CONDITIONAL CONSTRUCTIONS IN LOPIT, AN EASTERN NILOTIC LANGUAGE

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Lopit is an Eastern Nilotic language of South Sudan. It has a number of ways of expressing conditionals. The most common way involves the use of the subordinate clause marker *l-* on the clause-initial verb which introduces the protasis. This marker is also used in other clauses which are not conditionals. There is also the conjunction *lojo*, 'if, when', which can introduce the protasis. Another method is the use of the irrealis, the conditional and the potential mode of the verb in the protasis. The first method appears not to be used in other Eastern Nilotic languages.

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1. Introduction

Lopit [lpx] is an Eastern Nilotic language of South Sudan, spoken by around 50,000 people living in the Lopit Hills north-east of Torit in Eastern Equatoria province. It is part of the Lotuxo sub-group of the Lotuxo-Maa languages. Until recently, the Lopit language has received little descriptive attention. Some observations on Lopit were made by authors working on the related Otuho (Lotuko) language (Muratori, 1938) and in comparative wordlist data collected by Driberg (1932) and Vossen (1982). Lopit has only been the focus of linguistic description and documentation in more recent years. The language has six different dialects (Ngaboli, Dorik, Ngutira, Lomiaha, Lohutok and Lolongo), and data collected with speakers of a number of these has led to observations on aspects of Lopit phonetics and phonology (Turner, 2001; Stirtz, 2014; Billington, 2014) and morphology and syntax (e.g. Ladu et al., 2014; Moodie, 2016).

The data in this paper has come from elicitation, storytelling and conversation recording sessions with six members of the Lopit community in Melbourne. These speakers are aged between 30 and 55 and have migrated to Australia in the last 10 years. The recordings have been transcribed in ELAN and Fieldworks and a lexical database has been set up in Fieldworks. The examples in this paper are taken from the transcriptions of the recorded sessions and are examples of the Dorik dialect.[1]

In common with most other Eastern Nilotic languages, the basic constituent order is VSO. There is no grammatical tense in Lopit and temporal reference is made with a small range of adverbs or is determined from the discourse context. Aspect and mood are marked on Lopit verbs.

The basic verbal morphology of Eastern Nilotic languages is shown in Table 1.[2] This morphology is characterised by prefixes before and after the pronominal prefix or bound agreement pronoun (BAP). There are also many suffixes for both derivational and inflectional purposes. Some examples of typical prefixes are also shown in Table 1.

Table 1: Basic verb morphology in Eastern Nilotic verbs

	A	B	C	D	E
Word position	initial prefix	bound agreement pronoun (BAP)	prefix	ROOT	suffix
Example	imperative infinitive	person, number of subject and object	causative		habitual, directional, dative, applicative, voice, instrumental

In comparison to other Eastern Nilotic languages, Lopit has more prefixes in Positions A and C. These are considerably broader, both in terms of verbal processes expressed and of the morphemes used. These are shown in Table 2. In particular, a large number of aspect and mood inflections such as conditional, irrealis, and potential are marked on the verb.

Table 2: Prefixes in Lopit verbs

A - initial prefix		B -BAP	C - prefix	
subordinator	l-		causative	iti-
VDM	l-		potential	ma-
interrogative	h-		conditional	mai-
imperative	te-, ite-, hoi-		irrealis	ngai-
hortative	ali		deontic	te-
infinitive	h-, nga-		inchoative	hi-
sequential	h(o)-		continuative	la-
			perfect	nga-
			perfective	i-, tone

Lopit has the feature of advanced tongue root (ATR), which is common amongst Nilotic languages. It also has both lexical and grammatical tone. Tone is used, among other things, to mark the nominative case and to mark aspect. However, for the purposes of this paper, neither ATR nor tone features will be shown. These features have little impact on interpreting conditionals, at least for this introductory paper. The orthography of Lopit is still being developed and the orthography in this paper is in line with that used by SIL (Stirtz, 2015).

In Lopit, there are a number of ways of expressing conditionals. The most common methods include the use of the subordinate clause marker *l-*, the use of the conjunction *lojo*, 'if, then' and the use of modal prefixes *nagi-*, irrealis; *mai-*, conditional; and *ma-*, potential. It is also possible to express conditionals without any overt marking. These methods will be discussed in the following

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[2] This is based on a study of the following languages: Maasai (Tucker & Mpaayei, 1955, Rasmussen, 2002), Toposa (Schröder & Schröder, 1984), Teso and Turkana (Dimmendaal, 1983, 1991), Bari (Spagnolo, 1933), Kuku (Cohen, 2000) and Lotuxo (Muratori, 1938). The template is adapted from Rasmussen (2002).

sections. Following this, I will discuss negative and concessive conditionals and then make a comparison with conditionals in other Eastern Nilotic languages.

