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Refining the Grammatical Typology of O– and X–marking
Evidence from Conditional Constructs in Coptic Egyptian

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1 Introduction

Von Fintel and Iatridou (2023) [henceforth: vF/I] advance a novel approach to the typology of conditional constructs which aims at bringing their morphosyntactic form and compositional semantics closer together. Conditionals have a biclausal syntax in which an antecedent [protasis] is subordinated to consequent [apodosis] clause. The conditional sentence as a whole describes two correlated event or state of affairs. Conditional claims, in their terminology, can felicitously be made under two circumstances.

(1) Two semantic contexts for conditional statements
(i) "when the antecedent proposition is epistemically possible ("open") and one wants to convey that the consequent follows from the antecedent,
(ii) when the antecedent proposition is known to be false ("counterfactual") and one wants to convey that the consequent would have followed from the antecedent had it been true." [vF/I: 1467]

English counterfactuals involve an extra layer of past tense marking in both the antecedent and in the consequent clause, the latter of which also contains the modal auxiliary *would*. Apart from the subordinating conjunction *if*, open conditionals do not show any construction-specific tense and aspect morphology. Examples 2(a–b) illustrate this contrast.

(2) a. If Miranda knows the answer, Emily knows the answer.
b. If Miranda knew the answer, Emily would know the answer. [vF/I: 1468]

The grammatical typology of conditional constructs is based on a binary distinction between "O-marked" and "(e)X(tra)" marked conditionals

(3) "O-marked" vs. "X-marked" conditional constructions
"We propose to use the term "O-marked conditional" (where "O" can stand for open, ordinary, or whatever other mnemonic the reader prefers) for [example] 2a.

> We propose to use the term "X-marked conditional" (where "X" can stand for eXtra, or whatever other mnemonic the reader prefers) for [example] 2b." [vF/I: 1470]

The notion of O-marking is directly related to the exponence of open conditionals. By contrast, the notion of X-marking denotes additional morphological layer that is only secondarily relates to counterfactuals. The added layer is what distinguishes counterfactual conditionals from those which are not. This raises a number of issues about the nature of O-marking, which mentioned in the questionnaire but it is left as an open research question.

(4) Issues arising about O–marking
"There are also some questions about the morphosyntactic make-up of O-marked conditionals. In particular, is there an encoded meaning of O-marking that competes with the meaning of X-marking? Or is O-marking simply what happens when X-marking is absent?" [vF/I: 1471].

The implicit assumption appears to be that O-marked conditionals, apart from the presence of an IF-type conditional conjunction, lacks an extra morphology layer which sets them apart from other conditional constructs, X-marked conditionals included. Based on a language-specific study on conditional constructs we will attempt to fill in this research gap.

2 The morphosyntax of O-marked conditional mood conditionals

The grammar of conditional constructs varies widely across and with languages: either the conditional's antecedent or the consequent or both may the target for conditionality marking. All the same, conditional protasis marking emerges as the crosslinguistically preferred pattern (Comrie 1986; Zaefferer 1991; Plado 2013; von Fintel and Iatridou (2023).

Coptic (Ancient Egyptian [Afroasiatic] mid-3rd–12th c. CE) belongs to a small fraction of languages which employ a subordinate verb paradigm for the purpose of conditional protasis marking. As a result, the language relies less on IF- and WHEN-type conjunctions and iconic protasis–apodosis order to encode conditional meanings. The conditional paradigm comprises discontinuous morphological forms which are externally marked as subordinate by an initial relative marker *ere* and internally marked as a protasis conditional by the modal auxiliary *ʃan*. Each form of the conditional paradigm can be negated by adding the negative auxiliary *təm* 'do not' to the modal auxiliary *ʃan*.

Table 1. The affirmative and negative forms of the conditional protasis mood paradigm

	Affirmative				Negative				
1SG	e	=ï	=ʃan	so:təm	e	=ï	=ʃan	=təm	so:təm
2SG.M	e	=k	=ʃan	so:təm	e	=k	=ʃan	=təm	so:təm
2SG.F	er	=ʃan	=Ø	so:təm	er	=ʃan		=Ø	so:təm
3SG.M	e	=f	=ʃan	so:təm	e	=f	=ʃan	=təm	so:təm
3SG.F	e	=s	=ʃan	so:təm	e	=s	=ʃan	=təm	so:təm
before NPs	er	=ʃan	NP	so:təm	er	=ʃan	=təm	NP	so:təm
1PL	e	=n	=ʃan	so:təm	e	=n	=ʃan	=təm	so:təm
2PL	e	=tetən	=ʃan	so:təm	e	=tetən	=ʃan	=təm	so:təm
	er	=ʃan	=tetən	so:təm					
3PL	e	=u:	=ʃan	so:təm	e	=u:	=ʃan	=təm	so:təm

The paradigm forms listed above can be decomposed into a lexeme part (the main verb) and two separate morphemes whose functions can be described as follows.

