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This paper examines tenseless clauses in Jarawara, a member of the Arawá family spoken in Brazil. I argue that a subset of these clauses have a "covert" allomorph that marks immediate past eyewitness tense.

1. Introduction[1]

The Jarawaras are an indigenous people group living within a reserve in the municipality of Lábrea in the state of Amazonas, Brazil. Their language, Jarawara, is a member of the small Arawá language family of southwestern Amazonia. Their small population of about 200 people requires that their language be classified as "endangered", but their language has a high degree of vitality. Although the Jarawaras are fairly bilingual in Portuguese, the national language, they use their own language virtually exclusively for communication among themselves in their villages.

In this paper I argue that many Jarawara clauses that appear to have no tense morpheme may be analyzed as having a "covert" allomorph of what can be identified as immediate past eyewitness tense. The reason for the label "covert" is that, whereas immediate past eyewitness tense is typically realized as a suffix (as are all tense morphemes in Jarawara), in the clauses under consideration the exponent of immediate past eyewitness tense category is simply a particular type of gender agreement.

This idea is actually an extension of an analysis proposed by Dixon (2000, 2001, 2004) in his extensive work on Jarawara. The immediate past eyewitness suffix is *-hara/-hare*,[2] and the feminine variant of this suffix is used in (1).[3]

[1] Many thanks to Donald Burquest, RMW Dixon, Robert Campbell, Robert Longacre, and two anonymous reviewers, who read versions of this paper and offered many helpful comments.

[2] Many Jarawara verbal suffixes have two forms, one for feminine and another for masculine agreement. Whenever this is the case, I list both forms, the feminine followed by the masculine form.

[3] In the interlinear examples, the first line is orthographic (except that long vowels are represented by double vowels, whereas in the orthography they are left unrepresented), the second line has underlying forms, the third line has glosses, and the fourth line is a free translation. The following abbreviations are used (cf. also the list of tense-modals in table 1): 1 - first person, 1EX - first person plural exclusive, 1IN - first person plural inclusive, 2 - second person, 3 - third person, ADJNCT - adjunct, AUX - auxiliary verb, BKG - backgrounding mood morpheme, CAUS - causative, CH - change of state, COMIT - comitative, CONT - continuative, DC - dependent clause, DECL - declarative mood, DUP - reduplication, F - feminine inherent gender, +F - feminine agreement, F.PL - feminine plural agreement, HAB - habitual, M - masculine inherent gender, +M - masculine agreement, MC - main clause, NEG - negative, NFIN - non-finite, O - object, OC - O-construction, P.FUT - past in the future, PL - plural, POSS - possessor/possessor marker, S - subject, SEC - secondary verb, SG - singular, sp - species.

Most of the examples are from my own fieldwork (from recorded texts or spontaneous sentences heard in conversations and written down), but a good number are from R.M.W. Dixon's fieldwork, which he graciously has given permission to use. A significant number of examples are from written texts by Jarawara authors.

(1)	*Okoma**ra***	*oke*	*waha.*
	o-ka-ma-hara	o-ke	waha
	1SG.S-go/come-BACK-IP.E	1SG.S-DECL+F	NOW
	'Then I came back.'		

Dixon showed that in a sentence such as (2), in contrast, the category of immediate past eyewitness tense is present without the suffix being present.

(2)	*Manakobisa*	*otaa*	*kama*	*otaake*	*fahi.*
	manakobisa	otaa	ka-ma	otaa-ke	fahi
	NEXT	1EX.S	go/come-BACK+F	1EX.S-DECL+F	THEN
	'Then we came back.'				

In contexts like those in (2), the suffix *-hara/-hare* is not allowed, yet it is quite clear that the category of immediate past eyewitness tense is present, not only from the meaning context in texts, but also from the paradigmatic relationship of verb forms like those in (1) and (2). The basic distribution rule is simple: If the "syntactic pivot" (in these sentences, the subject[4]) is first or second person plural, then the pattern in (2) is used instead of the suffix *-hara/-hare*.

What exactly "the pattern" is in sentences like (2) that indicates immediate past eyewitness tense, is a crucial question for this paper. Dixon (2000:27fn5) points to the repetition of the pronominal in the position after the verb stem. In (2) above, this is *otaa* in *otaake*. However, I argue in section 2 below that this repetition is required for any tense (actually, any tense-modal, see section 2 below), not just immediate past eyewitness tense, so it is not an indicator of this tense in particular. What indicates immediate past eyewitness tense in particular in (2) is the feminine gender agreement at the end of *kam**a*** – if it were masculine, it would be *kam**e***.

Dixon applied the above analysis only to main clauses, such as (2) above. My purpose in this paper is to apply a similar analysis to a particular kind of subordinate clause, called a dependent clause (hence DC). The sentence in (3) consists of a main clause preceded by two DCs, and each of the three clauses is bracketed and labelled.

(3)	[*Faya*	*otaa*	*kama,*]$_{DC}$	[*kanawaa*	*yaa*	*otaa*	*kibema,*]$_{DC}$
	faya	otaa	ka-ma	kanawaa	yaa	otaa	kibI[5]-ma
	SO	1EX.S	go/come-BACK+F	canoe.F	ADJNCT	1EX.S	be.inside-BACK+F

[*otaa*	*kisa**maro***	*otaake*	*fahi.*] $_{MC}$
otaa	ka-risa-hamaro	otaa-ke	fahi
1EX.S	go/come-DOWN-FP.E+F	1EX.S-DECL+F	THEN

'We came back; we got in the canoe, and came downstream.'

I will argue that the verbs of the two DCs in this sentence have immediate past eyewitness tense without having the *-hara* suffix, just as *kama* in (2) has immediate past eyewitness tense without the tense suffix, and that in both kinds of cases, the exponent of the tense category is a

[4] The idea of syntactic pivot is explained in section 2.2 below.

[5] The morphophoneme *I* is realized on the surface as *i* or *e*, depending on whether the number of moras preceding in the word is even or odd, respectively.

particular kind of gender agreement at the end of the verb, which is the vowel *a* in all three of these clauses, since there is feminine agreement.

One of the difficulties of this analysis is immediately apparent, since the verb in the main clause of this example (i.e. the final clause) has the far past eyewitness tense morpheme, *-hamaro*. How can the DCs be immediate past, if the main clause is far past? I will argue (in section 6 below) that the interpretation of tenses in subordinate clauses in Jarawara is different than in main clauses.

The paper is divided as follows. Sections 2 and 3 are introductory, providing general information about the tense-modal suffixes and about dependent clauses, respectively (the tenses are a subgroup of the tense-modals). Section 4 gives the full details of the gender agreement pattern referred to above. The most convincing evidence for my proposal is presented in section 5. There is a kind of agreement with possessors that is correlated with the presence of tense-modals, and this possessor agreement is found to be possible precisely in the DCs in which I am proposing there is covert immediate past eyewitness tense. Finally, section 6 presents ideas on how tense in DCs may be interpreted. While most DCs have what I am calling covert immediate past eyewitness tense, it is also true that many DCs have overt tense suffixes. It is obvious, though, that the tenses in DCs cannot be interpreted in the same way as those in main clauses, a fact recognized by Dixon as well. I propose generalizations that take into account covert immediate past eyewitness tense in DCs.

2. Jarawara Tense-Modals

2.1 General Information on Tense-Modals

Let us begin with the group of suffixes that Dixon calls "tense-modals". These are listed in Table 1, which corresponds to Dixon's (2004:197) Table 6.1.

	feminine (f)	masculine (m)
immediate past eyewitness (IP.E)	*-(ha)ra*	*-(ha)re*
recent past eyewitness (RP.E)	*-(ha)ro*	*-(ha)ri*
far past eyewitness (FP.E)	*-(ha)maro*	*-(hi)mari*
immediate past non-eyewitness (IP.N)	*-(ha)ni*	*-(hi)no*
recent past non-eyewitness (RP.N)	*-(he)te*	*-(hi)ta*
far past non-eyewitness (FP.N)	*-(he)mete*	*-(hi)mata*
intention (INT)	*-(ha)bone*	*-(hi)bona*
future (FUT)	*-(ha)ba(na)*	*-(hi)ba(na)*
irrealis (IRR)	*-(he)ne*	*-(hi)na*
hypothetical (HYPOTH)	*-(he)mene*	*-(hi)mana*
reported (REP)	*-(ha)mone*	*-(hi)mona*

Table 1. Forms of tense-modal suffixes.

The first syllable in each case is in parentheses because it is often deleted by phonological rule. The last syllable of FUT is in parentheses because the shortened form is used in certain morphological contexts.[6] The reason for the two columns is to show that each suffix has a

[6] I have followed Dixon in using parentheses in the forms in table 1, but I omit the parentheses in the remainder of the paper (except for *-haba(na)/-hiba(na)* in table 2).

feminine and a masculine form. The suffixes are grouped in three rows according to semantic similarity. In the first row are the eyewitness past tenses, and in the second row the non-eyewitness past tenses. Furthermore, the first, second, and third items in each of these two rows correspond to each other, according to time frame. The third row is a somewhat more motley collection of tenses and modals that do not fit into the scheme of the first two rows.

The time frames of the different tenses are approximately as follows. Immediate past goes from the present back to up to a month or two ago. Recent past starts there and goes back to a year or two ago. Far past is anything before that.

Dixon calls the suffixes in table 1 the "tense-modal system". There are dozens of other verbal suffixes in Jarawara, so what makes these a system, as opposed to other suffixes? It is clearly not the case that these suffixes occupy a single slot, since more than one can co-occur. In (4), for example *-hemete* FP.N co-occurs with *-mone*[7] REP.

(4) *Mee tafe**metemone**ke.*
mee tafa-hemete-mone-ke
3PL.S eat-FP.N+F-REP+F-DECL+F
'They ate.'

These suffixes do, however, occupy a slot in the sense that they come at a particular place in the predicate. Dixon calls this "slot G", which is after the "miscellaneous suffixes" of slot F and before the "third pronominal position" of slot H. Furthermore, whenever there are two tense-modal suffixes, they are always adjacent, nothing else can come between them. These orderings are illustrated in the following two examples, each of which contains two suffixes from the tense-modals. In (5), *-tee*[8] RP.N and *-himona* REP are preceded by *-ma* 'back', which is one of the "miscellaneous suffixes". In (6), *-hene* IRR and *-mete* FP.N are followed by the first person plural exclusive *otaa*, which is in the "third pronimal position". (This is called the third pronominal position in contrast to the first and second positions, for object and subject agreement, respectively, which are to the left of the verb stem.)

(5) *Okobi wete na**mateehimona**ka.*
o-kaa abi wete na-ma-tee-himona-ka
1SG.POSS-POSS father return AUX-BACK-RP.N+M-REP+M-DECL+M
'My father turned back.'

(6) *Kowani yaa otaa wine**henemete** **otaa** amake.*
kowani yaa otaa wina-hene-mete otaa ama-ke
opposite.side ADJNCT 1EX.S live- IRR+F-FP.N+F 1EX.S SEC-DECL+F
'We would have lived on the other side.'

Semantically, the past tenses (the first two rows in table 1) make a symmetrical system, with three time frames, and eyewitness and non-eyewitness variants for each time frame. The remaining suffixes in the third row don't fit so nicely, but future, at least, can be considered a

[7] Whenever there are two tense-modal suffixes together, only the first one can have the *-hV* syllable at the beginning. The one exception to this is in the combination of RP.N *-tee* with REP *-hamone/-himona* (cf. example (5)), in which case the *-hV* syllable of *-hamone/-himona* is retained.
[8] When RP.N occurs with REP, the form *-tee* is used rather than *-hete/-hita*.

tense. The others have more modal meanings, and this is the reason for the label "tense-modals". In fact, Dixon (2004:98) calls all five of these suffixes in the third row "modalities".

Based on the instances of co-occurrence of tense-modals, I believe it is possible to propose a subdivision of the group into at least four slots. The proposed subdivision is in Table 2.

SUFFIX	GLOSS
-hene/-hina	'irrealis (IRR)'
-haro/-hiri *-hete/-hita* *-hamaro/-himari* *-hemete/-himata* *-habone/-hibona* *-haba(na)/-hiba(na)* *-hemenehe/-himanaha*	'recent past tense, eyewitness (RP.E)' 'recent past tense, non-eyewitness (RP.N)' 'far past tense, eyewitness (FP.E)' 'far past tense, non-eyewitness (FP.N)' 'intention (INT)' 'future (FUT)' 'hypothetical (HYP)'
-hamone/-himona	'reported (REP)'
-hani/-hino *-hara/-hare*	'immediate past tense, non-eyewitness (IP.N)' 'immediate past tense, eyewitness (IP.E)'

Table 2. Internal ordering of tense-modal suffixes.

While Dixon does not propose subdividing the tense-modals in this way, the orderings are based mostly on the types of co-occurrence which he (2004:196) describes: (1) FP.N and RP.N are very often followed by REP; (2) IRR is attested followed by FP.N and by FP.E; and (3) FUT can be followed by IP.N. In the following paragraphs, I consider each of these types of co-occurrence in turn, and then add a few others.

(1) Co-occurrence of FP.N and RP.N with REP is illustrated in (4) and (5) above, respectively.

(2) IRR is followed by FP.N in (6) above, and it is followed by FP.E in (7).

(7)

Mato	*bete*	*tosi*	*yaa*	*osi*	*yaa*
mato	bete	to-na-kosa	yaa	o-sona	yaa
vine.F	snap	CH-AUX-MIDDLE+F	ADJNCT	1SG.S-fall+F	ADJNCT

*ohabe**nemaro***	*ama*	*oke.*
o-ahaba-hene-maro	ama	o-ke
1SG.S-die-IRR+F-FP.E+F	SEC	1SG.S-DECL+F

'If the vine had snapped and I had fallen, I would have died.'

(3) FUT is followed by IP.N in (8).

(8) [*Mee towakemetemoneke,*]$_{MC}$
mee to-ka-ka-hemete-mone-ke
3PL.S AWAY-COMIT-go/come-FP.N+F-REP+F-DECL+F

[*hiyara mee kaminama**bani*** *mati.*]$_{DC}$
hiyara mee kamina-ma-haba-ni mati
story.F 3PL.S tell-BACK-FUT+F-IP.N+F 3PL.DC
'Two of them went out, and they later told the news when they came back.'

In addition to these that are mentioned by Dixon, there are other similar co-occurrences. First, REP may follow INT, as in (9).

(9) *Kofeno mati ahaba**bonemone**ke.*
Kofeno mati ahaba-habone-mone-ke
(man's.name).M 3SG.POSS.mother.F die-INT+F-REP+F-DECL+F
'They say Kofeno's mother is going to die.'

From this and from the cases in point (1) above, we may conclude that REP must follow some other tense-modals when it co-occurs with them.

Secondly, besides preceding FP.N and FP.E as mentioned in point (2) above, IRR can also precede RP.E (10) and IP.N (11).

(10) *Banee owa wate**henero** amake.*
banehe owa wata-hene-ro ama-ke
giant.anteater.F 1SG.O grab-IRR+F-RP.E+F SEC-DECL+F
'The giant anteater almost grabbed me.'

(11) *Ohi ne**nano** amaka.*
ohi na-hina-no ama-ka
cry AUX-IRR+M-IP.N+M SEC-DECL+M
'He almost cried.'

We can conclude that IRR may precede a number of other tense-modals, and that it does not follow any others. This is why I have placed it in the first position in table 2.

Finally, in addition to following FUT, as mentioned above, IP.N can also follow REP, as in (12). For these reasons, it seems reasonable to put IP.N in a position by itself after all the other tense-modals.

(12) *Mee tere na**moneni** mee awineke.*
mee tere na-hamone-ni mee awine-ke
3PL.S be.three AUX-REP+F-IP.N 3PL.S SEEM+F-DECL+F
'I guess there were three of them.'

IP.E does not co-occur with any other tense-modal, but since it is the eyewitness correspondent of IP.N, it seems reasonable to put it in the same position. This late position also

seems consistent with Dixon's (2001:27) idea that IP.E was innovated into the language later than the other tenses.

