but cannot be reduced to either of these alternatives. If VRCs are analyzed like Warlpiri correlatives, though, their similarity to adverbial clauses can be accounted for.

I conclude with two small notes, the first one typological. It has previously been claimed that only verb-final, free word order languages have correlatives (Downing 1973, Keenan 1985). Middle Egyptian is verb-initial and

has strict word order, so if virtual relative clauses are correlatives, it will provoke some interesting rethinking of such assumptions.[9]

The second note is philological. One of the best known properties of VRCs among Egyptologists is that they have indefinite head NPs. This fact was first observed by Gunn (1924) and subsequently included in almost every grammar of Middle Egyptian. This observation was difficult to corroborate in the corpus since Middle Egyptian only very rarely uses definite or indefinite determiners. However, from what could be deduced from contextual clues, the definiteness effect seemed not to hold strongly. In later forms of Egyptian, however, definite and indefinite articles do play a larger part in the language, and it would be interesting to research how VRCs interact with definiteness in those later stages of the language.

Appendix

The Eloquent Peasant
The Eloquent Peasant was written ca. 1825-1760 B.C.E. The most recent textual reproduction is Parkinson 1991, and the standard translation is in Lichtheim 1975. It was chosen for the corpus because it is relatively long compared to other Egyptian literary works, and because it has been well studied by Egyptologists for over a hundred years (from Lepsius 1859 to an entire *Eloquent Peasant* conference (Gnirs 2000)). It relates the story of a peasant who sets out to sell his annual harvest, but he is accosted on the way and robbed of all his goods by an evil landlord. Most of the text is the peasant making eloquent petitions for justice to a local authority, and ultimately, he gains his revenge through his persistence and persuasiveness. The text varies in register from the peasant's fairly formal speeches to straightforward narrative description.

The Heqanakht Letter Archive
The Heqanakht Letter Archive was written around 1950 B.CE., and the text and classical translation is in James 1962. Heqanakht is away from his family and farm at the time of the letters, and he writes mostly to exhort his various family members to take care of business and treat each other decently while he is gone. In general, letters in Ancient Egypt were dictated to scribes, not written directly by their authors (the literacy rate was possibly as low as one percent (Baines and Eyre 1983)). This makes a letter archive perhaps the closest possible record of spoken Middle Egyptian available, and this was the main reason I chose the Heqanakht letters to be part of the corpus.

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[9] Bhatt (2003) also notes that South Slavic languages are not verb-final and have correlatives.

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