Complex Tenses, Agreement and Wh-extraction

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0. Introduction

In this paper we provide an analysis of the syntax of Tense in Berber and investigate the interaction between complex tenses and the Anti-Agreement Effect (AAE), which was first discussed by Ouhalla (1993). Our analysis attempts to unify the Tense system of Berber and make an accurate distinction between Tense and Aspect in this language. In our analysis of complex tenses we propose that complex tense clauses are bi-clausal i.e. their structure consists of two Tense projections, and show how that is compatible with the defectiveness of T in embedded domains. Our analysis provides empirical evidence for cyclic valuation/checking of Case (Chomsky 2000, 2001). We also present certain similarities between AAE in Berber) and auxiliary raising/T-to-C in English, regarding cases of local wh-movement of Subjects vs. Objects. This paper is organized as follows: section 1 provides some background and offers an analysis of the Tense system in Berber, section 2 analyzes complex tenses in this language, section 3 compares complex tense constructions to Exceptional Case Marking(ECM) constructions, section 4 discusses subject extraction and offers an analysis of AAE and section 5 highlights the asymmetry between AAE in Berber and T-to-C raising in English.

1. Background

Berber verbs display different aspectual forms namely perfective, imperfective and aorist (see e.g. Ouhalla 1988 for Tarifit, Guerssel 1986 for Tamazight, Chaker 1995 for different dialects). Each of these aspectual forms, except for the perfective, combines with an overt auxiliary/morpheme to convey temporal-aspectual information. Both the future auxiliary *da* and the non-finite morpheme *ad* combine with the Aorist verb form in (1) and (2). In (3) the present tense auxiliary combines with the Imperfective verb form. In (4), although the perfective verb form does not combine with an overt tense morpheme, we argue that there is a null tense morpheme that selects the perfective verb.

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(1) da-dux gher-Rbath aska
will-goAOR.1s to-Rabat tomorrow
'I will go to Rabat tomorrow'

(2) rix ad-ruhex
want.1s to-go.AOR.1s
'I want to go'

(3) la-tetex aghrum
la-eat.1s.IMP bread
'I am eating bread (now)' or 'I eat bread (everyday)'

(4) Ø yuri tabrat
Past 3ms. write. PERF letter
'He wrote the letter'

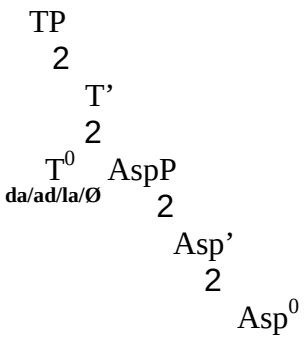
In what follows we summarize the basic facts about the tense system in Berber:

(5) Tense System in Berber

	T e n s e Auxiliaries			
Verbal Aspectual Forms	la	da	ad	Ø
Perfective	*	*	*	Simple Past tense
Imperfective	Progressive or Habitual Present	*	*	*
Aorist	*	Future tense	Future (Non-finite) tense	*

Aspect in Berber is expressed through a vocalic alternation in the consonantal root. It has been assumed since Ouhalla (1988) that Tense (T) and Aspect (Asp) correspond to different projections in the syntactic structure of Berber as shown in (6). We adopt this structure as background and argue contra Ouhalla that *la* is not an aspect marker but a tense marker occupying T similar to the future marker *da* and the non-finite marker *ad*. To complete the paradigm we argue that past tense is morphologically marked by a null morpheme which also occupies T and selects a perfective aspectual verb form. In sum, we argue that Berber has a complete paradigm of Tense morphemes that occupy a syntactic projection different from the aspectual verb forms.

(6)



2. Complex Tense

To express complex tenses such as the Future Imperfective in (7), we argue, contra Ouhalla (1988), that the clause structure of these clauses involves two Tense Projections (TP)..