Summarizing, the evidence points to a division of tense-modals into at least four position classes, as in table 2. There are no ordering conflicts, such as would occur if one suffix could occur both preceding and following some other suffix. This internal organization, in turn, reinforces the idea that the tense-modals should be seen as filling a single (subdivided) slot, since no other suffixes may occur between the subdivisions.

2.2 Covert IP.E in Main Clauses

Dixon (2004:106) notes that in certain contexts, the specification of IP.E is accomplished without the use of the IP.E suffix *-hara/-hare*. (13), repeated from above, is such an example.

(13)	*Manakobisa*	*otaa*	*kama*	*otaake*	*fahi.*
	manakobisa	otaa	ka-ma	otaa-ke	fahi
	NEXT	1EX.S	go/come-BACK+F	1EX.S-DECL+F	THEN
	'Then we came back.'				

In a sentence such as this, it would be ungrammatical to have an overt IP.E suffix, i.e. **otaa kama**hara** otaake*. Dixon explains that this phenomenon is limited to when the "syntactic pivot" (grammatical topic) is first or second person plural, the syntactic pivot being the subject of an intransitive or A-construction transitive, or the object of an O-construction transitive.[9] (13) is intransitive, and the following examples illustrate the other two possibilities. The first clause of (14) is an A-construction, and (15) is an O-construction.

(14)	[***Kanawaa***	***ee***	***behe***	***nawaha***	***eeke,***]$_{MC}$
	kanawaa	ee	behe	na-waha	ee-ke
	canoe.F	1IN.S	turn.over	AUX-CHANGE+F	1IN.S-DECL+F

	[*ee*	*famaha*	*ee.*]$_{DC}$
	ee	fama	ee
	1IN.S	be.two+F	1IN.DC
	'The two of us turned over the canoe.'		

(15)	*Yara*	*era*	*mee*	*wati*	*kana*	*eeke.*
	yara	era	mee	wati	ka-na	ee-ke
	Brazilian.M	1IN.O	3PL.S	plan.against	COMIT-AUX+F	1IN.O-DECL+F
	'The Brazilians want to kill us.'					

If there is no IP.E suffix, how do we know that sentences such as these have IP.E specified? Dixon points to the fact that the third pronominal position is occupied by the pivot argument. This is correct, in that sentences such as these lose their IP.E specification if the pronominal in the third position is removed. Compare, for example, the second clause of (16) with (17).

[9] For more information on A-constructions and O-constructions, see Dixon (2000, 2004). As Dixon points out, alternating between intransitives, A-constructions, and O-constructions in a Jarawara discourse is the way topical arguments are tracked.

(16) *Kona* *otaa* *saa* *nabone*[10]
kona otaa saa na-habone
vine.sp.M 1EX.S release AUX-INT+F

otaa ***tokoma*** ***otaake.***
otaa to-ka-ma otaa-ke
1EX.S AWAY-go/come-BACK+F 1EX.S-DECL+F
'We went in order to fish with *kona* (root).'

(17) *Otaa* *tokomake.*
otaa to-ka-ma-ke
1EX.S AWAY-go/come-BACK-DECL+F
'We are leaving.'

Note that while the translation of (15) above has a present tense in English, it is clearly IP.E in Jarawara. If this sentence were "tenseless" in Jarawara, it would be *yara era mee wati kanake*, i.e. without the pronominal in the third position. Jarawara IP.E sentences can often be translated as sentences with present tense in English. The quote in the following sentence (18) is another similar example from the same text. Even though the verb *nafirarake* has IP.E tense, the translation in English is present tense.

(18) ***Kanawaa*** ***nafirarake***
kanawaa nafi-ra-hara-ke
canoe.F be.big-NEG-IP.E+F-DECL+F

Haimoto *ati* *nemari* *amaka.*
Haimoto ati na-himari ama-ka
(man's.name).M say AUX-FP.E+M SEC-DECL+F
'"The canoe is not big," Haimoto said.'

The presence of a first or second person plural pronominal in the third position is thus an indicator of IP.E tense. However, its importance as an indicator of this tense in particular can be overestimated, for two reasons. First, the third pronominal position is also filled for other tense-modal specifications besides IP.E, so it cannot be considered an exclusive indicator of IP.E tense. This is clear, for example in (19), repeated from above, cf. the ungrammatical **otaa kisamaroke*.

[10] I have not labelled this clause as a DC because I believe it is some other kind of subordinate clause. Semantically it is a purpose clause, but I am unsure of the precise syntactic charaterization. See section 6 for additional discussion.

(19) [*Faya* *otaa* *kama,*]$_{DC}$ [*kanawaa* *yaa* *otaa* *kibema,*]$_{DC}$
faya otaa ka-ma kanawaa yaa otaa kibI-ma
SO 1EX.S go/come-BACK+F canoe.F ADJNCT 1EX.S be.inside-BACK+F

[*otaa* *kisa**maro*** ***otaa**ke* *fahi.*] $_{MC}$
otaa ka-risa-hamaro otaa-ke fahi
1EX.S go/come-DOWN-FP.E+F 1EX.S-DECL+F THEN
'We came back; we got in the canoe, and came downstream.'

The presence of a first or second person plural pronominal in third position is thus a marker of the presence of the tense-modal category in general, not of the IP.E choice specifically.[11]

Secondly, there is a kind of gender agreement that distinguishes sentences with covert IP.E tense such as (13) from sentences that have no tense at all, overt or covert, such as (20).

(20) *Mato* *oban**a*** *oke.*
mato o-ibana o-ke
tree.sp.M 1SG.S-roast 1SG.S-DECL+F
'I'm roasting mato fruits on the coals.'

Even though both *kama* in (13) above and *obana* in (20) end with *a*, it can be shown that the last *a* of *kama* shows feminine gender agreement, while the last *a* of *obana* does not, as Dixon (2004:106) notes. For verbs that end with *a*,[12] the way to show this is to find a context in which the agreement is masculine, that is, where the vowel will be *e* instead of *a*. The suffix *-ma* in (13), for example, has the masculine form *-me* as in (21) to show masculine agreement.

(21) *Reinaldo* *otara* *ise**me*** *otaake* *fahi.*
Reinaldo otara isI-ma otaa-ke fahi
(man's.name).M 1EX.O drop.off-BACK+M 1EX.O-DECL+M THEN
'Reinaldo dropped us off.'

It is impossible to have this kind of masculine agreement in a tenseless sentence like (20). That is, there are no main clauses in which *a* can become *e* for masculine agreement before a pronominal that is not first or second person plural.

For the verb stems that end with *i* or *o*, the situation is the reverse; that is, the contrast is in the sentences with feminine agreement. For feminine agreement a syllable *ha* is added for sentences that have covert IP.E tense, which is often reduced to just *a* (orthographic *ya* or *wa*, depending on whether the preceding vowel is *i* or *o*), cf. *ohari**ya*** in (23) and *tonafiyo**ha*** in (25). In contrast, there is no gender agreement before the pronominal in tenseless sentences, cf. *ofim**i*** (22) and *osa**o*** (24).

[11] The first or second person plural pronominal in third position is also characteristic of main clauses with a secondary verb, with or without a tense-modal. These two contexts, with a tense-modal or a secondary verb, are the same contexts in which possessor agreement is available (cf. section 5).

[12] To be precise, the relevant unit is the verb stem, which includes the root (or the auxiliary for verbs that require one, called "non-inflecting" verbs), any "miscellaneous" suffixes, and the negative suffix *-ra*. *-waha* 'change' in (14), for example, is a "miscellaneous" suffix, so the gender is shown in the last vowel of *-waha*.

(22) *Ofimi* *oke.*
o-fimi o-ke
1SG.S-be.hungry 1SG.S-DECL+F
'I'm hungry.'

(23) *Faya* *otaa* *kami* *ohar**iya*** *otaake.*
faya otaa ka-ma ohari otaa-ke
so 1EX.POSS go/come-BACK.NFIN be.one+F 1EX.POSS-DECL+F
'Then we all came together.'

(24) *Osao* *oke.*
o-sao o-ke
1SG.S-feel.better 1SG-DECL+F
'I'm better.'

(25) *Baraya* *yaboha*[13] *otaa* *tonafiy**oha*** *otaake.*
baraya yabo otaa to-na-fiyo otaa-ke
beach.F be.far+F 1EX.S CH-CAUS-end+F 1SG.S-DECL+F
'We went to the end of a long beach.'

In section 4 below I give a fuller description of this gender agreement pattern. But the preceding examples are sufficient to show that there is a kind of gender agreement that is characteristic of sentences with covert IP.E tense, which is not found in tenseless sentences.

3. Dependent Clauses

Dixon (2004) only discusses covert IP.E tense in relation to main clauses, and my proposal is that many subordinate clauses may also be analyzed in the same way. The kind of subordinate clause in question is called by Dixon a dependent clause (DC). A DC is almost always connected with an NP in the main clause of the sentence, and this is the case in (26), repeated again from above. In this sentence both DCs, which precede the main clause, have the same subject as the main clause.

(26) **[*Faya*** ***otaa*** ***kama,*]$_{DC}$** **[*kanawaa*** ***yaa*** ***otaa*** ***kibema,*]$_{DC}$**
faya otaa ka-ma kanawaa yaa otaa kibI-ma
SO 1EX.S go/come-BACK+F canoe.F ADJNCT 1EX.S be.inside-BACK+F

[*otaa* *kisa**maro*** *otaake* *fahi.*] $_{MC}$
otaa ka-risa-hamaro otaa-ke fahi
1EX.S go/come-DOWN-FP.E+F 1EX.S-DECL+F THEN
'We came back; we got in the canoe, and came downstream.'

[13] I have not labelled *baraya yaboha* as a DC because probably the best analysis is that it is the object NP, with *yaboha* being a relative clause modifying *baraya*.

There are two positions that DCs may occur in. The unmarked position is preceding the main verb, at the beginning of the sentence. This is the position of the two DCs in (26) above. The other position is following the main verb, at the end of the sentence. This is a marked position, as signalled by the pause that typically separates the DC from the main verb.[14] Following Dixon, I will refer to these two positions as preposed and postposed. The final clauses of (27) and (28), repeated from above, are postposed DCs.

(27) [*Mee* *towakemetemoneke,*]$_{MC}$
mee to-ka-ka-hemete-mone-ke
3PL.S AWAY-COMIT-go/come-FP.N+F-REP+F-DECL+F

[***hiyara*** ***mee*** ***kaminamabani*** ***mati***.]$_{DC}$
hiyara mee kamina-ma-haba-ni mati
story.F 3PL.S tell-BACK-FUT+F-IP.N+F 3PL.DC
'Two of them went out, and they later told the news when they came back.'

(28) [*Kanawaa* *ee* *behe* *nawaha* *eeke,*]$_{MC}$
kanawaa ee behe na-waha ee-ke
canoe.F 1IN.S turn.over AUX-CHANGE+F 1IN.S-DECL+F

[***ee*** ***famaha*** ***ee***.]$_{DC}$
ee fama ee
1IN.S be.two+F 1IN.DC
'The two of us turned over the canoe.'

As these examples show, DCs are like main clauses in that they may or may not have overt tense-modals. The postposed DC in (27) has two tense-modals, but the postposed DC in (28) and the two preposed DCs in (26) have no overt tense-modal. I will argue that this similarity between DCs and tenseless main clauses is only apparent, and that the DCs that have no overt tense-modal in fact have a covert IP.E specification. Also unlike main clauses, DCs do not have mood morphemes such as the declarative marker *-ke/-ka*.

There are significant formal differences between preposed and postposed DCs, as is already suggested in the above three examples. First, the way the third pronominal position is filled is quite different. Note, for example, the presence of *mati* and *ee* at the ends of the postposed DCs in (27) and (28), respectively, but the absence of *otaa* at the ends of the two preposed DCs in (26). The only pronominal that can occur in the third position in a preposed DC is *mee*, as in this example from Dixon (2004:467).

[14] There is actually typically a pause at the end of a preposed DC as well, but it is not a clear break as there is between a main clause and a following postposed DC (or between two successive postposed DCs).

(29) [*Faya* *mee* *otaa* *aawa* *ra* ***mee***]$_{DC}$
faya mee otaa a-awa na-ra mee
SO 3PL.O 1EX.S DUP-see AUX-NEG+F 3PL.DC

[*otara* *mee* *fiya* *tonamanike.*]$_{MC}$
otara mee fiya to-na-ma-hani-ke
3PL.O 3PL.S pass AWAY-AUX-BACK-IP.N+F-DECL+F
'They passed by us without us seeing them.'

In fact, Dixon (2004:466) argues that *mee* is required in the third position in a preposed DC whenever the pivot is this person (i.e. third person plural animate). This seems too stringent to me, since it would require that many subordinate clauses be classified as either relative clauses or juxtaposed clauses (see discussion below), so I prefer to view *mee* as being optional in third position in preposed DCs. However, the arguments about covert IP.E in this paper are unaffected by one's point of view in this matter.

For postposed DCs, the other pronominals that occur besides *mati* and *ee* are *owa* (30), *tiwa* (31), *otaa* (32), and *tee* (33).[15]

(30) [*Noo* *onara* *oke,* *onara* *oke,*]$_{MC}$
noo o-to-na-hara o-ke ati o-na-hara o-ke
be.hurt 1SG.S-CH-AUX-IP.E+F 1SG.S-DECL+F say 1SG.S-AUX-IP.E+F 1SG.S-DECL+F

[*bote* *owa* *ite* ***owa.***]$_{DC}$
bote owa ita owa
sting-ray.M 1SG.O pierce+M 1SG.DC
'"I'm hurt," I said, having been stung by a stingray.'

(31) [*Koromi* *mee* *aate* *tiramone* *Yorasi* *ati*
koromi mee a-ate ti-na-ra-hamone Yorasi ati
Indian.M 3PL.O DUP-ask 2SG.S-AUX-NEG-REP+F (man's.name).M say

nareka,]$_{MC}$ [*keye* *hiri* *tina* ***tiwa.***]$_{DC}$
na-hare-ka keye hiri ti-na tiwa
AUX-IP.E+M-DECL+M lie.F say 2SG.S-AUX+F 2SG.DC
'Juraci said you didn't ask the Indians, you are lying.'

[15] Dixon (2004:464) argues that the form *mee* may also occur in the third pronominal position in postposed DCs, i.e. that it is in free variation with *mati* in these clauses. In my view, clauses that end with *mee* are never attached to the preceding main clause. In any case, this difference does not affect any of the arguments in this paper.

(32) [...*otaa* *naoriyahamaro* *otaake,*]$_{MC}$
otaa naho-rI-hamaro otaa-ke
1EX.S stand-RAISED.SURFACE-FP.E+F 1EX.S-DECL+F

[*yama* *otaa* *kamita* ***otaa***.]$_{DC}$
yama otaa ka-mita otaa
thing.F 1EX.S COMIT-hear+F 1EX.DC
'We stayed in the house, listening.'

(33) [*Fara* *mee* *fami* *nofa* *mee* *amani,*]$_{MC}$
fara mee fama nofa mee ama-ni
SAME+F 3PL.S be.two ALWAYS+F 3PL.S SEC-BKG+F

[*owati* *tee* *kasawariha* ***tee***.]$_{DC}$
o-ati tee ka-sawari tee
1SG.POSS 2PL.S COMIT-frustrate+F 2PL.DC
'There were only two of them, you didn't believe me.'

These pronominals do not occur in third position in preposed DCs. We have already seen in (26) that *otaa* does not occur, and similar examples can easily be produced for the non-occurrence of *owa*, *tiwa*, *ee*, *tee*, and *mati* as well.

Another difference between preposed and postposed DCs is that only postposed DCs can occur with the verbal suffix *-haaro/-haari*. The following example (34) contains tokens of both the masculine and feminine forms in successive clauses.

(34) [*Botiko* *ati* *tai* *tokahamakiyareka,*]$_{MC}$
Botiko ati tai to-ka-ha-makI-hare-ka
(man's.name).M voice be.ahead CH-COMIT-AUX-FOLLOWING-IP.E+M-DECL+M

[*mayatera* *tiwa* *na**ari**,*]$_{DC}$ [*sako* *yaa* *iha**haaro***.]$_{DC}$
mayatera tiwa na-haari sako yaa iha-haaro
gill.net.F carry AUX-IP.E+M sack.F ADJNCT BE-IP.E+F
'Botico's voice could be heard as he went along ahead of the others, carrying a net in a sack.'