2. Conditionals in Lopit

A conditional sentence consists of a subordinate clause (protasis, *P*) which states some condition under which a main clause (apodosis, *Q*) holds. Conditionals have been classified by Thompson, Longacre, & Hwang into two main groups, *reality* and *unreality* conditionals (2007, pp. 255–262). Reality conditionals refer to present, habitual or past situations. Unreality situations refer to predictive, hypothetical and counterfactual situations. I will use this classification in this paper.

A typical Lopit conditional construction is shown in (1).

(1) [l-o-wwon   holong]P   [a-ma-ila   iso   nang]Q
      SBO-3SG-be   sun/time   1SG-POT-wash   FUT   1SG
      'If there is time, I might wash' (Lit. 'if there is sun, I might wash') BP:40:39

The clause order can be reversed. This is common in many languages (Comrie, 1986, p. 83). The clause order appears to be determined by discourse context

(2) [a-ma-ila   iso   nang]Q   [l-o-wwon   holong]P
      1SG-POT-wash   FUT   1SG   SBO-3SG-be   sun
      'I might wash if there is time' BQ10:30

The different types of conditional constructions will now be examined.

2.1 Conditionals using the protasis beginning with the subordinate marker *l-*. There are many conditionals in which the protasis begins with a verb with the prefix *l-*.   This prefix is often a general marker of subordination and is not just used for conditionals. It is used in a range of environments including the relative clause, cleft constructions, negative constructions, interrogatives and some serial verb constructions. In some of these, such as cleft, negative and interrogative constructions, it is not a marker of subordination. In these constructions the term "verb displacement marker" is more appropriate and the gloss VDM is used. Where the prefix *l-* is used to mark subordination, the gloss SBO (subordinate marker) is used.

A range of examples of conditionals using the subordinate marker is given in the following sentences. Sentence (3) is a (habitual) reality conditional.

(3) [l-i-laha-k   iye   imune   de   sali   hotub]P   [o-muri]Q
      SBO-2SG-leave-APPL   2SG.NOM   bread   in   oven   too.long   3SG-burn
      'If you leave the bread in the oven too long, it burns.'   AZ:17:48

There are also conditionals of this format which are unreality conditionals. These can be hypothetical as in the following two sentences. In (4), a potential marker, *ma-*, is used in the apodosis to express the possibility of the outcome but the protasis uses the same subordinate clause format. The particle or adverb *ma*, 'possibly', in this sentence, indicates that there is a greater degree of doubt than in sentence (2).

(4)   [a-ma-ila   ma   iso   nang]Q   [l-o-wwon   holong]P
       1SG-POT-wash   POT   FUT   1SG   SBO-3SG-be   sun
       'I might wash if there is time' AC:40:38

A negative hypothetical conditional clause can be expressed using the subordinate marker and the negative verb construction (*inya*).

(5)   [l-inya   hiteng]P   [inya   manya]Q
       SBO-NEG   cow   NEG   life
       'If there are no cattle, there is no life' Cow narrative

A predictive (unreal) conditional can also be written with a normal subordinate clause and a main clause without any verbal modality as shown in sentence (6). This sentence is spoken by a leader to a group of hunters chasing a leopard and the apodosis predicts what will happen if the protasis eventuates.

(6)   [l-i-diyak   itei,]P   [e-isok   iso   hiyo   hi-hony   kulu]Q
       SBO-2PL-miss   you.PL   3SG-finish   FUT   people   INF-bite   all
       'If you miss, he will kill the people and eat them all' Mountain hunting story

To date, no counterfactual conditionals have been observed using the subordinate clause marker to introduce the protasis.

2.2 Conditionals using the subordinating conjunction *lojo*. A second method of marking conditionals is the use of the subordinating conjunction *lojo*, 'when, if'. This is related to the verb *jo*, 'say' and it shows person and number agreement (see Table 3). The third person bound agreement pronoun marker is normally *e-* but vowel assimilation changes this to *o-* in front of back vowels. The word *lojo* could be regarded as a grammaticalised form of the verb *l-o-jo*, SBO-3SG-say.