(5) <u>The morphological decomposition of the conditional mood paradigm</u>

(i) The lexeme part which specifies possible inflected forms of the main verb. The only verbal forms available are non-finite infinitives.

(ii) Similar to adverbial circumstantial clauses, the initial relative marker (glossed as REL) serves a morphosyntactic flagging device to register the subordinate status of the conditional's protasis clause. It also marks a clausal boundary between the afore-going sentence and the conditional sentence.

(iii) The special relativization morphology for adverbial subordination comes in a pair of a short base form e= before clitic pronouns and an epenthesized form [*e*= + *re* → *ere*] before full noun phrases.

(iv) The invariant (uninflected) conditional mood auxiliary *ʃan* (glossed as COND) which cannot further be decomposed morphologically and thus represents the semantically active element that expones protasis conditionality.

As far as the available evidence goes, the conditional auxiliary *ʃan*, the epistemic future *na* and the deontic future tense =*e* are in a three-way complementary distribution, suggesting that three modal-futurate verbal auxiliaries for the same preverbal position. On such ground we can identify the sequence relativizer > subject > conditional base > infinitive as the basic morpheme order. Despite it being basic, this morpheme linearization pattern is restricted to enclitic pronouns contexts. The picture is complexified by the close connection between syntax and prosody. The liaison of the auxiliary *ʃan* and the infinitival verb phrase is prosodically strong enough as to prevent the insertion of functional clitics. As a result, the Greek second position (Wackernagel) clitic *de* must be placed postverbally in clause-fifth position.

(6) Preverbal order of conditional marker *ʃan* with unstressed 2nd PL pronoun /=tetən/

[**e** =tetən **=ʃan** =ʔoʃ *de* ən=ne=k^{h}artɛs

REL =CL.2PL =COND read.ABS PCL PREP=DEF.PL=text

[RC et – she: tʃin ʃo:rəp (…)]]

REL write.STAT since early

"When you (plural) read the texts, which were written earlier (…)" (Shenoute III 126:15, ed. Leipoldt)

The non-basic morpheme order relativizer > conditional base > subject > infinitive is derived from an inversion process whereby the conditional auxiliary *ʃan* is moved to the presubject position and "tucked" in between the epenthetic form *ere* of the relative complementizer and the phrasal subject.

With this kind of inverted conditional clause the issue of prosodic boundary strength comes into play again. In particular, the relativizer *ere* and the auxiliary *ʃan* undergo a very common but not mandatory univerbation process under string-adjacency [*ere* + *ʃan* → *er=ʃan*] (Layton 2000:272 §346). The univerbized relativizer + conditional mood [*er=ʃan*] complex leans prosodically on the subject noun phrase. The strength of the liaison is reflected by the clause-fourth placement of the Greek particle *de*.

(7) Presubject order of conditional marker *ʃan* with a noun phrase subject

[**er** **=ʃan** u=sən *de* ʃɔʔɔk^{j}e=f (…)]

REL COND INDEF.SG=brother PCL hurt.CNST=CL.3M.SG

"If a brother hurts himself (…)"(Precepts of Pachomius nr. 105, 32:3, ed. Lefort)

There is another context to consider and this context is the elision of the second person singular feminine pronoun, which represents an isolated instance of phonologically conditioned subject pro-drop in a non-pro-drop language. The univerbation process indicates that conditional inversion has taken place [*ere* + Ø$_{PRO2SG:F}$ + *ʃan* → *ere* + *ʃan* + Ø$_{PRO2SG:F}$ → *er=ʃan* + Ø$_{PRO2SG:F}$] (Reintges 2011:558–559).