Dixon (2004:465) says that this suffix is added to a postposed DC if the pivot is third person singular, and if there is no tense-modal suffix.[16] Another way to look at this, though, is to say that this suffix actually specifies IP.E tense. What suggests this is the fact that IP.E tense is otherwise conspicuously absent in postposed DCs (and in preposed DCs, too). But all the other tenses are found in postposed DCs. Dixon (2004:469, 470) notes that IP.N is common in postposed DCs, and that RP.E and FP.E are also found. Examples (35) and (36) show that RP.N and FP.N are also found in postposed DCs.

[16] In Vogel (2003:69), I analyzed *-haaro/-haari* as the marker of a right-dislocated relative clause.

(35) [*Yamata* *mee* *koro* *hinete* *kawita* *tiwene* *ama*]$_{MC}$
yamata mee koro hi-na-hete ka-ita ti-awa-hene ama
food.F 3PL.O throw OC-AUX-RP.N+F COMIT-sit+F 2SG.S-see-IRR+F SEC

[*mee* *fawa* *ne**te*** *mati.*]$_{DC}$
mee fawa na-hete mati
3PL.S disappear AUX-RP.N+F 3PL.DC
'You haven't seen the crops they planted that are there in the garden, the people who disappeared.'

(36) [*Bakayona* *mera* *tonahiye* *awaka,*]$_{MC}$
Bakayona mera to-na-hiya awa-ka
(man's.name).M 3PL.O CH-CAUS-be.bad+K SEEM+M-DECL+M

[*mee* *aafo* *hiye**mata**.*]$_{DC}$
mee a-afo hi-to-ha-himata
3PL.S DUP-blow OC-CH-AUX-FP.N+M
'Bakayona changed them, because they blew (snuff) into him a long time ago.'

If *-haaro/-haari* is in fact IP.E, then we should expect some kind of correspondence with IP.N in postposed DCs. This is in fact the case, in that *-haaro/-haari* indicates eyewitness evidentiality, whereas IP.N indicates non-eyewitness evidentiality in these clauses. In the following paragraphs I consider all the examples of *-haaro/-haari* and all the examples of IP.N *-hani/-hino* in postposed DCs in the three texts in the appendix of Dixon's (2004) grammar. Even though I have only selected the sentences that have *-haaro/-haari* or *-hani/-hino* in postposed DCs, the number of sentences is still large, so I have omitted the interlinear analysis, which in any case is provided in the original source, the appendix in Dixon's grammar. I have, however, provided more literal translations in some cases, so that the clauses in the text can be paired with the corresponding clauses in the translation.

In Dixon's first text there are two examples of *-haari*, and one example of IP.N *-hino* in a postposed DC. The story is about the death and burial of Siko, told by Manoware, who was present at the time. Below each sentence I provide a comment.

(37) [*Toke*]$_{MC}$[17] [*mi nebona ati ne**noho*** (IP.N+M).]$_{DC}$
'He went; **he had said he was going to defecate**.'
Comment: Manoware did not hear it when Siko said that he was going to defecate. Someone must have told him afterwards, or even at the time.

[17] This first clause is formally a preposed DC, but seems to be used as a main clause in this sentence. There is no clause that has the formal characteristics of a main clause in this sentence. This is one reason why Dixon (2004:97) says that mood specification is not obligatory in main clauses. I think this is unwarranted, since mood is specified in one way or another in almost all main clauses (in some questions just by question intonation rather than by an overt morpheme), and examples such as the present one are infrequent.

(38) [*Amoro ohi ni saihiri amaka,*]$_{MC}$ [*ohi n**aari*** (IP.E+M).]$_{DC}$
'Amoro could be heard crying.' (Lit., 'Amoro's crying could be heard, **as she cried**.')
Comment: Manoware heard Amoro (Siko's widow) crying.

(39) [*Bibiri hinakiti mee tiwa kanaro mee amake,*] [*Yasito fama**haari*** (IP.E+M).]$_{DC}$
'Bibiri and his companion carried his grandfather, **he and Yasito**.'
Comment: Manoware saw Bibiri and Yasito carrying Siko's body.

Dixon's second text is about a Brazilian who while on an outing in the forest with the chief Okomobi, was stung by a bullet ant (*Paraponera clavata*) that got in his pants. All of the following postposed DCs except for two are instances of *-haari*, and all refer to events that Okomobi witnessed, so no comment on the individual sentences is necessary. The exceptions are two postposed clauses that have *-hibanoho*, the combination of future and IP.N, and I comment on these.

(40) [*Yaka nemarika,*]$_{MC}$ [*onokosi ya tai towamake**haari*** (IP.E+M).]$_{DC}$
'He walked **ahead of me**.'

(41) [*Haa ihi towemarika,*]$_{MC}$ [*owati haahaa kana**haari*** (IP.E+M).]$_{DC}$
'He died laughing, **laughing at what I said**.'

(42) [*Yimo wanano ka wayo afe weye tokase*]$_{DC}$ [*kariwemarika,*]$_{MC}$[*mowi nisa**haari*** (IP.E+M).]$_{DC}$
'He carried some leaves a little ways as he bent over and crossed [over the fallen log]; the leaves that had a bullet ant on them.'
(Lit., 'He carried some leaves that had a bullet ant on them as he crossed, **bent over**.')

(43) [*Fanako yimo hitatasemarika,*]$_{MC}$ [*hiwa sota nawaheba**noho*** (FUT+M, IP.N+M).]$_{DC}$
'The bullet ant stung him again on his leg. **He took off his pants.**'
Comment: The combination of FUT *-haba/-hiba* and IP.N, as Dixon (2004:470) explains, gives the idea of "future in the past" when used in postposed DCs. That is, the event of the postposed DC follows the event of the main clause in time, and both are in the past.

(44) [*Yimo wemarika,*]$_{MC}$ [*yaka nawaree**haari*** (IP.E+M).]$_{DC}$
'The bullet ant was on the ground, **walking all around**.'

(45) [*Yara owa ha nimari amane,*]$_{MC}$ [*yimo saka hina**haari*** (IP.E+M).]$_{DC}$
'The Brazilian made me laugh, **because the bullet ant had stung him**.'

(46) [*Kobati titene kiyo onene titene mai kita awineke onamaro oke,*]$_{MC}$
[*owa haha kane**banoho*** (FUT+M, IP.N+M).]$_{DC}$
'"Compadre, I can't rub your testicles. Your testicles must smell bad," I said. **Then he laughed at me.**'

(47) [*Saokato hiwa wati nawaemari amane,*]$_{MC}$ [*yimo saka hina**haari*** (IP.E+M).]$_{DC}$
'Salgado reminisced about **the bullet ant stinging him**.'

I assume that Okomobi did not actually see the ant stinging Salgado, but Okomobi's use of eyewitness *-haari* in the above sentences is consistent with the sentence in which he talks about the ant stinging the Brazilian, which is also eyewitness (FPe):

(48) *Yotohoti yimo bo hikane**mari**ka* (FP.E+M).
'The ant stung him repeatedly on the buttocks.'[18]

I suppose the reason he uses eyewitness tense is that he saw the immediate effect of the ant stinging Salgado, i.e. his extreme discomfort.

In Dixon's third text, Siko tells about being present when he was a boy when a bark canoe was made by his father and his companions. There are no occurrences of *-haaro/-haari*, and just one occurrence of IP.N *-hani* in a postposed DC. Some other Jarawaras came to see the canoe that had been made. Siko says they had been weaving fish traps, and he uses IP.N because he did not see them when they were weaving the fish traps.

(49) [*Kanawa mee awabone kanawa mee nakama mee,*]$_{MC}$[19] [*wawasi mee kow**ani** mati* (IP.N+F),]$_{DC}$ [*wawasi mee kowani aba mee mee nawasiyabone mati* (INT+F),]$_{DC}$
'The others came to see the canoe. **They had been weaving fish traps.** They had been weaving fish traps to catch fish with.'

The last clause in this sentence is also a postposed clause, and the verb has the intentive suffix *-habone*.

There is one asymmetry between *-haaro/-haari* and IP.N in postposed DCs that is suggested by these examples, and that is that whereas *-haaro/-haari* is only used for third person singular, IP.N may be used for any person. Note that IP.N is used with third person plural in the postposed DC in the last example. This is also true of other tenses (and other tense-modals besides the tenses). In the following example (50), RP.N is used in a postposed DC with the third person plural pronominal in third position.

(50)

[*Yamata*	*mee*	*koro*	*hinete*	*kawita*	*tiwene*	*ama*]$_{MC}$
yamata	mee	koro	hi-na-hete	ka-ita	ti-awa-hene	ama
food.F	3PL.O	throw	OC-AUX-RP.N+F	COMIT-sit+F	2SG.S-see-IRR+F	SEC

[*mee*	*fawa*	*ne**te***	*mati.*]$_{DC}$
mee	fawa	na-hete	mati
3PL.S	disappear	aux-RP.N+F	3PL.DC

'You haven't seen the crops they planted, the people who disappeared.'

[18] Okomobi saw Salgado as he was being stung, of course, and this is undoubtedly part of the reason for the eyewitness tense. The other part of the explanation may be the fact that it is an O-construction, so the pivot of the sentence is Salgado, not the ant, which is the subject but not the pivot.

[19] As is the case with (37) above, the first clause is formally a preposed DC, but seems to be used as a main clause. There is no clause that has the formal characteristics of a main clause in this sentence.

This asymmetry is only apparent, however. I propose that the correspondent of *-haaro/-haari* for other persons is just gender agreement at the end of the verb stem, the same gender agreement we have already seen above in conjunction with covert IP.E tense in main clauses. In (51), *owasiya* shows feminine agreement, and in (52) repeated from above, *ite* show masculine agreement. As expected, these are eyewitness contexts.[20]

(51) [*Mee* *tee* *awabanake,*]$_{MC}$
mee tee awa-habana-ke
3PL.O 2PL.S see-FUT+F-DECL+F

[*mee* *winateeani* *mee* *owasiy**a*** *mati.*]$_{DC}$
mee wina-tee-hani mee o-wasi mati
3PL.S live-HAB-IP.N+F 3PL.O 1SG.S-find+F 3PL.DC
'You will see them, the ones that are living there that I saw.'

[20] There is another *-haaro/-haari* that is used with all the persons, that should not be confused with this one. This other *-haaro/-haari* occurs in clauses that occur before the main clause, not in postposed DCs. Dixon does not mention this *-haaro/-haari*. I don't think these clauses should be analyzed as preposed DCs, but as a separate phenomenon. I call it "past in future". The idea is, "when x has happened, then..." I am not sure whether this suffix should be considered a tense-modal. A couple examples are in the first clause of (a) and (b), respectively.

(a) *Tama* *ona**haari*** *kawaharisa**ari***
tama o-na-haari ka-waha-risa-haari
hold.onto 1SG.S-AUX-P.FUT+M COMIT-dawn-DOWN-P.FUT+M

owehibanane *ati* *nemetemoneke.*
o-awa-hibana-ne ati na-hemete-mone-ke
1SG.S-see-FUT+M-BKG+M say AUX-FP.N+F-REP+F-DECL+F
'"When I have held him, when dawn has come on him, I will see him," she said.'

(b) *Tee* *yoro* *na**aro**,* *tee* *yoro* *ni* *yaa,*
tee yoro na-haaro tee yoro na yaa
2PL.S stay AUX-P.FUT+F 2PL.S stay AUX+F ADJNCT

yana *onaba* *owa* *awine* *oni.*
yana o-to-na-haba owa awine o-ni
begin 1SG.S-CH-AUX-FUT+F 1SG.S SEEM+F 1SG.S-BKG+F
'When you have stayed here, if you stay here, I will start up.'

This *-haaro/-haari* cannot be analyzed as the *-haari/-haari* that is a marker of postposed DCs, because in postposed DCs, *-haaro/-haari* is only used when the pivot is third person. But the past in future *-haaro/-haari* is used for all persons, as shown for example in (b). The first clause in this example is intransitive, and the subject is second person plural, so the pivot can only be second person plural. So if this were a postposed DC, it would have to be *te yoro na **te***. The fact that it is *te yoro na**ro*** shows that it is a past in future clause.

(52) [*Noo* *onara* *oke,* *onara* *oke,*]$_{MC}$
noo o-to-na-hara o-ke ati o-na-hara o-ke
be.hurt 1SG.S-CH-AUX-IP.E+F 1SG.S-DECL+F say 1SG.S-AUX-IP.E+F 1SG.S-DECL+F

[*bote* *owa* *it**e*** *owa.*]$_{DC}$
bote owa ita owa
sting-ray.M 1SG.O pierce+M 1SG.DC
'"I'm hurt," I said, having been stung by a stingray.'

In the next section I give a full description of this gender agreement.

Summarizing, my proposal for postposed DCs is that *-haaro/-haari* is the marker of IP.E in these clauses. It is used only to agree with a third person singular nominal.[21] When agreement with any other person is demanded, there is covert IP.E, which is manifested the same way covert IP.E is manifested in main clauses, i.e. by the pronominal in third position and by gender agreement.

With this analysis in mind, we can now come back to the three texts in Dixon's grammar, and look for additional postposed DCs that have IP.E, i.e. the ones in which the IP.E is covert. In the first text there is just one more postposed DC, and Manoware clearly witnessed the event.

(53) [*Mee towakamakiyaro mee amake,*]$_{MC}$ [*Kowi mee tonakamakiy**a mati*** (IP.E+F).]$_{DC}$
'The two of them went **and got Kowi**.'

There are two more postposed DCs in the second text. These also are eyewitness contexts.

(54) [*E famaba eke, ha owa taa,*]$_{MC}$ [*yomee mee okih**a owa**,* (IP.E+F).]$_{DC}$ *oko kobati ati ne...*
'"Let's go the two of us, **because I have dogs**," my companion said...'

(55) [*Yobe ewene otaa hiri namaro otaake, ha otaa,*]$_{MC}$ [*Haimoto otaa fam**a otaa*** (IP.E+F).]$_{DC}$
'We made the house foundation, **Haimoto and me**.'

In the third text there is just one more postposed DC, and this is an eyewitness context as well.

(56) [*Oma mee mee kakaba tohimaro amake*]$_{MC}$ [*oma mee mee nawasiy**a mati**.* (IP.E+F).]$_{DC}$
'They used to eat piranhas **that they caught**.'

[21] As Dixon notes, for inanimates there is no distinction between singular and plural, so *-haaro/-haari* can be used to agree with a plural nominal if the referent is inanimate, as in (c).

(c) [*Tika* *amo* *ni* *fama* *awine,*]$_{MC}$ [*hasi* *kanaaro?*]$_{DC}$
ti-kaa amo na fama awine hasi ka-na-haaro
2SG.POSS-POSS sleep AUX.NFIN be.two+F SEEM+F be.left COMIT-AUX-IP.E+F
'Do you have two days left here?'

The *-haaro* at the end of the postposed DC agrees with *tika amo ni* (lit., 'your sleepings'), a complement clause, which, since it formally involves inalienable possession, is inanimate.

My proposal for analyzing preposed DCs is similar, except that with these there is no *-haaro/-haari*. There is only covert IP.E when this is the tense specification, for all persons. Before treating these, however, it should be observed that other tenses are possible in preposed DCs, and these are specified by the tense suffixes. Dixon (2004) gives a number of examples of IP.N tense in preposed DCs, including the following (57) in the first text in his appendix.

(57) [*Wero* *kisame**no***]$_{DC}$ [*kameirika.*]$_{MC}$
Wero ka-risa-ma-hino ka-ma-hiri-ka
(man's.name).M go/come-DOWN-BACK-IP.N+M go/come-BACK-RP.E+M-DECL+M
'Wero came down from the house and came.'

Other tenses are not at all common in preposed DCs,[22] but here are examples with recent past non-eyewitness (58) and far past eyewitness (59) tenses, respectively.

(58) [*Awa* *Teoso* *mee* *hinawee**hete***]$_{DC}$
awa Teoso mee hi-na-waha-hete
tree.F God.M 3PL.S OC-AUX-CHANGE-RP.N+F

[*waharake* *baikani* *yaa.*]$_{MC}$
waa-hara-ke baikani yaa
stand-IP.E+F-DECL+F middle.F ADJNCT
'There was a tree that God and Jesus put there, standing in the middle of the area.'