(7) dad ilin la teddun aday naweth
Fut BE-AOR.3p Pres go-IMP.3p when arrive.1p
'They will be leaving when we arrive'

In his arguments for the separation of TP and Asp projections (AspP) in Berber Ouhalla (1988) proposes to extend his analysis to clauses with the inflected auxiliary verb *ila* 'be' such as (7). This auxiliary can be used with the main verb in sentences which involve "temporal contrastiveness" or "antecedence", in Ouhalla's (1988) terms. Ouhalla argues that the fact that *ila* inflects for agreement, is marked for aspect, and can function as a main verb implies that we are dealing here with a verb and not just an "Aspect/mood marker". He therefore, assumes that the structure of clauses such as (8) contains two Agr projections, and two AspP but only one TP otherwise we would not be able to account for the contrast between (8) represented in (9), and (10), in which two tense markers (*ad*) co-occur.

(8) ad-illi-n uggurn rux-nni (Tarifit Berber)
to-Aux-AOR-3p go-PERF-3p time-that Aux(Ouhalla) = BE

(9) $[_{TP}$ ad $[_{AspP}$ illin$_i$ $[_{VP}$ t$_i$ $[_{AspP}$ uggurn$_j$ $[_{VP}$ t$_j$ …]]]]]

(10) *ad-illi-n ad-uggur-n rux-nni (Tarifit Berber)
to- Aux-AOR-3p to- go-PERF-3p time-that

(from Ouhalla 1988: 47)

However, given examples such as (7) from Tamazight, we argue that complex tenses in Berber involve not only two AspP,, (since both BE and the main verb are inflected for Aspect), but also two separate TP projections, as shown by the

presence of two separate overt tense auxiliaries,, one preceding BE and the other one preceding the main verb, as in (11).

(11) [TP da [AspP illin$_i$ [VP t_i [TP la [AspP teddun$_i$ [*v*P t_i [VP t_i]]]]]]]
Fut BE-AOR.3p Pres go-IMP.3p
'They will be leaving'

The interpretation of the second tense head is dependent on the matrix tense. We assume that the ungrammaticality of the Tarifit example in (10) is not due to the presence of a second T head in the embedded domain but to selectional restrictions. The non-finite auxiliary *ad* does not select a verb in the Perfective aspectual form.

To summarize, complex tense is expressed by using both a tense affix and the copula BE together with another tense affix and the main verb. Examples (12) show the different complex tenses that are generated with two different specifications for matrix tense, combined with the required aspectual form of the copula 'be'and with the embedded TP: i) future tense+ be.aorist +embedded TP (12a-c); ii) past tense+be.perfective+embedded TP (12d-e). The embedded TP itself can occur in all three combinations of (finite) tense+aspect. In sum, our analysis provides a precise account of how the different complex tenses are syntactically generated in Berber:

(12) a. dad ilin la teddun aday naweth
Fut BE-AOR.3p Pres go-IMP.3p when arrive.1p
'They will be leaving when we arrive' ***Future Progressive***

b. dad illin Ø dan wasa
Fut BE-AOR.3p Past leave-PERF.3p now
'They will have left now/by now' ***Future Perfective***

c. dad ilin da theddun
Fut BE-AOR.3p Fut Leave-AOR.3p
'They will be about to leave…' ***Future in the future***

d. lan la teddun
Past-BE-PERF.3p Pres leave-IMP.3p
'They were leaving/had been leaving…' ***Past Progressive***

e. lan dan
Past-BE-PERF.3p Past-leave-PERF.3p
'The had left' ***Past Perfective***

f. lan da theddun
Past-BE-PERF.3p Fut leave-AOR.3p
'They were about to leave' ***Future in the Past***

Having argued that complex tense sentences are bi-clausal we show next what sets them apart from other bi-clausal sentences like ECM constructions.

3. Complex tenses vs. *want*-type clauses

In ECM constructions (want-type clauses), two different overt subjects are licensed as shown in (13).

(13) da diri Ali ad teddu Fatima
Fut want-AOR.3sm Ali to go-AOR.2sf Fatima
'Ali will want Fatima to leave'

On the other hand, the copula *ila* in BE clauses can only license one subject (14) vs. (15).