Table 3: Number and person marking for the word *lojo*

	singular			plural		
person	1st	2nd	3rd	1st	2nd	3rd
BAP	a-	i-	e-, o-	ei-, oi-	i-	e-, o-
lojo	lajo	lijo	lojo	loijo	lijo	lojo

An example of the use of *lojo* is shown in the following. The verb *wu*, 'go', is placed after the subject and is required to be prefixed with the subordinate marker *l-*.

(7)   [lajo   nang   l-a-wu   a Torit,]P   [a-bot   nang   a bolis]Q
       if.1SG   1SG.NOM   SBO-1SG-go   to Torit   1SG-go.direct   1SG.NOM   to police
       'If I go to Torit, I will go straight to the police' BQ:14:20

This compares with the related sentence (8) where the main verb *wu*, 'go', is in the clause-initial position and is prefixed with the subordinate marker, *l-*.

(8)   [l-a-wu   nang   a Torit,]ₚ   [a-bot   nang   a bolis]_Q
       SBO-1SG-go   1SG.NOM   to Torit   1SG-go.direct   1SG.NOM   to police
       'If I go to Torit, I will go straight to the police' BC:42:44

    It appears that the construction in (8) and in sentences (2) to (6) is more common than the use
of the construction in (7). There is another distinction between the two forms. The consultant
stated that '*lawu nang a Torit'* means 'if I go to Torit' but not 'when I go to Torit' (BQ:11:54).
On the other hand *lajo/lojo* can mean either 'if' or 'when' as shown in the conditional clause in (7)
and the adverbial clause in (9).

(9)   [lojo   inye   l-o-pora]   [imune   o-pora   de   sali   ina]
       when.3SG   3SG.NOM   SBO-3SG-bake   read.ABS   3SG-bake   on   fireplace.ABS   this.F
       'When she makes bread, she bakes on this fireplace'   BV:30:27

2.3 Conditionals using an 'if.., then' construction. Lopit has an *'if..., then'* conditional
construction in which both the protasis and apodosis have overt marking.   This can be made with
either the subordinating marker (10) or the *lojo* conjunction (11) marking the protasis. The
conjunction *hojo* is used in the apodosis.   This conjunction is similar to *lojo*, except that the initial
consonant is *h-,* which is the sequential (or narrative or subsecutive) marker. The *hojo* conjunction
also shows agreement for number and person similar to *lojo* in Table 3. When it is used, it is
necessary to use the sequential marker *h-* on the verb.

(10)   [l-i-yom   iye,]P   [hojo   hati   iye   kwan   h-o-liba]Q
       SBO-2SG-rest   2SG.NOM   and.then.3SG and   2SG.ABS body.NOM   SEQ-3SG-be.good
       'If you rest, then you feel well' (Lit. 'your body is good') BV:26:18

(11)   [lojo   inye   l-o-lot-u]ₚ   [hoijo   iyohoi   h-oi-daha]_Q
       if.3SG   3SG.NOM   SBO-3SG-go-VEN   and.then.1PL   1PL.NOM   SEQ-1PL-eat
       'If he comes, then we will eat' AH:01:21:30

    Comrie states that overt apodosis marking often involves particles of pronominal origin
(Comrie, 1986, p. 88). Whilst the conjunction *hojo* shows pronominal agreement, its origin is
verbal (*jo*, 'say'). It is this meaning, together with the use of the sequential marker, *h-,* that
characterise this conjunction as an apodosis marker.

2.4 Conditionals using specific verb forms in the protasis. There are also ways of expressing
conditional constructions without the use of the subordinate marker (*l-*) or *lojo*.   One of these
involves the use of the irrealis form of the verb in the protasis. The marker *ngai-* is glossed as
irrealis, (IRR).   Once again, either a simple main clause, (12), or a potential verbal construction in
the main clause, (13), can be used. Both these conditionals can be regarded as hypothetical. The
sense in (12) is that the potential event ('choosing a book') is quite likely to eventuate.

(12)   [e-liba]_Q   [i-ngai-nyimo   iye   buk]ₚ
       3SG-be.good   2SG-IRR-choose   2SG.NOM   book
       'It is good if you would choose a book', 'it would be good if you chose a book' AF:1:15:11

(13)   [e-ma-ca   inye]_Q   [e-ngai-ieta   inye   ingotiti]_P
       3SG-POT-dance   3SG.NOM   3SG-IRR-have   3SG.NOM   dancing things
       'She might dance if she had dancing things' BI:21:37

Counterfactual conditional constructions can also be expressed with the irrealis. The following sentence uses the irrealis in both the protasis and the apodosis.