(59) [*Kobaiba* *yaa* *otaa* *winibaa**hamaro***]$_{DC}$
Kobaiba yaa otaa wina-baha-hamaro
(village.name).F ADJNCT 1EX.S live-FIRST-FP.E+F

[*otaa* *winawakiwahineke,* *waha.*]$_{MC}$
otaa wina-waha-kI-ne-ke waha
1EX.S live-CHANGE-COMING-CONT+F-DECL+F NOW
'Initially we lived at Kobaiba, but now we live here.'

By far the most common situation for preposed DCs is to have no overt tense-modal, and I am proposing that this is actually a covert specification of IP.E tense. Following are examples with various person specifications. (60) has a preposed DC with a third person plural pivot. The pivot is the subject, since it is an A-construction.

[22] In section 6 below, I advance the hypothesis that in preposed DCs, the only tense-modals that are allowed are IP.N and covert IP.E. According to this idea, all other apparent cases of preposed DCs with any other tense-modal are other kinds of subordinate clauses. In section 6, I propose that (58) contains a relative clause, and that (59) involves juxtaposition, rather than a preposed DC being present in each case.

(60) [***Arimana*** ***otara*** ***mee*** ***wasima*** ***mee***]$_{DC}$
Arimana otara mee wasi-ma mee
(man's.name).M 1EX.O 3PL.S find-BACK+F 3PL.DC

[*awa* *onakaro* *oke.*]$_{MC}$
awa o-to-na-ka-haro o-ke
tree.F 1SG.S-AWAY-CAUS-go/come-RP.E+F 1SG.S-DECL+F
'Arimana and the others met us. I went to get a stick.'

In (61) the pivot of the preposed DC is first person plural exclusive, since it is intransitive.

(61) [***Faya*** ***otaa*** ***toka***]$_{DC}$ [*Saokato* *oketebemari* *amaka.*]$_{MC}$
faya otaa to-ka Saokato o-ketebeha-himari ama-ka
SO 1EX.S AWAY-go/come+F Salgado.M 1SG.S-follow-FP.E+M SEC-DECL+M
'We went, and I followed Salgado.'

The pivot of the preposed DC in (62) is likewise the subject of an intrasitive, but it is third person singular masculine.

(62) [***Yomee*** ***toke,***]$_{DC}$ [*towawitematamonaka* *hike* *ya.*]$_{MC}$
yomee to-ka to-waa-witI-himata-mona-ka hike yaa
dog.M AWAY-go/come+M AWAY-stand-OUT-FP.N+M-REP+M-DECL+M FAR ADJNCT
'The dog went away and stood off at a distance.'

The preposed DC in (63) is an O-construction, so the object is the pivot. It is third person singular feminine.

(63) [***Awa*** ***bere*** ***hiniharisa,***]$_{DC}$
awa bere hi-niha-na-risa
wood.F be.on.top OC-CAUS-AUX-DOWN+F

[*tati* *wara* *hinehimari* *ahi.*]$_{MC}$
tati wara hi-to-na-himari ahi
head grab OC-CH-AUX-FP.E+M THEN
'He put the stick across, and then he got ahold of the prow.'

These examples bear out the two differences between preposed and postposed DCs. First, the only pronominal that may occur in third position in a preposed DC is third person plural *mee* (60). In contrast, as we saw above a number of pronominals occur in third position in postposed DCs. Secondly, in clauses in which there would be *-haaro/-haari* in postposed DCs, this suffix does not occur in preposed DCs. This is true for (62) and (63). Putting these two facts together, we see that every one of these preposed DCs would have a different form if it were a postposed DC. The preposed DC in (60) would end with *mati*; the one in (61) would end with *otaa*; and those in (62) and (63) would end with *-haari* and *-haaro*, respectively.

There is, however, one thing that unifies nearly all these DCs, whether preposed or postposed, and that is gender agreement. If we exclude the DCs that have a tense-modal suffix (including *-haaro/-haari*, which I have proposed is a IP.E suffix), all the rest of the DCs have the same kind of gender agreement that we have seen is also characteristic of main clauses with covert IP.E tense. This is because they, too, have covert IP.E tense. In the next section I discuss more details about this gender agreement.

Table 3 summarizes my proposal as to how IP.E is indicated in main clauses, preposed DCs, and postposed DCs. There are three ways in which IP.E may be indicated, depending on what the person of the pivot is, and what kind of clause it is. They are (1) *-hara/-hare*, (2) gender agreement of the type I have described, and (3) *-haaro/-haari*.

	Main Clause		Preposed DC		Postposed DC	
Person of Pivot	Tense Marker	3rd Position Pronominal	Tense Marker	3rd Position Pronominal	Tense Marker	3rd Position Pronominal
1SG	*-hara/ -hare*	(none)	agreement	(none)	agreement	*owa*
2SG	*-hara/ -hare*	(none)	agreement	(none)	agreement	*tiwa*
3SG	*-hara/ -hare*	(none)	agreement	(none)	*-haaro/ -haari*	(none)
1IN	agreement	*ee*	agreement	(none)	agreement	*ee*
1EX	agreement	*otaa*	agreement	(none)	agreement	*otaa*
2PL	agreement	*tee*	agreement	(none)	agreement	*tee*
3PL	*-hara/ -hare*	(none)	agreement	*mee* (optional)	agreement	*mati*

Table 3. Marking of IP.E in main clauses and DCs.

For each context in the table I have also indicated whether there is a pronominal in third position, and if so, what the form of the pronominal is.

The comparison of the pattern in Table 3 with the pattern for the other past tenses (i.e. IP.N, RP.E and RP.N, and FP.E and FP.N) is interesting. For each of these other tenses, the pattern is quite simple: instead of there being three options for marking the tense, there is just one, i.e. the suffix for each tense in table 2 above (i.e. *-hani/-hino* for IP.N, and so on). And the pronominals in 3rd position are exactly the same as those in table 3.

If this analysis is correct, then we must conclude that DCs all have a tense-modal specification, if not overt then covert. As we have seen above, this is not true for main clauses. Main clauses may be completely "tenseless". This appears to be connected with the fact that main clauses are associated with mood morphemes such as declarative *-ke/-ka*, whereas in DCs mood morphemes are prohibited. That is, there apparently is a requirement that all finite clauses (i.e. main clauses and DCs)[23] have either a tense-modal or a mood specification (and many main clauses have both).

I believe some cross-linguistic perspective can be gotten on DCs if Jarawara is seen as what Longacre (2007) calls a chaining language. Longacre divides the languages of the world into co-

[23] There are other types of finite subordinate clauses in Jarawara, including relative clauses and juxtaposed clauses, which I discuss below. Other types of finite subordinate clauses which I only mention briefly in this paper are purpose clauses and indirect quotes. See Vogel (In preparation).

ranking languages on the one hand, and chaining languages on the other. This is how he describes this distinction (p. 375):

> In co-ranking structures, such as those found in contemporary European languages, it is possible to have several verbs of the same rank, commonly referred to as independent verbs. Thus, we can speak of a sentence as consisting of a coordination of independent clauses. In English the conjunctions and, but, and or, plus a few others, join such independent clauses into sentence units…. In a chaining structure, on the other hand, it is simply not possible to join two such verbs of the same rank in the same sentence. A sentence either ends in a dominating verb of fuller structure than that of the preceding verbs, or alternatively, begins with a dominating verb of fuller structure than that of the following verbs. In the former case, the preceding verbs of restricted structure are often referred to as medial verbs (or as participles, gerunds, or even coverbs) while the dominating verb at the end is referred to as the final verb. In the latter case, the following verbs of restricted structure are referred to as consecutive (or sequential) verbs while the dominating verb at the beginning is referred to as the initial verb. In the former case we speak of medial-final chaining; in the latter case we speak of initial-consecutive chaining.

According to this view, Jarawara would be medial-final chaining language. Longacre gives a number of characteristics of this kind of language, and Jarawara fits the profile quite well. First, it should be clear from the data presented so far that main clauses in Jarawara are quite distinct from the preposed DCs that precede them, in that they typically have a mood morpheme, whereas the preposed DCs cannot have a mood morpheme. Furthermore, it is common to have not just one but a whole series of preposed DCs preceding the main clause. In (141) below, for example, there are four preposed DCs in a row, and this sort of thing is not uncommon in Jarawara texts.[24] Longacre says "the final clause is like an engine that pulls a string of cars," and this is a good description of many Jarawara sentences.

The existence of postposed DCs is not a problem for this analysis. As stated above, postposed DCs are clearly in a marked position, as opposed to preposed clauses, which are in an unmarked position. For this reason, Longacre's label "medial clause" would probably be a more accurate way of talking about the preposed DCs of Jarawara, since preposed suggests out of place.

A second characteristic of medial-final chaining languages that Longacre gives is that they are OV/head-final languages, in contrast to initial-consecutive chaining languages, which have the basic sentence constituent order VO. In Vogel (2003:80f) I discuss several kinds of evidence that indicate that Jarawara is OV and head-final.

Jarawara appears to be exceptional among medial-final chaining languages in one respect, and that is that Jarawara does not have a switch-reference system. Longacre (p. 399) says in medial-final chaining languages, the medial clauses are marked to indicate whether the following clause (or in some cases, the final clause) has a different subject. It is true that the A-construction/O-construction contrast in Jarawara performs a similar function as switch-reference

[24] Most of the clauses I consider preposed DCs are analyzed by Dixon as either juxtaposed clauses or main clauses. This is because for Dixon (2004:466), in order for a clause to qualify as a preposed DC, it must have a *-ha/-hi* suffix or a *mee* in third position. I discuss juxtaposed clauses at the end of section 3, and the *-ha/-hi* suffix in section 4. Dixon also says that mood is optional in main clauses, as discussed in note 16 above. Although I recognize that mood is occasionally omitted by Jarawara speakers, the vast majority of main clauses do have mood.

systems of other languages, but only in the very general sense of helping to track participants. But the differences seem to be more significant than the similarities. For one thing, the A-constructions and O-constructions in Jarawara are used to track discourse topics, not subjects. Also, the A-construction/O-construction contrast only applies to transitive clauses; intransitives can only be one way, since the pivot can only be the subject. In contrast, in a switch-reference system, an intransitive can be marked as either same-subject or different subject.

What is the value of Longacre's theory for Jarawara, in the present context? One of the ways in which the theory is born out in Jarawara is that, not only do preposed DCs not have mood, in contrast to main clauses. They also are marked for tense in very different ways than main clauses, and one of the ways is that marking for tense is reduced, as the theory predicts. If my proposal is correct, then most DCs have IP.E tense, whereas they occur with main clauses that often have different tense specifications. In section 6 below I return to the issue of tense marking and the interpretation of tense in DCs.

There are at least two other kinds of subordinate clauses that have the same kind of agreement in the verb stem as DCs. One of these is relative clauses, and the other is juxtaposed clauses, both of which have been described by Dixon (2004).

Relative clauses in Jarawara are formally the same as preposed DCs, except for not having a third pronominal position.[25] For this reason it is not easy to distinguish relative clauses from preposed DCs, and in fact it may be possible to analyze most preposed DCs as relative clauses.[26] However, there are certain clauses that must be analyzed as relative clauses, because they are clearly part of an NP. The kind of context in which this is most readily apparent is in conjunction with certain morphemes that may only be attached to NPs. Usually they are attached to nouns, but since they are attached to whatever the last word of the NP is, they can be attached to a verb if it is part of a relative clause. One of these morphemes is *-ra*, which is an object marker. In (64), *-ra* is attached to a possessed noun, and in (65) it is attached to an adjective. In both cases, it occurs at the end of the NP which is the object of the clause.

[25] In this section I am referring to relative clauses that are formally similar to preposed DCs. As will become apparent in section 6, I believe that some clauses that have the formal characteristics of postposed DCs should also be analyzed as relative clauses. These postposed clauses do obligatorily have the third pronominal position filled for most persons, whether DCs or relative clauses (see table 3).

[26] One is tempted to analyze all preposed DCs as relative clauses, but there is a large obstacle to this idea. As Dixon (2004:477) points out, occasionally there is a DC that does not share an argument with the main clause. One of his examples is (d), in which the preposed DC does not share any argument with the main clause.

(d) [*Faya* *mee* *kimisake* *mee*]$_{DC}$
faya mee ka-misa-kI Mee
SO 3PL.S go/come-UP-COMING 3PL.S

[*otaa* *tai* *tokahamisa* *otaake.*]$_{MC}$
otaa tai to-ka-ha-misa otaa-ke
1EX.S be.ahead CH-COMIT-AUX-UP+F 1EX.S-DECL+F
'They came up the bank, and we went up ahead of them.'

It may be that some postposed DCs should be analyzed as relative clauses, as I hypothesize in section 6 below. But it is not possible to analyze all postposed DCs as relative clauses, for the same reason as above, cf. for example (33) above, in which the postposed DC has no argument in common with the main clause it follows.

(64) [*Mee* *towakama*]$_{DC}$ [*mee* *nowati**ra*** *haa* *ne…*]$_{DC}$
mee to-ka-ka-ma mee nowati-ra haa na
3SG.S AWAY-COMIT-go/come-BACK+F 3SG.POSS after-O call AUX+M
'They had gone, and he called after them.'

(65) *Maro* *hawine* *bote**ra*** *Okomobi* *kaminaka.*
Maro hawine bote-ra Okomobi kamina-ka
Mário.M trail+M old-O (man's.name).M tell-DECL+M
'Okomobi is telling about Mário's old trail.'

In (66), however, *-ra* occurs at the end of a verb. The clause *fara kawiyabanira* 'the starch that was eaten with herself' is the object of the sentence; it is a relative clause.

(66) *Fara* *kawiyabani**ra*** *ai* *nemetemoneni.*
fara kawiya-haba-ni-ra ahi na-hemete-mone-ni
SAME+F eat.with-FUT+F-IP.N+F-O work.on aux-FP.N+F-REP+F-BKG+F
'She made the starch that was eaten with herself.'

The verb in (66) has tense-modals, but the verb that *-ra* is attached to in (67) has no overt tense-modal. According to my analysis, it has IP.E tense, as shown by the masculine agreement.

(67) [*Fati* *kakatorarawe*]$_{DC}$ [*wine**ra*** *haa* *nematamonane.*]$_{MC}$
fati kakatora-rawa wina-ra haa na-himata-mona-ne
3SG.POSS.wife.F lie.in.hammock.with-F.PL+M lie+M-O call AUX-FP.N+M-REP+M-BKG+M
'He called him as he lay in the hammock with his wives.'

Other morphemes that are only attached to NPs are *taa* 'contrast' (68), *nima* 'like' (69), and *ni yaa* 'to' (70). In these sentences these morphemes are clearly attached to verbs, but it is because the verbs are part of relative clauses.

(68) *Amosa* ***taa*** *kakatika* *tee* *amake.*
amosa taa ka-ka-tika na-tee ama-ke
be.good+F contrast DUP-COMIT-think AUX-HAB SEC-DECL+F
'But if they are good, we choose the good ones.'

(69) *Fa* *kakeha* ***nima*** *fa* *na* *awineke,*
faha ka-kI nima faha na awine-ke
water.F go/come-COMING+F LIKE water.F AUX+F SEEM+F-DECL+F

neme *kaa* *faha.*
neme kaa faha
up.high.F POSS water.F
'The water up high (above the rapids) is like rain coming down.'

(70) *Hinakasima* *itari* *naaba* ***ni*** ***yaa***
hina kaa asima ita-rI nahaba ni yaa
3SG.POSS POSS younger.sister.F sit-RAISED.SURFACE NIGHT+F TO ADJNCT

wati *hata* *tone* *moni* *yana* *tonematamonaka.*
wati hata to-na moni yana to-na-himata-mona-ka
arrow.M be.stuck CH-AUX+M sound begin CH-AUX-FP.N+M-REP+M-DECL+M
'His younger sister was sitting there during the night, with the arrows sticking out (of the house), when the sound of the arrows started.'