(14) ila Ali da thiddu
Past BE-PERF.3sm Ali Fut go-AOR.2sm
'Ali was going to leave'

(15) * ila Ali da teddu Fatima
Past BE-PERF.3sm Ali Fut go-AOR.2sf Fatima

We argue that want-type verbs assign/value the Case of the embedded subject as shown by *clitic climbing* in (16), where the subject of the embedded clause is assigned accusative Case and is attached to the matrix auxiliary.

(16) da-t iri Ali ad teddu
Fut-her want-PERF.3sm Ali to go-AOR.2sf
'Ali will want her to go'

The copula *ila* 'be' cannot assign accusative Case to the embedded subject, as in (17).

(17) Ila **nta**/***as** dad iddu
Past BE-PERF.3sm **he/*him** Fut go-AOR.2sm
'He was going to leave'

We argue that the structure of BE clauses, as represented in (18), involves a *v*P in the embedded domain (predication domain of the main verb), and a VP in the matrix domain (the auxiliary domain which does not project an independent external argument).

(18) [TP da [AspP illin [VP ~~illin~~ [TP la [AspP teddun [*v*P ~~teddun~~ [VP ~~teddun~~
Fut BE-AOR.3p ~~BE~~ Pres go-IMP.3p ~~go~~ ~~go~~
'They will be going'

An important question arises. Given that both T heads in BE clauses are specified for tense and agreement, which of these two values the Case of the subject in (19).

(19) da illin la teddun lwashun
Fut BE-AOR.3p Pres go-IMP.3p children
'The children will be leaving'

We propose that the subject in these contexts enters into multiple AGREE (Chomsky 2001) relations, first with the embedded T which values its Case, and since this TP is not a *phase* (Chomsky 2000) the valued Case is not deleted and remains visible to the higher (probe) T, as represented in (20) .[1]

(20) [$_{TP}$ da [$_{AspP}$ illin [$_{VP}$ ~~illin~~ [$_{TP}$ la [$_{AspP}$ teddun [$_{vP}$ lwashun ~~teddun~~ [$_{VP}$ ~~teddun~~]]
z - - - - - - - - - - m
z - m

In ECM constructions as in (13) represented in (21) below, the same happens except that the embedded subject's Case does not get valued by the embedded tense arguably because T is 'defective' (as shown by the fact that only non-finite auxiliary *ad* occurs in embedded ECM complement clauses). The embedded subject gets Case valued by the matrix *v,* hence this subject is always marked for accusative in these contexts.

(21) [$_{TP}$ da [$_{AspP}$ diri [$_{vP}$ Ali ~~diri~~ [$_{VP}$ ~~diri~~ [$_{TP}$ ad [$_{AspP}$ teddu [$_{vP}$ Fatima ~~teddun~~ [$_{VP...}$
z - - - - - - - - - - - - - m

In contrast to ECM clauses, embedded T in BE clauses is always a finite/non-defective head *(*pres *l*a, fut *d*a, or past Ø) and never the non-finite marker *ad,* which further supports the argument that the subject is always marked for Nominative in complex tense sentences.

4. Subject Extraction

One of the characteristics of Berber syntax is that subject extraction yields an alteration in the verb agreement morphology; an alteration that has been referred to since Ouhalla 1993 as Anti-Agreement Effect (AAE). When we compare sentences like (22) with sentences like (23) we see that in the former the verb is marked for full subject-verb agreement whereas in the latter this agreement is altered yielding a neutral (Neu) form of agreement (AAE).

(22) **y**dda Ali
leave-IMP.**3sm**

[1] See also Fernandez-Salgueiro 2004 and refs. therein for related phenomena.

'Ali left'

(23) Ali ag da**n**
Ali that leave.IMP.**Neu**
'It was Ali that left'

Interestingly, AAE occurs only if the subject extraction is local i.e. within the same clause as in (23) as opposed to when the extraction is long i.e. across an embedded clause as shown in (24), in which AAE does not occur.

(24) Ali ay thenna Miriam yedda
Ali that say.PERF.3sf Miriam leave.PERF.3sm
'It was Ali that Miriam said left'

This phenomenon provides another piece of evidence that complex tense sentences are bi-clausal because only the higher tense (corresponding to the most local clause) in these constructions gets affected by A'-movement and Anti-Agreement as shown in (25).