(14)   [e-ngai-nya   inye   l-o-mwei]_P.....
       3SG-IRR-NEG   3SG   VDM-3sg-be.ill
       'If he were not sick (Lit. 'Were he not sick').....

             ...   [e-ngai-ibong   inye   ho   hiyo   hona   l-o-lunga]_Q
                     3SG-IRR-meet   3SG   with   people   REL.PL   VDM-3PL-be.many
                     'he would have met many people' AD1:28:21

Another way of expressing conditionals is the use of the conditional marker *mai-*, glossed here as CON. The following sentence has the verb in the protasis in the conditional form and the irrealis form in the apodosis.

(15)   [e-mai-ra   hiteng   honoro]_P   [a-ngai-huru   nabo   h-a-yama-re]_Q
       3SG-CON-be   cow   bead   1SG-IRR-pick   one   SEQ-1SG-marry-INST
       'If a cow were a bead, I would pick one to marry with' AA:30:33

It is also possible to have the conditional marker, *mai-*, in both the protasis and the apodosis.

(16)   [i-mai-wolo   iye   habu]_P   [i-mai-ruk   iye   inye]_Q
       2SG-CON-see   2SG.NOM   chief   2SG-CON-like   2SG.NOM   3SG.ABS
       'If you met the chief you would like him.' AB:00:07:35

It appears that counterfactuals can only be made with the modality markers *ngai-, ma-* and *mai-*. The main difference between *ngai-, ma-* and *mai-* seems to relate to the specific meaning conveyed rather than to any particular syntax. They are only used with hypothetical and counterfactual conditionals.

A distinguishing feature of the use of *ngai-, ma-* and *mai-* is that they don't require a subordinating marker when in a subordinating clause. This is in contrast to subordinating clauses without modality marking such as those presented in Sections 2.2 and 2.3.

2.5. Negative Conditionals. With negative conditionals, the main clause depends on a certain condition not being met (Thompson et al., 2007, p. 260). English uses the morpheme *unless* to signal this negative condition. In Lopit, one can express a negative conditional in a similar way. Sentence (17) is an example, although there is no Lopit word equivalent to 'unless' and the Arabic loan word *ilei*, 'unless' is used.

(17) [inya   nang   l-a-wu   a torit]_Q........
      NEG   1SG.NOM   VDM-1SG-go   to Torit
      'I won't go to Torit…

         … [ilei   l-e-itik   nang   ho iye]_P
            unless   SBO-1PL-go.together   1SG.NOM and 2SG.NOM
         … unless I and you go together' BU:03:55

The consultant stated that this construction would not always be used and that sentence (18) would be a more usual way of expressing it. This construction uses the subordinate marker in the protasis to indicate a conditional. As was discussed in relation to sentences (2) to (6) above, it is one of the common ways of expressing conditionals in Lopit

(18) [inya   nang   l-a-wu   a Torit]_Q   [l-inya   iye   l-i-wu]_P
      NEG   1SG.NOM   VDM-1SG-go   to Torit   SBO-NEG   2SG.NOM   VDM-2SG-go
      'I'm not going to Torit if you don't go' BU:03:55

2.6 Concessive conditional clauses. Concessive conditionals are often similar to ordinary conditionals but they carry additional presuppositions not signalled by ordinary conditionals. They are used to assert two propositions against the background assumption "that the relevant situations do not normally go together, i.e. that the situation described in one clause is an unfavourable condition for the situation described in the other (i.e., 'if *p* then normally not-*q*')" (Haspelmath & König, 1998, p. 566). Haspelmath and König have divided concessive conditionals into three types. These are scalar ('*even if*'), alternative *('whether or not'*) and universal ('*whatever, however much'*) concessive conditionals (Haspelmath & König, 1998, p. 563). They say that universal concessive conditionals are usually regarded as a variety of relative clauses and that alternative concessive conditionals are very often treated together with embedded interrogatives. Only scalar concessive conditionals are usually analysed as a specific type of conditional. Nevertheless they state that all three types meet the semantic requirements of being both conditional and concessive.

Thompson et al., on the other hand, only consider one type of concessive conditional, which is what Haspelmath and König call the scalar type. In this type, the presuppositions carried by the conditional "match quite closely those carried by such contrary-to-expectation morphemes as the English *even*" (Thompson et al., 2007, p. 261).