There are other contexts in which these kinds of clauses are clearly part of NPs and thus must be analyzed as relative clauses, and Dixon (2004:525f) includes additional discussion; but these will suffice to demonstrate the phenomenon. The point I want to make is that relative clauses, when they do not have an overt tense-modal, have the same gender agreement pattern as preposed DCs, and the analysis of covert IP.E in DCs applies to them as well. Just as DCs may be analyzed as having the tense-modal category, all relative clauses may be analyzed this way as well.

Juxtaposed clauses encode various related semantic relations such as frustration and counter expectation, which usually may be translated using the conjunction "but" in English. The structure is a subordinate clause followed by a main clause. Typically the subordinate clause has the intentive tense-modal *-habone/-hibona* (71), but it is also common for there to be no overt tense-modal (72) (73). In this case the agreement pattern characteristic of covert IP.E occurs.

(71) ***Kona Abono*** ***hikinarebona***
Kona.Abono hi-kina-rI-hibona
(man's.name).M OC-hit-RAISED.SURFACE-INT+M

hee *kasawariyareka.*
hee ka-sawari-hare-ka
3SG.O COMIT-be.frustrated-IP.E+M-DECL+M
'Kona Abono wanted to hit it (the bird) by throwing a stick at it, but he missed.'

(72) ***Hiyama*** ***mee*** ***okiyoha***
hiyama mee o-kiyo
white-lipped.peccary.M 3PL.O 1SG.S-chase+F

owa *mee* *koro* *tosarake.*
owa mee koro to-na-kosa-hara-ke
1SG.O 3PL.S throw CH-AUX-MIDDLE-IP.E+F-DECL+F
'I chased the peccaries, but they lost me.'

(73) ***Okobebona*** ***one*** *tama* *owahamahareka.*
o-kaba-hibona ati o-na tama o-na-waha-ma-hare-ka
1SG.S-eat-INT+M say 1SG.S-AUX+M hold.onto 1SG.S-AUX-CHANGE-IP.E+M-DECL+M
'I was going to eat it (the bread), but instead I held onto it.'

Dixon (2004:529) says that the meaning "and" may also be encoded by juxtaposition. The example he gives is (74).

(74) *Hahaa* *hina* *kakemetemoneke.*
ha-haa hi-na ka-kI-hemete-mone-ke
DUP-call OC-AUX+F go/come-COMING-FP.N+F-REP+F-DECL+F
'He called to her, and she came.'

This may be an unnecessary broadening of the scope of juxtaposition in Jarawara. I analyze this sentence as just a preposed DC followed by a main clause.[27] Dixon cannot analyze these sentences this way because, as I discuss in the next section, he only accepts as preposed DCs clauses that have a *-ha/-hi* suffix (or *mee*, if the pivot is that person). In my view, the *-ha/-hi* marker is optional, so there is no problem in analyzing the first clause of (74) as a preposed DC. There is, however, one structural difference between juxtaposed clauses and preposed DCs, and that is that juxtaposed clauses (like relative clauses, cf. above) cannot have *mee* in the third pronominal position, whereas preposed DCs can. That is, juxtaposed clauses do not have a third pronominal position at all.

Whatever definition of juxtaposed clause is accepted, the point for the present analysis is the same: like relative clauses, juxtaposed clauses that do not have an overt tense-modal have the same gender agreement pattern as DCs, and they therefore may be seen as having covert IP.E specified.

4. Gender Agreement in Tensed Clauses

I have proposed that there is a certain kind of gender agreement that is characteristic of covert IP.E tense contexts. These contexts include all DCs that have no overt tense-modal (recall that I have defined *-haaro/-haari* as a tense-modal); and main clauses that have no overt tense-modal, and that have a first or second person plural pronominal in the third position. The pronominals are 1IN *ee*, 1EX *otaa*, and 2PL *tee*. Unlike DCs, main clauses may occur completely without the tense-modal category, in which case these pronominals do not occur in third position.

The gender agreement in question occurs at the end of the verb stem. The verb stem for this purpose is as follows. For inflecting verbs that consist of a bare root, it is the root. For non-inflecting verbs, i.e. verbs that require an auxiliary *na* or *ha*, it includes the auxiliary. For verbs (both inflecting and non-inflecting) that have miscellaneous suffixes, it includes the miscellaneous suffixes. The verb stem for this purpose also includes the negative suffix *-ra*, which is not a miscellaneous suffix but follows miscellaneous suffixes.

Phonologically speaking, there are not very many ways a word can end in Jarawara, since there are no closed syllables, and there are only four vowels, *a*, *i*, *e*, and *o*. There are three complicating factors, however, all of them connected in one way or another to the phoneme *e*. First, there is a morphophoneme *I* that is realized on the surface as either *i* or *e*, depending on whether the preceding number of moras in the word is odd or even. Secondly, all inflecting verb roots that end with *e* (the phoneme, not the *e* realization of *I*) have a syllable *ha* added to the underlying root. This *ha* is deleted if the preceding number of moras in the word is odd, but it is

[27] Alternatively, the first clause could possibly be analyzed as a relative clause.

maintained if the preceding number of moras is even. Thirdly, the habitual suffix *-tee* has a long vowel, and when it comes at the end of the phonological word there is usually no gender agreement, although *-ha/-hi* is occasionally added.

By far the most common vowel for verb stems to end with is *a*. The form for feminine agreement is *a*, and the form for masculine agreement is *e*. We have seen many examples of this alternation above, so I will not repeat them here.

There is, however, a slight variation on the *a/e* theme, when in some cases an actual marker is added, of the form *-ha/-hi.*[28] The feminine form *-ha* is contained in *famaha* in (75), repeated from above.

(75) [*Kanawaa* *ee* *behe* *nawaha* *eeke,*]$_{MC}$
kanawaa ee behe na-waha ee-ke
canoe.F 1IN.S turn.over AUX-CHANGE+F 1IN.S-DECL+F

[*ee* *fama**ha*** *ee.*]$_{DC}$
ee fama ee
1IN.S be.two+F 1IN.DC
'The two of us turned over the canoe.'

The masculine form, *-hi*, is illustrated in (76), in the word *awa**hi***.

(76) [*Era* *awa**hi***]$_{DC}$ [*yana* *ne*]$_{DC}$ [*tokatee* *amaka.*]$_{MC}$
era awa yana na to-ka-tee ama-ka
1IN.O see+M get.up AUX+M AWAY-go/come-HAB SEC-DECL+M
'It (the curasow) sees us and flies away.'

When *-hi* is used, normally a preceding *a* does not change to *e*, so that the sequence is *ahi* as in (76) above. But occasionally both *e* and *-hi* are used together, giving the sequence *ehi*, as in the word *yan**ehi*** in (77).

(77) [*Habise* *ahabe*]$_{DC}$ [*mohone* *yan**ehi***]$_{DC}$
habise ahaba mohone yana
grasshopper.M die+M sprout+M grow+M

[*tama* *tohateemonaka.*]$_{MC}$
tama to-ha-tee-himona-ka
epiphyte.sp.M CH-become-HAB-REP+M-DECL+M
'When a grasshopper dies, it sprouts and grows into a *tama* plant.'

Dixon (2004:466) calls *-ha/-hi* the marker of preposed DCs that do not have *mee* in third pronominal position, but the fact is that this syllable can optionally occur in many other contexts as well. For one thing, it can occur in a preposed DC that has *mee* in third position (78), whereas Dixon does not allow for this possibility.

[28] Dixon (2004:466) has this as *-haa/-hii*, i.e. with a long vowel. When he labels it as gender agreement, however, he shows it as a short vowel, as in the forms *kamaki**ha*** and *kamaki**hi*** (p. 41). I can detect no phonetic difference between these pairs; I hear all of them as short. In this paper I use *-ha/-hi* rather than *-haa/-hii*.

(78) [...*mee* *toka**ha*** *mee*]$_{DC}$ [*aba* *mee* *mee* *tisa* *tasa*...]$_{DC}$
mee to-ka mee aba mee mee tisa na-tasa
3PL.S AWAY-go/come+F 3PL.DC fish.M 3PL.O 3PL.S shoot.with.arrow AUX-AGAIN+F
'They went out, and shot fish again.'

The *-ha/-hi* ending can also occur in postposed DCs, as we have seen in (75) above; and it can occur in relative clauses as well, as in (79) and (80).[29]

(79) *Atabo* *waso* *kiha**ha*** *yaa* *mee* *mee* *foto* *hinemetemone.*
atabo waso kiha yaa mee mee foto hi-na-hemete-mone
mud.F leaf.F have+F ADJNCT 3PL.O 3PL.S wet OC-AUX-FP.N+F-REP+F
'They wet them with mud and leaves.'

(80) [*Kimi* *botorisa**hi*** *mee* *baka* *na* *mee*,…]$_{DC}$
kimi boto-risa mee baka na mee
corn.M be.old-DOWN+M 3PL.S break AUX+F 3PL.DC
'They broke off the corn when its leaves were dry.'

The *-ha/-hi* ending may even occur in main clauses, as in (81).

(81) ...*otaa* *tafahabone* *yamata* *otaa* *na**ha*** *otake.*
otaa tafa-habone yamata otaa na ota-ke
1EX.S eat-INT+F food.F 1EX.S pour+F 1EX.S-DECL+F
'We put food on our plates so we could eat.'

In short, the *-ha/-hi* ending is basically just a variation of the *a/e* gender agreement pattern. And since it is optional in each of the contexts in which it occurs, it should not be seen as a requirement for preposed DCs.[30]

For stems ending in *i*, feminine agreement is shown by *iha* or the variant *ia*, which is orthographically *iya*.[31] These are shown, for example, in the words *kasawar**iha*** and *owas**iya*** in

[29] The reason *botorisahi* cannot be considered a preposed DC, but has to be analyzed as a relative clause, is that the sentence is an A-construction, and so an object NP is required. Since thus *kimi* must be part of the object NP, therefore *botorisahi* must also be part of the same NP. See Dixon (2004:525f) for discussion.

[30] We might add that the masculine *-hi* ending is relatively rare in texts, compared to its feminine counterpart *-ha*.

[31] Dixon (2004:18) argues that this orthographic *y*, which is inserted when the *h* of *iha* is omitted, is different from the phoneme of *hi**y**a* 'be bad', for example, which can be pronounced either as a semivowel or as a voiced lamino-palatal stop [□], since the *y* which is inserted after the *h* of *iha* is omitted can only be pronounced as a semivowel.

While this is true, I would not go as far as he does, to say that this *y* is "purely phonetic", since invariably when Jarawaras are asked to pronounce *iya* (from *iha*) very slowly, they say *i...ya*. Similarly, orthographic *w* is inserted between *o* and *a*, when the *h* of *oha* is omitted, but in this case there is no phonetic difference between this and an underlying *w*.

It is interesting that, whenever a verb ending in *iya* or *owa* is reduplicated, the *y* or *w* is always reduplicated, cf. for example *hiya**ya*** from *hiya* 'be bad', and *kowa**wawa*** *kawaha*, related to *kowa tona* 'be dented'. It can be argued that these are underlying *y* and *w*, respectively, and this is undoubtedly true; but then it is interesting that there is apparently never a contrast with *ia* and *oa* sequences. That is, there are no reduplicated forms like [hiaʔa] or [oaʔa]. And this is not because a V syllable cannot be reduplicated, since V syllables are reduplicated at the beginning of verbs, cf. for example [aʔate na] 'question'.

(82) and (83), respectively, repeated from above. Masculine agreement is shown by *ihi* or just *i*. These are illustrated in *fim**ihi*** and *ohar**i*** in (84) and (85) below, respectively.

(82) [*Fara* *mee* *fami* *nofa* *mee* *amani,*]$_{MC}$
fara mee fama nofa mee ama-ni
SAME+F 3PL.S be.two ALWAYS+F 3PL.S SEC-BKG+F

[*owati* *tee* *kasawar**iha*** *tee.*]$_{DC}$
o-ati tee ka-sawari tee
1SG.POSS 2PL.S COMIT-frustrate+F 2PL.DC
'There were only two of them, you didn't believe me.'

(83) [*Mee* *tee* *awabanake,*]$_{MC}$
mee tee awa-habana-ke
3PL.O 2PL.S see-FUT+F-DECL+F

[*mee* *winateeani* *mee* *owas**iya*** *mati.*]$_{DC}$
mee wina-tee-hani mee o-wasi mati
3PL.S live-HAB-IP.N+F 3PL.O 1SG.S-find+F 3PL.DC
'You will see them, the ones that are living there that I saw.'

(84) [*Bani hata* *fim**ihi***]$_{DC}$ [*ohi* *ka.*]$_{MC}$
bani.hata fimi ohi na-ka
cougar.M be.hungry+M cry AUX-DECL+M
'When the cougar is hungry it cries.'

(85) [*Ohar**i***]$_{DC}$ [*toforikoserika.*]$_{MC}$
ohari to-forI-kosa-hiri-ka
be.one CH-lie-MIDDLE-RP.E+M-DECL+M
'He was alone lying there.'

When the morphophoneme *I* is realized as *i*, the agreement pattern is the same as that for *i*. Note the alternatives for feminine agreement *iha* in (86) and *iya* in (87), and *i* for masculine agreement in (88). There happens to be no *ihi* for masculine agreement in my data, but I expect this variant to be revealed in further data.

(86) [*Sobo* *kawar**iha***]$_{DC}$ [*harorisaha*]$_{DC}$
sobo ka-warI haro-risa
lead.F COMIT-cook+F be.soft-DOWN+F

[*fehe* *tohakitee* *amake.*]$_{MC}$
fehe to-ha-kI-tee ama-ke
liquid+F CH-become-COMING-HAB SEC-DECL+F
'When lead is boiled and melted, it becomes liquid.'

(87) [*Okobi* *yara* *mee* *kamoha*]$_{DC}$
o-ka abi yara mee kamo
1SG.POSS-POSS father.M Brazilian.M 3PL.S bury+F

[*mee* *owakatoma*]$_{DC}$ [*yara* *fana* *kamak**iya***]$_{DC}$
mee o-ka-katoma yara fana ka-makI
3PL.O 1SG.S-COMIT-watch+F Brazilian.M female.F go/come-FOLLOWING+F

[*fera* *sari* *narawaro* *amake.*]$_{MC}$
fera sari na-rawa-haro ama-ke
candle.F burn AUX-F.PL-RP.E+F SEC-DECL+F
'I watched as the Brazilians buried my father. Some Brazilian women came and lit candles.'

(88) [*Yima* *kawiteno*]$_{DC}$ [*mee* *hiwasimak**i***]$_{DC}$
Yima ka-ita-hino mee hi-to-wasi-makI
Yima.M COMIT-sit-IP.N+M 3PL.S OC-AWAY-find-FOLLOWING+M

[*mee* *saa* *hinamematamonaka.*]$_{MC}$
mee saa hi-na-ma-himata-mona-ka
3PL.S shoot.with.arrow OC-AUX-BACK-FP.N+M-REP+M-DECL+M
'They came on a Yima who was sitting injured (by the thorns), and they hit him with arrows again.'

When the morphophoneme *I* is realized as *e*, *-ha* can be added for feminine agreement (89) and *-hi* for masculine agreement (90); but it is normal for these not to be added, and in this case there is no difference between feminine and masculine agreement. *Kake* in (91) has a masculine subject, and *kakisake* in (92) has a feminine subject, but they both end in *e*, not *ehi* or *eha*.

(89) [*Faha* *kak**eha***]$_{DC}$ [*fawa* *tosineke.*]$_{MC}$
faha ka-kI fawa to-na-kosa-ne-ke
water.F go/come-COMING+F disappear CH-AUX-MIDDLE-CONT+F-DECL+F
'The rain stopped suddenly.'

(90) [*War**ehi**,*]$_{DC}$
waa-rI
stand-RAISED.SURFACE+M

[*hohori* *hori* *nematamona,*]$_{MC}$ *hohori* *ahi.*
hohori hori na-himata-mona hohori ahi
wind.instrument.F blow AUX-FP.N+M-REP+M wind.instrument.F THEN
'He stood on a log, and blew on the noisemaker.'