(25) Ali ag ilan yedda
Ali that BE.PERF.Neu go.PERF.3sm
'It was Ali who had left'

AAE shows up in three different contexts of local subject extraction namely: clefts as in (23), subject-relative clauses as in (26) , and Wh-Clauses as in (27).

(26) tharbat ag rbhe**n** thugh thaddarth
girl who win.PERF.Neu buy.PERF.3sf house
'the girl who won bought a house'

(27) ma ag dan
who leave. PERF.Neu
'Who left?'

In the next section we will focus mainly on wh-extraction. We lay out the syntax of AAE in regular embedded clauses, complex tense sentences and ECM constructions (see Ouhalla 1993, 2003 for an alternative analysis of the Anti-Agreement Effect/AAE).

4.1. Wh-extraction and Anti-Agreement Effect

As mentioned in the previous section local subject extraction always yields AAE. (28) is another example of local subject wh-extraction.

(28) ma ag nna**n** idda Ali

who that say.Perf.Neu leave.Perf.3sm Ali
'Who said that Ali left?' **Local wh-movement/Anti-agreement Effect**

The same effect is observed in complex tense constructions, and we show this by comparing (29), which is a complex tense sentence with full subject-verb agreement marked (AGR) on both the main verb and the copula BE, and (30), which is a subject wh-extraction example where only the main verb still retains full subject-verb agreement (AGR) whereas the copula shows AAE.

(29) dad illi Ali la-ytet
Fut Be.Aor.3sm Ali Pres-eat.IMP.3sm
'Ali will be eating' **Ali will be-AGR leaving-AGR**

(30) mar ad illin la-ytet
who Fut Be-Aor.Neu Pres-eat.IMP.3sm (Neu: Anti-Agreement Effect)
'who will be eating' **Who will be-Neu leaving-AGR**

If we consider embedding contexts as in (31), we see that when the subject of the embedded sentence is locally extracted AAE is again observed.

(31) isqsa-yi Ali ma ra ydu**n**
ask.PERF.3sm-me Ali who Fut leave.AOR Neu
'Ali asked who will leave' **Embedded wh-movement**

The same pattern is seen in ECM constructions, as we show by comparing (32) and (33). In (32) no subject extraction has taken place hence the verbs are marked for full subject agreement. In (33) the subject of the main clause is *wh*-moved and the main verb shows AAE.

(32) thra Maria ad iddu Ali
want.IMP.3sf Maria to go.Aor.3sm Ali
'Maria wants Ali to leave' **Exceptional Case Marking (ECM)**

(33) ma ag ran Ali ad iddu
who that want.IMP.Neu Maria to go.Aor.3sf
'Who wants Maria to leave' **ECM: Local extraction –AAE**

Interestingly the AAE observed in all these cases disappears when the subject undergoes a long distance extraction; in other words when the subject of the embedded clause is moved across all the way to the front of the main clause. (34) and (35) show lack of AAE with long distance subject extraction in ECM and complex tense constructions respectively.

ECM: long distance extraction–no AAE

(34) **ma** ay thra Maria ad-iddu ____
who that want.Perf.3sf Maria to go.Aor.3sm ____
'Who does Mary want ___ to leave-AGR?'
Complex Tense: long distance extraction–no AAE

(35) **ma** ay thenna Fatima dad illi ____ la-ytet
who that say.PERF.3sf Fatima Fut Be-Aor.3sm ____ Pres-eat.IMP.3sm
'who did Fatima say ____will be eating?'