Lopit does not have a morpheme (or morphemes) similar to the English *even if*. However, it does have the morpheme *hidong,* 'even' which is placed within the subordinate clause rather than at the start of the clause. Sentence (19) is an example of a conditional using the irrealis form of the verb in the subordinate clause. The presence of the word *hidong* indicates that, contrary to normal expectations, "I will go to Torit if it rains".

(19) [e-ngai-sa   hidong   bi]_P,   [a-wu   nang   a Torit]_Q
      3SG-IRR-rain   even   indeed   1SG-go   1SG.NOM   to Torit
      'Even if it rains, I will go to Torit' (Lit. 'Should it even rain, I go to Torit') BT:55:09

The protasis in (19) contains the irrealis form of the verb which indicates a hypothetical situation and is similar to (14). Thus it could be said that Lopit has a form of the (scalar) concessive conditional.

Lopit appears to have what Haspelmath & König describe as alternative concessive conditionals (i.e. '*whether or not*' conditionals). Lopit doesn't have a word with the meaning of 'or'. However, the sequential marker can be used together with the subordinate marker and the potential particle *ma* as shown in the following sentence.

(20) [l-e-sa   ma   ho-inya,]$_P$ [ei-romok   íyohoi   hinyomo]$_Q$
       SBO-3SG-rain   POT   SEQ-NEG   1PL-plant   1PL.NOM   seeds
       'Whether it rains or not (Lit. 'if it might rain and not'), we will plant the seeds' BV:33:09

The protasis is a subordinate clause and has the literal meaning of 'it might rain and it might not'. The whole sentence conveys the sense that the speakers will plant the seeds regardless of whether it rains or not. Hence, it seems reasonable to think that Lopit has alternative concessive conditionals.

Lopit appears not to have a universal concessive conditional. The following sentence was considered because it can have the meaning of a "*whenever*" conditional. However, the literal translation given in (21) is also a sensible English construction and, syntactically, the sentence looks like a simple SVO clause. In addition, the morpheme *ai*, 'any' is a loan word from the Arabic (*aya*, 'any').

(21) ai   balu   [na   l-a-mat   nang]RC   e-iti-uoto   nang
       any   beer   REL.F   SBO-1SG-drink   1SG.NOM   3SG-CAUS-have.diarrhoea   1SG.ABS
       'Whenever I drink beer, I get diarrhoea' (Lit. 'any beer I drink gives me diarrhoea') BW:42:20

There are other ways in Lopit of expressing the semantic requirement of a universal concessive conditional. The following sentence can be interpreted as "Bring whatever cow you want!" However, syntactically, it is an imperative clause with a relative clause expressing the concession meaning.

(22) [yani   hiteng]   [na   l-o-wak   iye   taji]$_{RC}$
       IMP.bring cow   REL.F   SBO-3SG-want   2SG.ABS   heart.NOM
       Bring whichever cow you want (Lit. bring a cow that the heart wants you) BW:45:49

Hence, it seems reasonable to say that Lopit does not have universal concessive conditionals.

2.7. Conditionals without overt marking. Lopit also has conditionals where there is no form of conditional conjunction, special verb form or subordinate marking. Some examples, which come from a narrative about cows, are given in (23) and (24). In these sentences, there are two declarative clauses in each sentence and no overt marking. The context of the sentences (i.e. the speaker is talking about the importance of cows) enables the hearer to understand the connection between the two clauses. The connection is that the first clause states some condition under which the second clause holds.

(23)　[e-yei　　　tohoni]_P　[e-wak　　　hiyo　　　hiteng]_Q

(23)　[e-yei　　tohoni]$_P$　[e-wak　　hiyo　　hiteng]$_Q$
　　　3SG-dies　person　3PL-want　people　cow
　　　'A person dies, people want a cow' Cow narrative

(24)　[o-wwon　himora]$_P$　[e-wak　　hiyo　　hiteng]$_Q$
　　　3SG-be　peace　3PL-want　people　cow
　　　'There is peace, people want a cow' Cow narrative

This form could be described as an unmarked form of conditional. Some conditionals can be identified on the basis of "clear semantic equivalence with *if-then* sentences" but without "morphological, syntactic or semantic markers" (Ferguson, Reilly, Meulen, & Traugott, 1986, p. 6). It is an example of a situation that Haiman describes as where "the protasis is paratactic with the apodosis" (Haiman, 1986, p. 218). This is common in colloquial speech and narratives in general.