(91) [*Otaa* *kobo* *nama*]$_{DC}$ [*otaa* *nanahoma* *kawaa*]$_{DC}$
otaa kobo na-ma otaa na-naho-ma ka-na-waha
1EX.S arrive AUX-BACK+F 1EX.S DUP-stand-BACK COMIT-AUX-CHANGE+F

[*Bito* *kak**e***]$_{DC}$ [*owa* *hiyareri* *amaka.*]$_{MC}$
Bito ka-kI owa hiyara-hiri ama-ka
(man's.name).M go/come-COMING 1SG.O speak.to-RP.E+M SEC-DECL+M
'We got back. After we were there a little while, Bito came and spoke to me.'

(92) *Kainasiya* *batori* *totokatimamaraba* *ni* *yaa*
Kainasiya batori to-to-ka-tima-ma-raba na yaa
Cainãzinho.F mouth DUP-AWAY-go/come-UPSTREAM-BACK-A.BIT AUX+F ADJNCT

[*yara* *mee* *otaa* *kobo* *na* *otaake* *fahi,*]$_{MC}$
yara mee otaa kobo na otaa-ke fahi
Brazilian.M 3PL.O 1EX.S meet AUX+F 1EX.S-DECL+F THEN

[*mee* *kakisak**e*** *mati.*]$_{DC}$
mee ka-ka-risa-kI mati
3PL.S COMIT-go/come-DOWN-COMING 3PL.DC
'Just upstream for the mouth of the Cainãzinho we met some Brazilians coming downstream.'

As stated above, it can be argued that there are no verb roots ending in the phoneme *e*, since there is an underlying *ha* at the end of these roots. The *ha* is present if the preceding number of moras in the word is even, and it is deleted if the preceding number of moras is odd. This being the case, roots ending in *e* do not completely parallel those ending with the *e* realization of *I* the same way those ending in *i* do parallel those ending with the *i* realization of *I*.

That the *ha* syllable is an underlying part of the root of these verbs can be shown by a comparison of examples such as the following two. In *nakomeka* in (93), the preceding number of moras is odd (i.e. three), and so the *ha* is deleted; but in *onakome**ha**teere* in (94), the preceding number of moras is even (i.e. four), so the *ha* is retained.

(93) *Yowi* *owa* *nakomeka.*
yowi owa na-komeha-ka
capuchin.sp.M 1SG.O CAUS-be.extreme-DECL+M
'The capuchin monkey is afraid of me.'

(94) *Yomee* *onakome**ha**teere* *amaka.*
yomee o-na-komeha-tee-ra ama-ka
jaguar.M 1SG.S-CAUS-be.extreme-HAB-NEG+M SEC-DECL+M
'"I'm not afraid of a jaguar."'

In covert IP.E contexts, where there is feminine agreement, the *ha* is always retained, even when the number of preceding moras in the word is odd. Compare for example *keye**ha*** in (95) and *okeye**ha*** in (96).

(95) [*Atoni* *kasasa* *mee* *fawa* *mee* *awineke,*]$_{MC}$
Atoni kasasa mee fawa mee awine-ke
Antônio.M cane.whiskey.F 3PL.S drink+F 3PL.S SEEM.DECL+F

[*era* *mee* *keye**ha*** *mati.*]$_{DC}$
era mee keyeha mati
1IN.O 3PL.S deceive+F 3PL.DC
'Antonio and his companion appear to have deceived us and drank cane whiskey.'

(96) [*Oteme* *yofi* *onara* *oke*]$_{MC}$
o-teme yofi o-na-hara o-ke
1SG.POSS-foot show 1SG.S-AUX-IP.E+F 1SG.S-DECL+F

[*oteme* *komakoma* *ra* *owa,*]$_{DC}$ [*mee* *okeye**ha*** *owa*]$_{DC}$
o-teme koma-koma na-ra owa mee o-keyeha owa
1SG.POSS-foot DUP-hurt AUX-NEG+F 1SG.DC 3PL.O 1SG.S-deceive+F 1SG.DC
'I showed my foot, which was not hurting, deceiving them.'

For contexts in which there is masculine agreement, the *ha* can become *he*, as in *hinakome**he*** in (97); and if the number of preceding moras is odd, the *ha* is deleted, and a *-hi* may be added for agreement, as in *hikeye**hi*** in (98).

(97) [*Mee* *hinakome**he**,*]$_{DC}$
mee hi-na-komeha
3PL.S OC-CAUS-be.extreme+M

[*hinaka* *bari* *onakamakiya,...*]$_{DC}$
hina kaa bari o-to-na-ka-maki
3SG.POSS POSS ax.F 1SG.S-AWAY-CAUS-go/come-FOLLOWING+F
'The others were afraid of him, so I went to take away his ax.'

(98) [*Faya* *amo* *nebona* *mee* *hikeye**hi***]$_{DC}$
faya amo na-hibona mee hi-keyeha
SO sleep AUX-INT+M 3PL.S OC-deceive+M

[*mee* *hinatafematamonaka.*]$_{MC}$
mee hi-na-tafa-himata-mona-ka
3PL.S OC-CAUS-eat-FP.N+M-REP+M-DECL+M
'He wanted to sleep, but they deceived him and fed him.'

As mentioned above, there is one verbal suffix that ends with a long *e*, i.e. the habitual suffix *-tee*. This often occurs at the end of the phonological word, but it is usually not associated with

the type of gender agreement I have described. This seems to be just a phonological characteristic of *-tee* because of the long *e*; but it is not an indication that covert IP.E is not associated with *-tee*. The following examples are typical. In (99), *-tee* comes at the end of a relative clause, and the head is masculine, but there is no masculine agreement. There is likewise no feminine agreement in (100), even though the postposed DC that *-tee* is part of has a feminine pivot (because it is animate plural). Thus there is no gender agreement whether the pivot is feminine or masculine.

(99)

Otaa	*owa*	*wina**tee***	*fawa*	*nareka.*
otaa	owa	wina-tee	fawa	na-hare-ka
1EX.POSS	affinal.relative.M	live-HAB	disappear	AUX-IP.E+M-DECL+M

'Our affinal relative, who lived there, is gone.'

(100)

Awani	*mera*	*warara*	*nematamonaka,*	*tosi*	*mati,*
awani	mera	wara-ra	na-himata-mona-ka	tosi	mati
wasp.M	3PL.O	grasp-DUP	AUX-FP.N+M-REP+M-DECL+M	wasp.sp.M	3PL

tosi	*sokiki*	*mati,*	*tosi*	*mee*	*fota**tee***	*mati.*
tosi	soki-ki	mati	tosi	mee	fota-tee	mati
wasp.sp.M	black-DUP	3PL	wasp.sp.M	3PL.S	be.big.PL-HAB	3PL.S

'He grabbed the wasps. They were tosi wasps, the black ones, the big ones.'

Occasionally, though, there are examples such as the following pair, in which *-tee* is followed by *ha* for feminine agreement (101), and *hi* for masculine agreement (102).

(101)

Awa	*atari*	*saa*	*tee**ha***	*ini*	*amake,*	*baro.*
awa	atari	saa	na-tee	ini	ama-ke	baro
tree.F	bark+F	strip.off	AUX-HAB+F	name+F	be-DECL+F	basket.F

'A *baro* basket is made from inner bark that is stripped off a tree.'

(102)

…baro	*bee*	*nisaha*	*yaa*
baro	bee	na-risa	yaa
basket.F	cover	AUX-DOWN+F	ADJNCT

yawita	*ime*	*tee*	*tee**hi***	*amaka.*
yawita	ime	tee	na-tee	ama-ka
peach.palm.M	pulp	put.inside	AUX-HAB+M	SEC-DECL+M

'The pulp of peach palm nuts is put inside a *baro* basket that has been covered inside with leaves.'

A fact that needs to be kept in mind in relation to *-tee* is that there are contexts in which it is found with overt IP.E, so it is clearly not incompatible with it. It is found both with the main clause suffix *-hara/-hare* (103) and with the *-haaro/-haari* suffix that is found in postposed DCs, which I have characterized as an IP.E marker (104).

(103) *Mee* *onofa**teehara*** *oke.*
mee o-nofa-tee-hara o-ke
3PL.O 1SG.S-like-HAB-IP.E+F 1SG.S-DECL+F
'I like those people.'

(104) [*Moro* *mee* *mee* *kaba,*]$^{32}_{MC}$ [*wasabi,*
moro mee mee kaba wasabi
fish.sp.M 3PL.O 3PL.S eat fish.sp.M

wasabi *sosoki* ***teehaari****.*]$_{DC}$
wasabi so-soki na-tee-haari
fish.sp.M DUP-black AUX-HAB-IP.E+M
'They ate moro fish, too, and wasabi, which is black.'

The last vowel to consider is *o*. For stems that end in *o*, in DCs *ha* is added for feminine agreement, as in *kamo**ha*** in (87) above. This may be pronounced as just *a*, and is then written *wa* in the orthography, as in *hikiyo**wa*** in (105).

(105) [*Yomee* *towake,*]$_{DC}$
yomee to-ka-ka
dog.M AWAY-COMIT-go/come+M

[*yomee* *bani* *mee* *mee* *hikiy**owa*** *mee,*]$_{DC}$
yomee bani mee mee hi-kiyo mee
dog.M animal.M 3PL.O 3PL.S OC-chase+F 3PL.DC

[*nokobiri* *maka* *itariyani*]$_{DC}$ [*wai* *hineimatamonaka.*]$_{MC}$
nokobi-ri maka ita-rI-hani wai hi-na-himata-mona-ka
door-PN snake.F sit-RAISED.SURFACE-IP.N+F bite OC-AUX-FP.N+M-REP+M-DECL+M
'He went out with his dog. The dogs chased after some animals. A snake was sitting at the entrance to the hole, and it bit him (the dog).'

For agreement with a masculine nominal, *-hi* can be optionally added, as in *watohi* in (106). However, the *-hi* is not required, as shown by *hikiyo* in (107).

(106) [*...inamati* *yama* *wat**ohi***]$_{DC}$ [*kamabise,*]$_{DC}$
inamati yama wato ka-ma-bisa
spirit.M thing.F know+M go/come-BACK-ALSO+M

[*era* *kaminatee* *amaka.*]$_{MC}$
era kamina-tee ama-ka
1IN.O tell.about-HAB SEC-DECL+M
'A spirit that knows a lot comes, and tells about us.'

[32] The reason this main clause has no mood is that it is a "list" construction. A list construction has an auxiliary to which any tense-modals and mood are attached, but the auxiliary word is often omitted in normal speech.

(107) [*Eene* *mee* *hikiy**o***]$_{DC}$
ehene mee hi-kiyo
result.of+M 3PL.S OC-chase+M

[*eene* *mee* *hiwasimakimatamonaka,*
ehene mee hi-to-wasi-makI-himata-mona-ka
result.of+M 3PL.S OC-AWAY-find-FOLLOWING-FP.N+M-REP+M-DECL+M

hoti *soneno* *karo.*]$_{MC}$
hoti sona-hino karo
hole.F fall-IP.N+M LOC
'They followed his trail, and found where he had fallen in the hole.'

This completes the description of the gender agreement pattern at the end of the verb stem when there is covert IP.E. Before moving on, though, it needs to be observed that there is one other context in which this same gender agreement occurs that I have not mentioned yet, and that is in main clauses with what Dixon (2004) has called a "secondary verb".

There are two secondary verbs, *ama* and *awine/awa*. They occur in "Slot I" of the predicate, immediately following the pronominal position discussed above.[33] They are not suffixes, but phonologically independent words. We have already seen numerous examples of these morphemes above, and I repeat several of them below: *ama* in (108), *awine* in (109) and *awa* in (110).

(108) *Kowani* *yaa* *otaa* *winehenemete* *otaa* ***ama**ke.*
kowani yaa otaa wina-hene-mete ota ama-ke
opposite.side ADJNCT 1EX.S live- IRR+F-FP.N+F 1EX.S SEC-DECL+F
'We would have lived on the other side.'

(109) [*Atoni* *kasasa* *mee* *fawa* *mee* ***awine**ke,*]$_{MC}$
Atoni kasasa mee fawa mee awine-ke
Antônio.M cane.whiskey.F 3PL.S drink+F 3PL.S SEEM.DECL+F

[*era* *mee* *keyeha* *mati.*]$_{DC}$
era mee keyeha mati
1IN.O 3PL.S deceive+F 3PL.DC
'Antonio and his companion appear to have deceived us and drank cane whiskey.'

[33] As Dixon observes, the exact position of "Slot I" varies according to whether the agreement morpheme is a prefix or not. It precedes the secondary verb if it is a plural person and thus an independent verb; but if it is a prefix and thus a singular person, it follows the secondary verb. In (108) above, for example, the *otaa* near the end of the sentence precedes the secondary verb *ama*; but in (114) *o-* follows *ama*. This is a completely regular phenomenon, and is not affected by whether the pronominal refers to the subject, object, or a possessor.

(110) [*Bakayona* *mera* *tonahiye* ***awa****ka,*]$_{MC}$
Bakayona mera to-na-hiya awa-ka
(man's.name).M 3PL.O CH-CAUS-be.bad+K SEEM+M-DECL+M

[*mee* *aafo* *hiyemata.*]$_{DC}$
mee a-afo hi-to-ha-himata
3PL.S DUP-blow OC-CH-AUX-FP.N+M
'Bakayona changed them, because they blew (snuff) into him a long time ago.'

As these examples show, *awine/awa* is a kind of evidential, with a meaning something like "it appears that" or "it seems". The meaning of *ama* is harder to pin down, as Dixon (2004:228) also notes. He says it generally has the meaning "extended in time," and this is compatible with (108). I would add that when used without any tense-modal, it more specifically describes a situation that was witnessed by the speaker, and usually a situation that obtained in the recent past but no longer obtains. This use is illustrated in (111) and the second sentence of (112).

(111) *Bita* *mee* *tama* *mee* ***ama****ke,*
bita mee tama mee ama-ke
mosquito.M 3PL.S be.many+F 3PL.S SEC-DECL+F

baha, *faa* *sai* *yaa.*
baha faha sai yaa
BEFORE water.F empty ADJNCT
'There were many mosquitoes when the waters were receding.'

(112) *Yowarake* *ahi.* *Yowa* ***ama****ke* *ahi.*
yowa-hara-ke ahi yowa ama-ke ahi
reach-IP.E+F-DECL+F HERE reach+F SEC-DECL+F THERE
'(The water) is up to here now (showing). It was formerly up to there (showing).'

Ama is also used quite frequently in conjunction with certain other morphemes, and most of these cases are compatible with the "extended in time" meaning. For example, it is rare for the habitual suffix *-tee* to occur in a main clause verb without *ama*, as in (113), repeated from above.

(113) [*Era* *awahi*]$_{DC}$ [*yana* *ne*]$_{DC}$ [*toka****tee*** ***ama****ka.*]$_{MC}$
era awa yana na to-ka-tee ama-ka
1IN.O see+M get.up AUX+M AWAY-go/come-HAB SEC-DECL+M
'It (the curasow) sees us and flies away.'

Ama is also practically obligatory with IRR in a main clause, but here the "extended in time" meaning may not be very relevant. In the above examples, this meaning seems to be relevant in (108) above, but not in (114), (115), or (116), all repeated from above.

(114) *Mato bete tosi yaa osi yaa*
mato bete to-na-kosa yaa o-sona yaa
vine.F snap CH-AUX-MIDDLE+F ADJNCT 1SG.S-fall+F ADJNCT

*ohabe**ne**maro **ama** oke.*
o-ahaba-hene-maro ama o-ke
1SG.S-die-IRR+F SEC 1SG.S-DECL+F
'If the vine had snapped and I had fallen, I would have died.'

(115) *Banee owa wate**hene**ro **ama**ke.*
banehe owa wata-hene-ro ama-ke
giant.anteater.F 1SG.O grab-IRR+F-RP.E+F SEC-DECL+F
'The giant anteater almost grabbed me.'

(116) *Ohi ne**na**no **ama**ka.*
ohi na-hina-no ama-ka
cry AUX-IRR+M-IP.N+M SEC-DECL+M
'He almost cried.'

It is clear in these examples that *ama* may occur with or without the presence of a tense-modal. There is, however, one tense-modal that *ama* does not occur with, and this is IP.E. For *awine/awa* the situation is somewhat different. It is not nearly as common for *awine/awa* to occur with a tense-modal, although it does occur. Examples are (117), (118), and (119).