4.2 The Syntax of Anti-Agreement

In this section we consider the syntax of AAE in complex tenses.. In the previous section we argued that the structure of these sentences is bi-clausal and that the subject enters into two AGREE relations, one with the lower T and the second with the higher T as shown in (19)-(20) above and for wh-extraction in (36) below. Furthermore, a third AGREE relation takes place between the wh-subject and C in (36). **Crucially, AAE arises only when the moved wh-phrase enters with an AGREE relation both with C and with the T that is immediately selected by C**. This is the case in (27), but also in other cases of local wh-extraction such as (28). We argue the same approach applies to wh-extraction in complex tenses, as shown by (30), represented schematically in (36)

(36) [$_{CP}$ who C [$_{\mathbf{TP}}$ **T BE.Asp.AAE** [$_{TP}$ T V.Asp.Agr ~~Who~~]]]
|_____| |_____*AGREE*_____|
|_____*AGREE*_____ _|
|_____*AGREE*_____ _____|

The same conditions hold for local extraction in ECM clauses as represented in (37). The C^0 that probes the wh-subject immediately selects the T0 that probes and AGREEs with this subject.

(37) [$_{CP}$ who C [$_{\mathbf{TP}}$ **T want.Asp.AAE** ~~Who~~ [$_{TP}$ T go.Asp.Agr Maria]]]
|_____| |_____*AGREEx*_____| |_____*AGREEy*_____|
|_____|

This analysis also explains why AAE is not obtained in long distance subject extraction. As shown in (38), the embedded wh-subject agrees with the embedded T and also with the matrix C. However, the T that is immediately selected by the matrix C agrees with a different subject, i.e. the subject of the main clause, so AAE does not arise.

(38) [$_{CP}$ who C [$_{TP}$ T want.Asp.Agr Maria [$_{TP}$ T go.Asp.Agr ~~Who~~]]]
|_____| |_____*AGREEx*_____| |_____*AGREEy*_____|
|_____|

To summarize we have shown that AAE that results from subject wh-movement affects Agreement on the inflectional domain (tense/aspect). The inflectional domain undergoes AAE under these two conditions:

a. it has to undergo AGREE with the moved wh-element
b. it has to enter into feature checking with the C-head that checks the wh-feature of the moved wh-element.

In the next section we will discuss the AAE and the lack of T-to-C in English and extend the proposed Analysis to the English facts.

5. Anti-Agreement and Tense-Complementizer Interaction

Local Subject Wh-Extraction does not involve T-to-C and the insertion of do support in English as shown by (39) and (40).

(39) Who left?
(40) *Who did leave?

This is the same context where AAE is obtained in Berber as discussed in detail in the previous section and as illustrated again in (41) and (42).

(41) ma ag dan?
Who that leave.PERF.AA
'who left?'
(42) *ma ag yda?
Who that leave.PERF.3s

Unlike subject extraction, local object extraction does involve T-to-C in English as illustrated in (43).

(43) who did John see ~~who~~?

In Berber, object extraction does not yield AAE and shown in (44).

(44) ma ag y3la Ali ~~ma~~?
Who that see.PERF.3s Ali ~~who~~
'Who did Ali see?'

Long distance Subject Extraction yields T-to-C in English as in (45) and lack of AAE in Berber as in (46), and so does long distance object extraction as shown in (47) for English and (48) for Berber.[2]

(45) who did John say ~~who~~ left?
(46) ma ay thenna Fatima yda?

[2] See Pesetsky & Torrego 2001 for specific proposal and empirical problems concerning English.

Who that say.PERF.3sf Fatima left.PERF.3sm
'Who did Fatima say left?'

(47) Who did John say Mary saw ~~who~~?

(48) ma ay thenna Fatima ye3la Ali ~~ma~~?
Who that say.PERF.3sf Fatima see.PERF.3sm Ali ~~ma~~
'Who did Fatima say Ali saw'

6. Conclusion

In this we have shown evidence for the need for two tense projections in complex tenses in Berber. We argued that despite the fact that complex tense clauses license only one subject, this subject can involve multiple Agreement on the Tense/Aspect domain (and occur in various positions). We have explained these facts by appealing to the possibility of multiple case/agreement checking/valuation within the same domain, allowing case deletion to be delayed. We have also shown that the Anti-Agreement Effect, restricted to local A-bar (wh-movement), affects only the inflectional domain that enters into an AGREE relation both with the moved wh-subject and with the C head that checks the wh-features.

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