3. Conditionals in Eastern Nilotic languages

Conditionals in a number of Eastern Nilotic languages (Teso, Maasai, Turkana, Lotuko and Bari) were examined and a review is provided here. Teso has conditional sentences utilising an '*if*' clause for hypothetical conditionals with the word *arai*, 'if'.

(25)　[Arai　ilosi　ijo]$_P$　[a-buni　　aupar　ka　　ijo]$_Q$
　　　If　go　you　I shall accompany??　with　you
　　　'If you go I shall accompany you' (Hilders & Lawrance, 1957, p. 42)

For counterfactual conditionals, Teso uses an '*if....when*' construction (*aria…, ti...)* and the conditional prefix *k-* in the protasis, together with the subjunctive aspect in the apodasis (Hilders & Lawrance, 1957, p. 42).

(26)　[Arai　k-alot　　eong　mol]$_P$　[ti　kadum　　apesan]$_Q$
　　　If　CON-1SG.go　I　tomorrow　then　would get　money
　　　If I were to go tomorrow, I would get the money' (Hilders & Lawrance, 1957, p. 43)

Teso can also have a conditional construction without an '*if*' in the protasis. This is done with the conditional verbal prefix *k-*.

(27)　[k-alot　　eong　Kampala]$_P$　[kejukakini　ijo　agangat]$_Q$
　　　CON-1SG.go　I　Kampala　I send　you　help
　　　'If I go to Kampala, I shall send you help.' (Loyola, 2007, p. 116)

In Turkana, the protasis usually precedes the main clause, but may also follow it. Conditional clauses are introduced by the markers *a ni*. The marker *a* is an associative linker meaning 'or' and the marker *ni* is also used as an anaphoric element indicating 'place just referred to'. The second

marker can be bound to the verb. The conditional mode is marked by an initial verbal marker *k-* (Dimmendaal, 1983, p185). An example of a hypothetical conditional is shown in (28).

(28) [a   ni-k-a-ingit   ayong   ngakiro ,] ₚ   [a-yen-un-i]_Q
      if   if-CON-I-ask   I.NOM   matters   I-know-VEN-A
      'If I ask questions, I will know.' (Dimmendaal, 1983, p185)

Dimmendaal states that the marker *k-* is probably the same marker found in relative clauses. It is probably cognate with the Teso *k-*. It might be similar to the Lopit subordinate marker (SBO) *l-*. However, the prefix *k-*, which is common in many Nilo-Saharan languages (Greenberg, 1963), is expressed in Lopit as the velar fricative and is written as *h-*. The Lopit prefix *h-* is used as a sequential and interrogative marker, similar to *k-* in Turkana (see Appendix 1 for a list of Eastern Nilotic verbal prefixes). Thus the Lopit prefix *l-* appears to be different.

In order to indicate a counterfactual situation, an auxiliary verb, *ra*, 'to be', which is inflected for aspect, is used to give the meaning of "if I were to…". In these clauses, the conditional markers (*a ni*`) are optional (Dimmendaal, 1983, p186).

(29) [k-a-ra-i   a-to-nyam   akimuj   nakalalani]ₚ   [k-a-deka-kin-a]_Q
      CON-I-be-A   I-PRF-eat   food   much   CON-I-sick-DAT-V
      'If I were to have eaten a lot of food, I would have fallen sick.' (Dimmendaal, 1983, p186)

In Maasai, the protasis is introduced by the morpheme *te*, 'if'. This is used for both hypothetical (30) and counterfactual (31) conditionals. The sequential or narrative marker (N-tense in Maasai) is used in conditionals (Tucker & Mpaayei, 1955, p103).

(30) [te   n-a-suj]ₚ   [n-aa-idong]_Q
      if   SEQ-1SG-follow   SEQ-3SG>1SG-hit
      'If I follow him he will beat me' (Tucker & Mpaayei, 1955, p. 103)

(31) [te   n-aa-ipoto]ₚ   [anaata   a-shomo]_Q
      if   SEQ-3SG>1SG-call   should   1SG-go.PFV
      'Had he called me, I should have gone'   (Tucker & Mpaayei, 1955, p. 102)

Lotuko (Otuho) also has a number of particles or subordinating conjunctions which introduce the protasis in conditionals. There is a more general conjunction morpheme *al*, 'if, when' which is used in hypothetical conditionals such as (32). This may be related to the Lopit *l-* although it can be replaced by other conjunctions such as *kwiya* and *ara*. Further work is required to understand any link.