(117) *Owa awar**eno** **awa**ne.*
owa awa-ra-hino awa-ne
1SG.O see-NEG-IP.N+M SEEM+M-BKG+M
'I guess he didn't see me.'

(118) *Yama sokisokirisa tosii ne**te** **awine**ke ahi.*
yama soki-soki-risa to-na-sii na-hete awine-ke ahi
thing.F DUP-be.dark-DOWN CH-AUX-SLOWLY AUX-RP.N+F SEEM-DECL+F THEN
'I guess it was getting dark as they went.'

(119) *Hikamowe**mete** **awine**ke.*
hi-kamo-hemete awine-ke
OC-bury-FP.N+F SEEM+F-DECL+F
'I guess he buried her.'

But as Dixon (2004:233) notes, *awine/awa* only occurs with non-eyewitness tenses, not with eyewitness tenses. Semantically this makes sense, since the idea of "it seems" and eyewitness evidentiality can be seen as being incompatible. In contrast, *ama* occurs with both eyewitness (115) and non-eyewitness (108) tenses. I will have more to say about this fact below.

The main point about the secondary verbs is that, when there is no tense-modal present, they are associated with the same gender agreement pattern I have proposed is characteristic of covert

IP.E tense. This is true no matter what person the syntactic pivot is. In (110) above the syntactic pivot is third person singular masculine, and there is masculine agreement at the end of the verb stem before *awa*. A similar example with *ama* is (120). There is clearly feminine agreement in the verb *atahowa*, since the form would be *ataho* if there were either masculine agreement or no agreement at all.

(120)

Awa	*atahow**a***	***ama**ke.*
awa	ataho	ama-ke
tree.F	have.latex+F	SEC-DECL+F

'The tree had latex.'

The next example has a third person plural pivot (121).

(121)

Mee	*kamak**iya***	*mee*	***awine**ke.*
mee	ka-makI	mee	awine-ke
3PL.S	go/come-FOLLOWING+F	3PL.S	SEEM+F-DECL+F

'They are on their way here.'

In the next example, which consists of two contiguous sentences in one of Dixon's (2004) texts, the syntactic pivot is second person singular in the quote in the first sentence (122), and first person singular in the second sentence (123).

(122)

Kobati	*hemeyo*	*tiwatow**a***	***ama***	*ti,*
kobati	hemeyo	ti-wato	ama	ti-
companion.M	medicine.F	2SG.S-know+F	SEC	2SG.S

hemeyo	*mato*	*kaaro?*	*ati*	*nemarika.*
hemeyo	mato	kaaro	ati	na-himari-ka
medicine.F	forest.F	LOC+F	say	AUX-FP.E+M-DECL+M

'"Compadre, do you know a remedy, a remedy from the forest?" he said.'

(123)

Hemeyo	*owatow**a***	*owa*	***awine***[34]	*oke.*
hemeyo	o-wato	owa	awine	o-ke
medicine.F	1SG.S-know	1SG.S	SEEM+F	1SG.S-DECL+F

'"I think I know a remedy."'

In fact, for main clauses with a secondary verb and no tense-modal, this is the agreement pattern for all persons. This is in contrast to main clauses with no secondary verb. As we have seen above, these must have a first or second person plural pronominal in third position in order to have this agreement pattern.

In this section I have fully described the gender agreement pattern that occurs in contexts which I have analyzed as having a covert IP.E tense specification. I have also noted that there is one other context in which this agreement pattern occurs, i.e. in main clauses with a secondary verb in which there is no tense-modal. I consider possible analyses for this fact in section 7

[34] With the secondary verb *awine* (but not with *ama*) there is an additional token of the pronominal in third position, for first and second person singular (*owa/tiwa*).

below. In the next section, though, I relate another aspect of the grammar of Jarawara to the question of covert tense.

5. Possesor Agreement

The strongest support for the analysis I am proposing comes from a syntactic phenomenon that Dixon (2004:112) calls "possessor copying". In most of the sentences we have seen so far, whenever there is a pronominal in third position, it references the subject or the object, depending on whether it is intransitive or transitive, and if transitive, whether it is an A-construction or an O-construction. Below I repeat three examples from above to illustrate these three possibilities. The postposed DC in (124) is intransitive, and *mati* references the subject of the clause. *Mati* at the end of (125) likewise references the subject of the postposed DC, because it is an A-construction transitive. But (126) is an O-construction, and so the pronominal *ee* in third position references the object of the sentence.

(124)

[*Yamata*	*mee*	*koro*	*hinete*	*kawita*	*tiwene*	*ama*]$_{MC}$
yamata	mee	koro	hi-na-hete	ka-ita	ti-awa-hene	ama
food.F	3PL.O	throw	OC-AUX-RP.N+F	COMIT-sit+F	2SG.S-see-IRR+F	SEC

[*mee*	*fawa*	*ne**te***	*mati.*]$_{DC}$
mee	fawa	na-hete	mati
3PL.S	disappear	aux-RP.N+F	3PL.DC

'You haven't seen the crops they planted, the people who disappeared.'

(125)

[*Oma*	*mee*	*mee*	*kakaba*	*tohimaro*	*amake*]$_{MC}$
oma	mee	mee	ka-kaba	to-ha-maro	ama-ke
piranha.M	3PL.O	3PL.S	DUP-eat	CH-AUX.NOM+F-FP.E+F	be-DECL+F

[*oma*	*mee*	***mee***	*nawasiya*	***mati***.]$_{DC}$
oma	mee	mee	na-wasi	mati
piranha.M	3PL.O	3PL.S	CAUS-be.caught+F	3PL.DC

'They used to eat piranhas that they caught.'

(126)

Yara	***era***	*mee*	*wati*	*kana*	***ee**ke.*
yara	era	mee	wati	ka-na	ee-ke
Brazilian.M	1IN.O	3PL.S	plan.against	COMIT-AUX+F	1IN.O-DECL+F

'The Brazilians want to kill us.'

Dixon shows that in some sentences, the pronominal in third position references neither the subject not the object, but instead the possessor of the subject or the object. For this reason he calls it "possessor copying". One of the examples that Dixon (2004:113) gives for this phenomenon is (127a). The pronominal *ee* in ***ee**ke* at the end of the sentence agrees with the *ee* at the beginning of the sentence, which is the possessor of the object NP, ***ee** ka hemeyoba* 'medicine for us'.

(127a)	***Ee***	*kaa*	*hemeyoba*	*Fonai*	*mata*	*neba*	***ee****ke.*
	ee	kaa	hemeyo-ba	Fonai	mata	na-hiba	ee-ke
	1IN.POSS	POSS	medicine.F-FUT	FUNAI.M	send	AUX-FUT+M	1IN.POSS-DECL+F

‘FUNAI (the government Indian agency) needs to send medicine for us.’

As Dixon notes, this kind of agreement is optional. The above sentence could be said without the pronominal associated with the mood morpheme, and it would still have the same basic meaning. It would be as in (127b).

(127b)	*Ee*	*kaa*	*hemeyoba*	*Fonai*	*mata*	*nebanaka.*
	ee	kaa	hemeyo-ba	Fonai	mata	na-hibana-ka
	1IN.POSS	POSS	medicine.F-FUT	FUNAI.M	send	AUX-FUT+M-DECL+M

‘FUNAI needs to send medicine for us.’

I suppose this optionality is the reason Dixon calls this phenomenon “copying” rather than agreement, since agreement is typically obligatory. I see no reason to not call it agreement, however, so from here out I will refer to this phenomenon as possessor agreement.

As Dixon points out, this kind of agreement is possible also for intransitive clauses. In this case, the third pronominal position will reference the possessor of the subject rather than the subject, as in (128). In this sentence, the pronominal *o-* in *oke* references the possessor of *oko yifo* ‘my hammock’ rather than the whole NP.

(128)	***O****ko*	*yifo*	*ahabare*	***o****ke.*
	o-kaa	yifo	ahaba-hare	o-ke
	1SG.POSS-POSS	hammock.M	end-IP.E+M	1SG.POSS-DECL+F

‘My hammock came apart on me.’

Dixon also discusses a similar phenomenon which may occur when the subject of a sentence is a complement clause. This is illustrated in (129), which is one of the examples he gives (p. 459).

(129)	***O****ko*	*kana*	*ni*	*tokomara*	***o****ke.*
	o-kaa	kana	na	to-ka-ma-hara	o-ke
	1SG.POSS-POSS	run	AUX.NFIN	AWAY-go/come-BACK-IP.E+F	1SG.POSS-DECL+F

‘I went running back.’

In this sentence, the subject of the complement clause *oko kana ni* is referenced by *o-* in *oke* following the tense-modal of the main clause. Dixon does not call this "possessor copying", since he analyzes the nominal in question not as a possessor but as a subject.[35] However, if the verb in a complement clause is analyzed as an inalienably possessed noun, and the subject as a possessor, then sentences like (129) can be analyzed as manifesting possessor agreement the same as the other cases discussed above.

Dixon notes that possessor agreement (including the phenomenon involving complement clauses) is only possible in clauses that have a tense-modal or secondary verb. The examples involving possessor agreement given so far all have a tense-modal: future *-hiba* in (127a), and IP.E *-hara/-hare* in (128) and (129). The following two examples have only a secondary verb with no tense-modal, and they have possessor agreement.[36]

(130)	***O**ko*	*yifari*	*hati*	*ware*	*ama*	***o**ni.*
	o-kaa	yifari	hati	waa-rI	ama	o-ni
	1SG.POSS-POSS	banana.F	ripe	stand-RAISED.SURFACE	SEC	1SG.POSS-BKG+F

'I have bananas in the house (lit., my bananas are standing on top).'

[35] At some level of syntax the nominal in question does indeed seem to be a subject as Dixon says. For one thing, Dixon (2004:460f) discusses the phenomenon of argument sharing, according to which, if the subject of the complement clause is the same as that of the main clause, the nomimal may only appear in the main clause, as in (e).

(e)	*Wini*	*onofararo*	*ama*	*oke*
	wina	o-nofa-ra-haro	ama	o-ke
	lie.NFIN	1SG.S-want-NEG-RP.E+F	SEC	1SG.S-DECL+F

'I didn't want to lie in my hammock.'

As Dixon points out, the meaning of sentences such as this requires an argument sharing analysis. That is, (e) can only refer to the speaker lying in her own hammock, not anyone else.

This kind of argument sharing is not available to sentences involving a possessed noun as opposed to a complement clause. For example, whereas I suppose that (f) would be grammatical, I am sure that (g), which parallels (e), could not have the intended meaning, because it could not have the intended syntax. The possessor *o-* in *owehene* is required for the intended meaning, because as a possessor it cannot be shared with the subject of the clause. (The noun *ihi* when not possessed means 'animal killed by another animal'.)

(f)	*Owehene*	*onofarara*	*oke.*
	o-ehene	o-nofa-ra-hara	o-ke
	1SG.POSS-result	1SG.S-like-NEG-IP.E+F	1SG.S-DECL+F

'I didn't like what I did.'

(g)	*Ihi*	*onofarara*	*oke.*
	ihi	o-nofa-ra-hara	o-ke
	killed.animal.F	1SG.S-want-NEG-IP.E+F	1SG.S-DECL+F

'I didn't want the animal that had been killed.'
*'I didn't like what I did.'

[36] As Dixon (2004:113) notes, the possessor referenced in possessor agreement may be alienable or inalienable. The possessor in (131) is inalienable, whereas the possessors in the previous examples are alienable (with the exception of (129), which I have analyzed as inalienable possession).

(131) ***Mee*** *kanamori* *toha* ***mee*** *awineni.*
mee kanamori to-ha mee awine-ni
3PL.POSS spirit CH-be+F 3PL.POSS SEEM+F-BKG+F
'It's their souls.'

In (130), the *o-* in *oni* agrees with the *o-* in *oko yifari*, i.e. the possessor of the subject. There is no tense-modal in this sentence, so it is clearly the *ama* that permits this agreement pattern. (131) is a similar example with *awine*. Here the *mee* following the verb agrees with the *mee* which is the possessor in *mee kanamori* 'their souls', the subject of the sentence.

Also, as Dixon notes (2004:459), just as the subject of a complement clause can be copied into the third pronominal position in sentences with a tense-modal, the same is true of sentences that have no tense-modal but have a secondary verb. In (132), the *ti-* which follows *awine* agrees with the *ti-* which is the subject (or, according to my analysis, the possessor) of the complement clause *tika toho ni*, which in turn is the subject of the sentence.

(132) *Toho* *tini* *yaa* ***ti****ka* *toho* *ni*
toho ti-na yaa ti-kaa toho na
cough 2SG.S-AUX+F ADJNCT 2SG.POSS-POSS cough AUX.NFIN

fawa *ra* ***tiwa*** *awine* ***ti****ke.*
fawa na-ra tiwa awine ti-ke
disappear AUX-NEG+F 2SG.POSS SEEM+F 2SG.POSS-DECL+F
'When you cough, you won't be able to stop coughing.'

In clauses that have no tense-modal or secondary verb, possessor agreement is not possible. (133) is such a sentence. A sentence like **omano fowa **o**ke* is impossible, because there is no tense-modal or secondary verb.

(133) *Omano* *fowake.*
o-mano fowa-ke
1SG.POSS-arm swell-DECL+F
'My arm is swollen.'

As expected, possessor agreement is found in conjunction with covert IP.E in main clauses. (134) and (135) are transitive examples, and (136) is intransitive.

(134) ***Tee*** *kaa* *yama* *hani* *Seiki* *nahabi* ***tee****ke.*
tee kaa yama hani Seiki na-ahaba tee-ke
2PL POSS thing.F design+F Sheike.M CAUS-end+M 2PL-DECL+F
'Sheike broke your sign.'

(135) *Yara* ***otaa*** *mano* *mee* *hoka* *na* ***otaa****ke.*
yara otaa mano mee hoka na otaa-ke
Brazilian.M 1EX.POSS arm 3PL.S pull AUX+F 1EX.POSS-DECL+F
'The Brazilians arm-wrestled us.'

(136) ***Ee*** *kaa* *abi* *mee* *watamara* ***ere****ni.*
ee kaa abi mee wata-ma-ra ere-ni
1IN POSS father.M 3PL.S exist-BACK-NEG+F 1IN-BKG+F
'Our parents are not anymore.'

(137) is an example from Dixon's (2004:460) grammar, involving a complement clause.

(137) ***Otaa*** *kafowi* *yaboha* ***otaa****ke.*
otaa ka-fowa yabo otaa-ke
1EX.POSS COMIT-be.in.water.NFIN be.long+F 1EX.POSS-DECL+F
'We stayed stopped in the canoe a long time.'

Unexpected from the point of view of Dixon's analysis is the fact that possessor agreement is found in DCs when there is no overt tense-modal. In each of the following sentences, there is a postposed DC with no tense-modal that has possessor agreement. The dependent clause in the first is intransitive, in the second it is an A-construction, and in the third it is an O-construction.[37]

(138) [*Mee* *ame* *yoyowa* *towemetemone* *ahi,*]$_{MC}$
mee ame yo-yowa to-ha-hemete-mone ahi
3PL.POSS blood+F DUP-reach CH-AUX-FP.N+F-REP+F THEN

[***mee*** *namiti* *mawawa* *na* ***mati*** *haaro.*]$_{DC}$
mee namiti mawa-wa na mati haaro
3PL.POSS neck be.red-DUP AUX+F 3PL.DC THAT.ONE+F
'They were red like blood, their necks were red.'

(139) [*Sako* *owa* *mee* *yokoha*]$_{DC}$ [*okomine* *o*]$_{MC}$
sako owa mee yoko o-ka-ma-ne o-
fish.sp.M 1SG.O 3PL.S cause.misfortune+F 1SG.S-go/come-BACK-CONT+F 1SG.S-

[*onohowe* ***o****mano* *kabe* ***owa****.*]$_{DC}$
onohowe o-mano kaba owa
alligator.M 1SG.POSS-arm eat+M 1SG.DC
'I'm coming back because an alligator ate my arm, because of the *sako* fish (that I was holding).'

[37] Dixon (2004:112) states that possessor agreement is impossible in O-constructions. While it is true that clauses like this are very uncommon, they are quite grammatical. (h) is another example, a main clause. The pronominal *mee* in third position references the possessor of the object.