(8) Presubject order of conditional marker *ʃan* with null 2.F.SG pronoun

[**er** **=ʃan** Ø$_{PRO2SG:F}$ pisteue]

REL COND believe.ABS

"If you (woman) believe (…)" (John 11:40, ed. Quecke)

For reasons unknown to us at present, the second person plural clitic pronoun /=tetən/ has a stressed counterpart /ˈte:tən/ which is licensed in the canonical subject position but nonetheless trigger conditional inversion as if it were a fully-fledged noun phrase subject.

(9) Presubject order of conditional marker *ʃan* with stressed 2nd PL pronoun /ˈteːtən/

[	**er**	**=ʃan**	ˈteːtən	ket	=tɛʊtən	hən=tə=pistis
	REL	COND	FREE:PRON.2PL	turn.CNST	=CL.2PL	in=DEF.F.SG=faith
həm=pə=wɔɪʃ	tɛr=f	(…)]				
in=DEF.M.SG=time	all=POSS.3M.SG					

"If you turn yourselves in faith all the time (…)" (Psalm 89:17, ed. Budge)

We are now in a position to state the observed patterns of morpheme linearization with some degree of accuracy and predictability. Conditional inversion and univerbation are restricted to locality contexts in which pronominal enclisis is excluded. Table 2 further illustrates

Table 2. Context-sensitive morpheme order variation in the conditional mood paradigm

Type of subject	Basic morpheme order REL > SUBJ > COND > (NEG) > INF	Derived morpheme order REL > COND > (NEG) > SUBJ > INF
Enclitic pronouns	+	–
Noun phrase subjects	–	+
Null 2.F.SG pronoun	–	+
Free 2PL pronoun	–	+

Context-sensitive morpheme order permutations are not a parochial feature of Coptic adverbial clause syntax but have been attested for such diverse languages as Quechua, Sanskrit and Kazakh. In Glaim et al. (2023) exponent movement is derived from phonological processes alone. Conditional inversion non-proclisis contexts lacks the information structure connotations of conditional inversion in English (Iatridou and Embick 1994; Biezma 2011). This leaves us with a post-syntactic dislocation process as the only available option (Embick and Noyer 2001).

3 The tenseless nature of O-marked conditional mood conditionals

We push the analysis one level further by arguing that O-marked protasis clauses are tenseless adverbial subordinate clauses. Tenselessness, in our understanding, excludes reference to the moment of speech as well as to generic events.

Naturally, for a dead language like Coptic, the demonstration can only be made indirectly. The force of argument is based upon the non-cooccurrence of the conditional auxiliary *ʃan* with other members of the language's elaborate TAM system. However, the non-attestation of grammatical form or structure may be of a purely accidental gap in the extant textual record unless we have a genuine explanation for it. At first blush the choice between a present tense and a non-tensed analysis of O-marked conditionals appears to be a moot point as present tense sentence have no tense inflection.

But in order to treat the issue systematically, let us first consider the case of bare adverbial circumstantial present tense clauses (not preceded by conjunction). Layton (2000:411 §497) analyses the following example as an instance of "undifferentiated causal clauses". But a more precise classification as a premise conditional is available. Premise conditionals differ from hypothetic ones in that they echo a previous assertion (Castroviejo and Mayol 2024:35–37).

(10) Bare adverbial circumstantial present clause with premise conditional meaning

ʔawo:	hoβ	nim	[RC	**e**	=tetən	**na**	aitei	əmmɔ=u:
and	thing	each		REL	=CL.2PL	EPIST.FUT	ask.ABS	PREP=CL.3PL

həm	pe=tən=ʃlɛl]
in	DEF.M.SG=POSS.2PL=prayer

[**e**	=tetən	pisteue]	tet(ən)=	**na**	tʲit	=u:
REL	=CL.2PL	believe.ABS	CL.2PL=	EPIST.FUT	receive.CNST	=CL.3PL

"And everything you (plural) will ask for in your prayer. If you [as you say] are believers, you will receive it." (Matthew 21:22, ed. Balestri)

The availability of a conditional interpretation in cases such as the above one has led previous scholarship to treat conditional mood protases as a subclass of bare circumstantial present tense clauses (e.g., Steindorff 1951:152 §328; Till 1966:218 §447; Polotsky 1990:258 §30), while the presence of the conditional auxiliary *ʃan* is left an explanatory residue.