(32) [al   o-lleyo   nacang   teya]ₚ   [i-ramana   nana]_Q
      if   3-appear   game   there   2SG-tell   me
      'If game appears there, tell me.' (Arber, 1936, p. 42)

The conjunction *kwiya*, 'perhaps, if' is "commonly used for conditional sentences, particularly the more indefinite" (Arber, 1936, p. 42). The following is given as an example.

(33) [kwiya i-fak ye asekere]ₚ [o-bangi adi isi]_Q
     if 2-send you policeman 3-be.afraid FUT they
     'If you send a policeman, they will be afraid.' (Arber, 1936, p. 42)

There is another particle *ara*, 'if', which is also used in reality conditionals.

(34) [ara i-yiyana ie]ₚ [i-mijak ie]_Q
     if 2SG-study you 2SG-know you
     'If you study, you know.' (Muratori, 1938, p. 439)

This particle can also be used in hypothetical conditionals when used with the immediate past temporal adverb *dwo*, 'moment ago', which appears in both the protasis and apodosis.

(35) [ara dwo i-yiyana ie]ₚ [i-mijak dwo ie]_Q
     if IMM.PST 2SG-study you 2SG-know IMM.PST you
     'If you were studying, you could know.' (Muratori, 1938, p. 445)

(36) [i-yiyana dwo ie]ₚ [i-mijak dwo ve ie]_Q
     2SG-study IMM.PST you 2SG-know IMM.PST indeed you
     'If you were studying, you would know.' (Muratori, 1938, p. 445)

Hypothetical conditionals can also be made in Lotuko without an '*if*' morpheme. Temporal adjectives are used together with an affirmative marker *ve*, 'just, indeed' which is used to give more assertiveness (Muratori, 1938, p. 445). The construction in (36) is another example of an unmarked conditional, similar to the Lopit examples in section 0 above.

Bari has the morpheme *kɔ́*, 'if', which introduces the protasis in reality and hypothetical conditionals. The particle *á*, 'then,' can be used optionally to introduce the apodosis (Spagnolo, 1933, p. 260).

(37) [kɔ́ do ti tu]ₚ [á nan lolong baba]_Q
     'If you don't go, I will call my father.' (Spagnolo, 1933, p. 260)

For a counterfactual situation, the particle *kɔ́* is followed by *ködyö*, 'perhaps, almost'. This latter word can appear in any position in the protasis or it can also appear in the apodosis (Spagnolo, 1933, p. 261). The mood and aspect of the verbs can also be changed.

(38) [kɔ́ ködyö mananye apo]ₚ [nan ködyö a'dungökin lopijot]_Q
     'If my uncle had come, I would have killed a ram for him.' (Spagnolo, 1933, p. 261)

From this brief study, it appears that conditionals in Lopit are generally similar to those in other Eastern Nilotic languages. Table 4 lists the variety of constructions used to express conditionals for the Eastern Nilotic languages studied. It shows those languages using a protasis

beginning with an *'if'* kind of morpheme, those with an *'if..., then'* construction and those which use irrealis or conditional verb forms without an *'if'* morpheme.

Table 4: Methods of marking conditionals in Eastern Nilotic languages

Language	'if'	'if...,then'	without 'if', using irrealis or conditional verbal form	subordinate marker only	no marking of protasis
Teso	arai	arai…,ti	yes	-	?
Turkana	á	?	yes	-	?
Maasai	te	?		-	?
Lotuko	al, kwiya, ara	al….,ottati..		-	yes
Bari	kɔ́	kó….,á..		-	?
Lopit	lojo	lojo...,hojo	yes	yes	yes

Although the information is not complete, there are several observable trends. Firstly, all of the languages have some kind of conditional particle or conjunction which introduces the protasis (i.e. something similar to the English 'if'). Secondly some languages can express conditionals without an 'if' particle by using irrealis and/or conditional forms of the verb.

It appears that the use of a subordinate marker in the protasis is only found in Lopit. This observation depends on how one interprets the *k-* prefix in Teso and Turkana, as illustrated in (27) and (29) respectively. If this is a conditional marker, then it is unlike the Lopit subordinate marker. If it is a general subordinate marker then the construction may be similar between the languages. However, this is probably unlikely since the apodosis in both (27) and (29) also commences with the prefix *k-*, which would not be normal for a main clause if it were a subordinate marker. In addition, at this stage, the prefix *l-* appears only to be found in Lopit.

It is worth noting that this is only a preliminary study and more work is required to be able to make definite comparisons.

4. Discussion and Conclusion

Lopit has three main ways of expressing conditionals. The first is the use of the subordinating marker *l-* to signal a subordinating clause. The second is the use of the conjunction *lojo* which can take the meaning equivalent to the English 'if'. This can be described as a subordinating morpheme (Thompson et al., 2007, p. 256). These first two methods are used for reality, predictive and hypothetical conditionals, but not for counterfactual conditionals. The third method is the use of specific modal forms such as the irrealis, *ngai-*, the potential, *ma-* and the conditional, *mai-*. This method is used for counterfactual conditionals and does not involve the use of the subordinate marker *l-* or the conjunction *lojo* in the protasis.

The use of subordinating morphemes and of specific modal forms are reported as the most common for the world's languages (Comrie, 1986, p. 87; Thompson et al., 2007, p. 256). The use of specific modal forms is common where the verb encodes some form of hypotheticality or counterfactuality (Comrie, 1986, p. 87; Thompson et al., 2007, p. 257). This is also the case for Lopit.

In some of the conditionals marked with the subordinating marker in the protasis, there is a special verb form in the apodosis, such as in (1). However, for many conditionals such as (3), (5) and (6), the subordinate marker is the only overt marker related to conditionality. Thus, in these sentences, it is only the marking of subordination that establishes a relation between the two clauses.

Comrie considers that in order to have conditional constructions, a language must have "a formally identifiable syntactic construction whose basic function is to encode conditional. This construction may have other functions in addition to that of expressing conditionals, but this must be the main function" (Comrie, 1986, p. 82). He also allows for a weaker definition in which the encoding of conditionals is "one of the basic functions of the construction in question" (Comrie, 1986, p. 82). Thus in Lopit, constructions with *lojo* (which can mean both '*if*' as in (7) and '*when*' as in (9)) would be considered conditional constructions according to the 'weaker' characterisation. Similarly, constructions with the subordinate marker *l-* (as in (1) to (6)) would also be of the 'weaker' type, since this subordinate marker has other basic uses as is discussed above.

Lopit also has some concessive conditionals. There are constructions for scalar and alternative conditionals (using Haspelmath & König's terms (1998, p. 563)). Universal concessive conditionals and negative conditionals can be constructed using Arabic loan words. However, it appears that it is more usual to express the kinds of meanings conveyed in these sentences using ordinary conditionals.

Conditionals in Lopit have much in common with other Eastern Nilotic languages. However, Lopit appears to be the only one which is able to express conditionals with a subordinate marker which is not a special conditional marker.

Appendix 1

Table 5: Verbal prefixes used in Eastern Nilotic languages

Sub-group	Lotuxo-Maa			Teso-Turkana		Bari
Language	Lopit	Lotuko	Maa	Turkana	Toposa	Bari
A						
hortative	imperative	?	?	?	?	?
imperative	te-, ite-(1),i- (2)		hate-, hoi-	tV-(1),i-(2), ha-	te-	
infinitive	ali-	none	a-, ata-	a-(1), aki- (2)	to- (1), k-(2)	to- (1), k-(2)
sequential	?	?	n-	to- (1), k-(2)	pa-, ny-	
negation	nga- (1), h-(2)	-	mm(i)-	pe-		
subordinator	h(o)-	-	-	to- (1), k-(2)	to- (1), k-(2)	
interrogative	-	k-	k-	k-	k-	-
discourse	l-	k-	k-	-	-	
conditional	h-	-	-	k-	k-	-
C						
causative	-	iti-	itV-	itV-	itV-	tV- to-, tu-
reduplication	yes	yes	yes	yes	yes	yes
perfective	i-, tone change	te-	te-	itV-	itV-	tV-
perfect	nga-	nga-				
continuative	la-	xa-				
conditional	mai-					
potential	ma-					
irrealis	ngai-		te-			
deontic	te-					
inchoative	hi-					

Abbreviations

1	1st person		IRR	irrealis
2	2nd person		NEG	negative
3	3rd person		NOM	nominative
ABS	absolutive		PL	plural
APPL	applicative		POT	potential
A	aspect		PST	past
CAUS	causative		Q	question maker
COMP	complementizer		RC	relative clause
CON	conditional		REDUP	reduplication
DAT	dative		REL	relative marker
DEO	deontic		SBO	subordinator
F	feminine (and large things)		SEQ	sequential
FUT	future		SG	singular
IMM	immediate		V	verb
INF	infinitive		VDM	verb displacement marker
INST	instrumental		VEN	ventive
M	masculine (and small things)			

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