We present two arguments for NOT subsuming O-marked [*e*(*re*) + *ʃan*] conditionals under circumstantial present tense clauses. The first argument relates to copula auxiliarization. Coptic has a rule of copula support, which serves to insert the affirmative copula *wən* '(there) is' and its negation *mən* '(there) is' in present tense and epistemic future tense verbal predicate sentences. The indefinite subject construction thus derived takes the form of an existential sentence, even if, due to the presence of a fully-fledged verb phrase, the assertion of existence is backgrounded (Reintges 2018 [2004]:259 §7.3.2.1). Consider the O-marked present tense conditional which is introduced by the complementizer *eʃo:pe* 'if, in the case (that)'.

(11) Present tense *eʃo:pe* antecedent with indefinite subject noun phrase and copula *wən*

ʔawo:	**eʃo:pe**	**wən**	u=melos	ʃo:ne
and	COMP	be.CNST	INDEF.SG=member	suffer.ABS

ʃare	mə=melos	tɛ:r=u:	ʃo:ne	nəmma=f
HAB	DEF.PL=member	all=POSS.3M.SG	suffer.ABS	all=POSS.3M.SG

"If one member suffers, all members suffer along with it." (I Corinthian 12:26)

Next consider the minimal pair of an epistemic future tense *eʃo:pe* conditional [*eʃo:pe wən wa na diakoni na=ï* 'if someone will serve me'] which contains the expected copular verb *wən* and the conditional mood conditional [*er=ʃaʔ wa na diakoni na=ï* 'if someone serves me'], which is copularless. Both conditional constructs occurs within the same thematic paragraph.

(12) Future tense *eʃoːpe* antecedent with indefinite subject pronoun *wa* and copula *wən*

[**eʃoːpe** **wən** wa **na** diakoni na=ï]
COMP be.CNST one EPIST.FUT serve.ABS for=CL.1SG

mare =f wah =f ənso=ei
OPT =CL.3M.SG put.CONS =CL.3M.SG after=CL.1SG

"If someone will serve me, he should follow me (lit. put himself behind me)." (John 12:26, ed. Quecke)

(13) Copularless conditional mood antecedent with indefinite subject pronoun *wa*

[**er** **ʃaʔ** wa diakoni na=ï]
REL COND one serve.ABS for=CL.1SG

pa=ïot **na** taïɔ =f
DEF.M.SG:POSS.1SG=father EPIST.FUT honor.CNST =CL.3.M.SG

"If someone serves me, My Father will honor him." (John 12:26–27, ed. Quecke)

The rule of copula support applies to present and future tense *eʃoːp*e conditionals but crucially does not apply to O-marked conditional mood conditionals, whose morphosyntactic make-up must therefore be different from that of adverbially subordinate present tense antecedents.

Another argument comes from the two distinct negation strategies used to negate the content of the corresponding affirmative clause. Subordinate and main present tense clauses employ the standard bipartite negation strategy [*nə … ʔan*]. The below example provides an illustration.

(14) Standard bipartite negation [*nə … ʔan*] in negated circumstantial present clauses

p= [RC et – soːtəm de erɔ=u]
DEF.M.SG REL listen.ABS PCL to=CL.3PL

[**e** **nə** =f eɪre mmɔ=u **ʔan**]
REL NEG_1 CL.3M.SG do.ABS PREP=CL.3PL NEG_2

[e =f tənton e=u=roːme
REL CL.3M.SG aliken.ABS PREP=INDEF.SG=man

[RC e ʔa =f kot əm=pe=f=ɛu
REL PERF CL.3M.SG build.ABS PREP=DEF.M.SG=POSS.3M.SG=house

hitʃəm=pə=kah wəʃ=nə=sənte
on=DEF.M.SG=earth without=DEF.PL=foundation

"The one who listens to them (My words) without doing them is like a man who has built his house on earth without foundations." (Luke 6:49, ed. Quecke)

Negated conditional mood forms are derived from the corresponding positive forms by adding the negative auxiliary *təm* to the modal auxiliary *ʃan.* The below examples also illustrates the reversal of the iconic protasis > apodosis clausal order, which involves a *de*-topicalization of the conditional mood-marked antecedent clause.

(15) Negative conditional *ʃan* + *təm* with reversed apodosis–protasis order

wɔɪ nɛː=tən [**e** =tetən =**ʃan** =**təm** βok
grief to=CL.2PL REL =CL.2PL COND NEG.AUX go.ABS
e=t=ekklɛːsia ɛː [**e** =tetən =**ʃan** =**təm** tʲʃiː
to=DEF.F.SG=church or REL =CL.2PL COND NEG.AUX receive.ABS
eβɔl həm pə=soːma mən pə=snɔf əm=pə=tʲʃɔɪs
PCL from DEF.M.SG=body with DEF.M.SG=blood LKR= DEF.M.SG=lord
"Grief to you (plural) if you don't go to church or if you don't receive the flesh and blood of the Lord." (Shenoute III 45:10-11, ed. Leipoldt)

If O-marked conditionals were of the same ilk as circumstantial present clauses, the contrastive behavior of the two kinds of adverb clause as regards copula support in present and future tense indefinite subject constructions as well as the encoding of negative polarity would be a puzzling fact. No such problem arises under the present analysis, according to which circumstantial present tense clauses convey temporal information that is present in both the syntax and in the logical form of these constructions. In O-marked conditional, the presence of the modal auxiliary *ʃan* excludes the presence of independent tense and aspect morphology, including the null exponent of the present tense. Accordingly, conditional mood conditionals lack temporal information altogether.

4 The hypothetical and temporal construal of O-marked conditional mood conditionals

Coptic scholars have long acknowledged that O-marked conditional mood protasis clauses may have a plain conditional ('IF p, THEN q') or a temporal ('WHEN p, THEN q') semantic frame at their disposal (Steindorff 1951:244–245 §498; Till 1966:212 §429; Young 1962:182; Funk 1985:412 endnote 70; Layton 2000:411 §497). A garden variety example of predictive conditional with an epistemic future tensed consequent clause is shown below.

(16) Predictive conditional mood conditional with epistemic future consequent clause

əmp =i tʲʃɔʔɔ =s ne
NEG.PERF =CL.1SG say.CNST =CL.3F.SG to.CL.2.F.SG
[tʲʃe [**er** =**ʃan** Ø pisteue]
COMP REL COND (CL.2.F.SG) believe.ABS
te= **na** naʊ e=p=eʔəʊ əm=pə=nuːte]]
CL.2.F.SG= EPIST.FUT see.ABS PREP=DEF.M.SG=glory LKR=DEF.M.SG–God
"Did I not say to you (woman): "[If you (come to) believe], you shall see the glory of God." (John 11:40, ed. Quecke)

As pointed out by Dancygier and Sweetser (2005: 29), the interpretation of 'IF p, q' conditionals is ubiquitous but nonetheless restricted to conditional constructs which express future event prediction based on alternative actualizations.

The concern here is with the temporal construal of conditional mood conditionals. One context in which temporal conditionality arises is when the consequent clause contains the habitual aspect auxiliary *ʃare*, which designates the multiple occurrence of one and the same type of events. This gives rise to pairs of correlated protasis and apodosis events or state of affairs which together form a complex event pattern. But the multiple occurrence of an event or state of affairs is in principle verifiable.

(17) Temporal conditional mood conditional with habitual aspect consequent

[**e**	=s	**ʃan**	kʲoːʃət	ehun	e=hra=s	
REL	=CL.3F.SG	COND	stare.ABS	PCL	at=face=POSS.3F.SG	
ʃare	pe=s=sa		ənhun	βol	eβəl	
HAB	DEF.M.SG=POSS.3F.SG=part		inside	loosen.ABS	PCL	
ʃa	=s	pahət	=s	et ʃən	nə	=s ri:me
HAB	=CL.3F.SG	throw.CNST	=CL.3F.SG	on	CONJ	=CL.3F.SG weep.ABS

"When she (Hilaria) looked at her (her sister), her inner part dissolved, she threw herself on the ground and wept (…)." (Hilaria 9:13–14, ed. Drescher)

One of the sources for the temporal construal of O-marked conditionals is epistemic certainty. But now we seem to have worked us into a corner as we have just demonstrated that conditional mood conditionals are tenseless constructs. In the case at hand, the source of the epistemically stronger temporal construal lies in the certainty implicatures which are part of the semantics of apodotic tense–aspect categories.

4 Concluding remarks

Tenseless O-marked conditionals are problematic for any theory of conditional semantics which relies on independent tense and aspect morphology in the antecedent clause as the decisive factor for a particular interpretation. In fact, there is, in principle, no compelling reason to exclude an alternative scenario where the consequent clause emerges as the primary locus of (non-truth) conditionality semantics. We have outlined a novel approach in which the interpretative burden is shifted from the tenseless antecedent to the consequent clause, which is fully specified for the morphosyntactic requisite features

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