(h) ***Mee*** *kaa* *taokana* *mee* *hiwaremete* ***mee*** *awine?*
mee kaa taokana mee hi-awa-ra-hemete mee awine
3PL.POSS POSS shotgun.F 3PL.S OC-see-NEG-FP.N+F 3PL.POSS SEEM+F
'Didn't they see their guns?'

(140) [*Mee* *mee* *totowama* *na* *hiyaremetemoneheni,*]$_{MC}$
mee mee to-to-awa-ma na hi-to-ha-ra-hemete-mone-he-ni
3PL.O 3PL.S DUP-CH-see-BACK AUX OC-CH-AUX-NEG-FP.N+F-REP+F-DUP-BKG+F

[***mee*** *ati* *mee* *himita* ***mati.***]$_{DC}$
mee ati mee hi-mita mati
3PL.POSS voice 3PL.S OC-hear+F 3PL.DC
'They never again went back to see them, because they had heard them talking.'

In (138), the pronominal *mati* agrees with the possessor *mee* in *mee namiti* 'their necks', which is the subject NP of the postposed DC. In (139), *owa* agrees with the first person possessor in ***o****mano*, the object NP in the postposed DC. In (140), *mati* agrees with the *mee* which is the possessor in *mee ati*, which is the object NP in the postposed DC.

Possessor agreement is not as common in dependent clauses which are in the normal preposed position, because in this position the only pronominal which may occur in the third position is *mee*. In (141) there are four successive dependent clauses preceding the main clause, and in the second clause, the second *mee* agrees with the first *mee*, which in turn is the possessor in *mee hawi*, which is the object NP in the clause.

(141) [*Otaa* *wete* *nama,*]$_{DC}$ [***mee*** *hawi* *otaa* *totima*
otaa wete na-ma mee hawi otaa to-iti-ma
1EX.S return AUX-BACK+F 3PL.POSS trail+F 1EX.S AWAY-take-BACK+F

mee]$_{DC}$ [*hawi* *otaa* *siba* *na*]$_{DC}$ [*hawi* *otaa* *wasiha*]$_{DC}$
mee hawi otaa siba na hawi otaa wasi
3PL.DC trail.F 1EX.S search.for AUX+F trail.F 1EX.S find+F

[*faya* *otaa* *tokomakewaa* *otaake.*]$_{MC}$
faya otaa to-ka-makI-waha otaa-ke
SO 1EX.S AWAY-go/come-FOLLOWING-CHANGE+F 1EX.S-DECL+F
'We found their trail again; we looked for their trail; we found the trail; we went.'

This is a transitive (A-construction) clause, and *mee* refers to the possessor of the object. In (142), the clause illustrating this phenomenon is intransitive, so the *mee* at the end of the first clause refers to the possessor of the subject.

(142) [*Faya* ***mee*** *ii* *itiya* ***mee***]$_{DC}$
faya mee ihi iti mee
SO 3PL.POSS result.of+F kill+F 3PL.DC

[*yama* *yete* *nebona* *tokabise...*]$_{DC}$
yama yete na-hibona to-ka-bisa
thing.F hunt AUX-INT+M AWAY-go/come-ALSO+M
'They killed people. He had gone out hunting.'

The presence or absence of overt tense-modal suffixes in DCs has no effect on whether they may have possessor agreement. In (143) there are two postposed DCs, and there is possessor agreement in the first one, which has two tense suffixes, future *-haba* and IP.N *-ni*. The pronominal *owa* agrees with the possessor of *owati boti* 'my heart', the subject NP of the DC.

(143) [*Bai* *kasohimari* *amaka,* *kasiro* *yaa*,]$_{MC}$
bahi ka-sona-himari ama-ka kasiro yaa
thunder.M COMIT-fall-FP.E+M SEC-DECL+M a.lot.F ADJNCT

[***o**wati* *boti* *kamonimisabani* ***owa**,]$_{DC}$
o-ati boti kamoni-misa-haba-ni owa
1SG.POSS-voice inner.part be.empty-UP-FUT+F-IP.N+F 1SG.DC

[*owaariha*[38] *yama* *ahi* *ona* *owa.*]$_{DC}$
o-ohari yama ahi o-na owa
1SG.S-be.one+F thing.F work.on 1SG.S-AUX+F 1SG.DC
'There was a loud clap of thunder, and I felt really bad, because I was alone working.'

Dixon's generalization that a tense-modal or secondary verb is required for possessor agreement to be possible can be maintained if we accept the idea that there is covert IP.E tense in most DCs. This is what I propose. We might go even further, and say that the kind of gender agreement we have been discussing is the manifestation of covert IP.E tense in every context. We would then have to include main clauses that have a secondary verb, but this runs against the apparent prohibition against combining *awine/awa* with eyewitness tenses. I discuss this question further in section 7 below.

6. Interpretation of Tenses in Dependent Clauses

I have proposed an analysis of DCs according to which all DCs have a tense-modal category, either overt or covert, and I have identified the covert specification as IP.E. I will now consider the problem that this raises, since it means that DCs can have a tense specification that is different than the tense specification of the main clause. The problem can be seen clearly in one of the examples from the introduction (144).

(144) [*Faya* *otaa* *kama,*]$_{DC}$ [*kanawaa* *yaa* *otaa* *kibema,*]$_{DC}$
faya otaa ka-ma kanawaa yaa otaa kibI-ma
SO 1EX.S go/come-BACK+F canoe.F ADJNCT 1EX.S be.inside-BACK+F

[*otaa* *kisa**maro*** *otaake* *fahi.*]$_{MC}$
otaa ka-risa-hamaro otaa-ke fahi
1EX.S go/come-DOWN-FP.E+F 1EX.S-DECL+F THEN
'We came back; we got in the canoe, and came downstream.'

[38] The clause *owaariha* 'I was alone' is either a relative clause, or a preposed DC within a postposed DC. The relative clause analysis faces the difficulty that a relative clause with a first person singular subject is not expected from a cross-linguistic viewpoint.

If the two preposed DCs in this sentence have covert IP.E tense as I have proposed, how can this be, since the main clause has far past tense? The problem is even worse in an example such as this one which we have also seen above (145).

(145)

[*Mee*	*ame*	*yoyowa*	*towe**mete**mone*	*ahi,*]$_{MC}$
mee	ame	yo-yowa	to-ha-hemete-mone	ahi
3PL.POSS	blood+F	DUP-reach	CH-AUX-FP.N+F-REP+F	THEN

[*mee*	*namiti*	*mawawa*	*na*	*mati*	*haaro.*]$_{DC}$
mee	namiti	mawa-wa	na	mati	haaro
3PL.POSS	neck	be.red-DUP	AUX+F	3PL.DC	THAT.ONE+F

'They were red like blood, their necks were red.'

In this example the main clause has far past non-eyewitness tense, so if the postposed DC is analyzed as having covert IP.E tense, then the two tenses are different not only in time frame but also in the evidentiality value.

Dixon (2000, 2004) recognized that there are difficulties in the interpretation of tenses in DCs. He noted that, first of all, most DCs have no (overt) tense-modal. Secondly, by far the most common (overt) tense-modal is IP.N *-hani/-hino*. And finally, other tenses are quite rare in DCs.[39]

The main problem is to understand why IP.N is relatively common in DCs. (146), for example, presents the same problem as (145) above, only in the reverse, the main clause being eyewitness tense and the preposed DC non-eyewitness. Why are both the time frame and the evidential value of the preposed DC different from those of the tense-modal in the main clause?

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[39] Here I am not considering DCs that have other tense-modals besides one of the tenses. The intentional suffix, for example, is quite common in DCs, and its interpretation is unproblematic (i).

(i)

[*Hine*	*yoto*	*kanemetemoneke,*	*tofi*	*efe*	*yaa,*]$_{MC}$
hine	yoto	ka-na-hemete-mone-ke	tofi	efe	yaa
3REFL+F	cover	COMIT-AUX-FP.N+F-REP+F-DECL+F	epiphyte.sp.M	leaf+M	ADJNCT

[*awihinara**bonehe**.*]$_{DC}$
awa-hina-ra-habone-he
see-CAN-NEG-INT+F-DUP.DC
'She hid herself with tofi plant leaves, so she wouldn't be seen.'

It is also quite common to have the future suffix combined with IP.N in postposed DCs, as in (j) repeated from above.

(j)

[*Mee*	*towakemetemoneke,*]$_{MC}$
mee	to-ka-ka-hemete-mone-ke
3PL.S	AWAY-COMIT-go/come-FP.N+F-REP+F-DECL+F

[*hiyara*	*mee*	*kaminama**bani***	*mati.*]$_{DC}$
hiyara	mee	kamina-ma-haba-ni	mati
story.F	3PL.S	tell-BACK-FUT+F-IP.N+F	3PL.DC

'Two of them went out, and they later told the news when they came back.'

When IP.N is combined with the future suffix in this way, neither its time frame nor its evidentiality value are interpreted in the normal ways. As mentioned in section 2, this combination is used to communicate the idea of "future in the past". Note that no other past tenses combine with the future, only IP.N.

(146) [*Wero* *kisame**no***]$_{DC}$ [*kameirika.*]$_{MC}$
Wero ka-risa-ma-hino ka-ma-hiri-ka
(man's.name).M go/come-DOWN-BACK-IP.N+M go/come-BACK-RP.E+M-DECL+M
'Wero came down from the house and came.'

Dixon's (2004:468) proposal is that in DCs "in most circumstances, the six past tense choices are neutralized, and the IP.N form is used." Along with this, he maintains (p. 470) that "as in MCs, tense-modal specification is optional in DCs." I gather from this that he means that the DCs that have no overt tense-modal are like the "tenseless" main clauses above, such as (147) repeated from above.

(147) *Ofimi* *oke.*
o-fimi o-ke
1SG.S-be.hungry 1SG.S-DECL+F
'I'm hungry.'

But as we have seen above, there are fundamental differences between DCs and sentences like (147). The tense-modal category is really absent from sentences like (147), whereas the information from gender agreement and possessor agreement I have presented in the sections above indicates that DCs that have no overt tense-modal actually have covert IP.E tense. They are like the main clauses like (148), which as we have seen, Dixon does analyze as having covert IP.E tense.

(148) *Manakobisa* *otaa* *kama* *otaake* *fahi.*
manakobisa otaa ka-ma otaa-ke fahi
NEXT 1EX.S go/come-BACK+F 1EX.S-DECL+F THEN
'Then we came back.'

In order to analyze the six past tenses as being neutralized by the use of IP.N, Dixon proposes that IP.N has no evidentiality value when attached to a DC. I disagree. I have tried to show in my analysis of the postposed DCs in Dixon's three texts in section 3 above that there is non-eyewitness meaning when IP.N is used in DCs. I include further comments below on how IP.N is used in DCs. Dixon (2004:469) points to instances in which he claims that IP.N is used in eyewitness contexts in DCs, but I believe these actually do have non-eyewitness meaning. One of his examples is (149), in which the preposed DC has IP.N tense.

(149) [*Mee* *naow**ani***]$_{DC}$ [*mee* *otaa* *towasimaroke.*]$_{MC}$
mee naho-hani mee otaa to-wasi-ma-haro-ke
3PL.S stand-IP.N+F 3PL.O 1EX.S AWAY-find-BACK-RP.E+M
'They were standing when we met up with them.'

Dixon claims that the event of standing refers to something that was witnessed, and this is true in the sense that the speaker and his group saw the people standing when they met up with them. But there is a reason that IP.N is used, and that is that they were standing before they met up with them, and they didn't see them then or know they were standing. What the sentence

communicates is that the speaker and his group did not know they were going to meet up with the other group. (150), repeated from above, is an example similar to this.

(150) [*Mee* *tee* *awabanake,*]$_{MC}$
mee tee awa-habana-ke
3PL.O 2PL.S see-FUT+F-DECL+F

[*mee* *winatee**ani***[40] *mee* *owasiya* *mati.*]$_{DC}$
mee wina-tee-hani mee o-wasi mati
3PL.S live-HAB-IP.N+F 3PL.O 1SG.S-find+F 3PL.DC
'You will see them, the ones that are living there that I saw.'

In this example, too, the narrator saw that the people were living in that place when he met up with them, but IP.N is used because he didn't know before that moment that they were living there.

In my view, there are some special things about how IP.N is used in DCs, but it is not anything special about IP.N in particular. First, whereas the time frame of tense in main clauses is absolute, the time frame of tense in DCs is relative to the time of the main clause. This means that when IP is used in a main clause, it means the event is in the immediate past for the person speaking, or sometimes it applies to a situation that obtains at the time of speaking. But when IP is used in a DC, it means the event of the DC either happened a short time before the event of the main clause, or it was concurrent with it.

I do not propose, however, to go very far with this idea of relativity. If this were all that is involved, we might expect to find, for example, recent past tense in a DC with a main clause with far past, in a situation in which the main clause event happened a long time ago, and the event in the DC happened a year or two before this event; but there are no such examples, and I seriously doubt whether anything like this is possible.

It appears, rather, that Dixon was on the right track with the idea of neutralization, but that the neutralization includes not only IP.N but IP in general, i.e. IP.N and IP.E. I would like to advance the hypothesis that there is a constraint on what tenses may be used in DCs. Only IP.N and IP.E seem to be allowed in DCs. This is not necessarily a constraint on the tenses as such, but may instead be a constraint on the time frame of the events in DCs. That is, it may only be possible to use DCs for events that happened shortly before the event of the main clause, or concurrently with it.

This idea obviously cannot apply to postposed DCs, since we have seen several examples above of postposed DCs with a variety of tenses. I will come back to these below, but first I will focus on preposed DCs. In preposed DCs, it is quite possible that only IP.N and covert IP.E may be used. Consider an example we saw in section 3 above.

[40] The clause *mee winateeani* is to be analyzed either as a relative clause, or as a preposed DC embedded in a postposed DC. At this point I have no way of deciding which is the better analysis.

(151) [*Yamata* *mee* *koro* *hine**te*** *kawita* *tiwene* *ama*]$_{MC}$
yamata mee koro hi-na-hete ka-ita ti-awa-hene ama
food.F 3PL.O throw OC-AUX-RP.N+F COMIT-sit+F 2SG.S-see-IRR+F SEC

[*mee* *fawa* *nete* *mati.*]$_{DC}$
mee fawa na-hete mati
3PL.S disappear AUX-RP.N+F 3PL.DC
'You haven't seen the crops they planted that are there in the garden, the people who disappeared.'

The first verb in this sentence has recent past tense, and it looks like a preposed DC, but I did not label it as a DC because I believe it is a relative clause. It is not unambiguously a relative clause, and it could possibly be a preposed DC, but one way of looking at the structure of the sentence is to consider both *mee koro hinete* '(which) they planted' and *kawita* '(which) are in the garden' to be relative clauses modifying *yamata* 'crops', the object of the main clause.

Another example we have seen above (152) can be interpreted in the same way. In this sentence, *Teoso mee hinaweehete* '(which) God and Jesus put there' can be analyzed as a relative clause modifying *awa* 'tree', rather than the whole of *awa Teoso mee hinaweehete* being seen as a preposed DC.

(152) *Awa* *Teoso* *mee* *hinaweehete*
awa Teoso mee hi-na-waha-hete
tree.F God.M 3PL.S OC-AUX-CHANGE-RP.N+F

waharake *baikani* *yaa.*
waa-hara-ke baikani yaa
stand-IP.E+F-DECL+F middle.F ADJNCT
'There was a tree that God and Jesus put there, standing in the middle of the area.'

I also gave (153) as an example of a preposed DC with far past eyewitness tense, but it seems clear that this is a juxtaposed clause.

(153) *Kobaiba* *yaa* *otaa* *winibaahamaro*
Kobaiba yaa otaa wina-baha-hamaro
(village.name).F ADJNCT 1EX.S live-FIRST-FP.E+F

otaa *winawakiwahineke,* *waha.*
otaa wina-waha-kI-ne-ke waha
1EX.S live-CHANGE-COMING-CONT+F-DECL+F NOW
'Initially we lived at Kobaiba, but now we live here.'

In short, the evidence so far can be interpreted either way, but there is no unequivocal evidence of other tenses besides IP.N and covert IP.E in preposed DCs. But unequivocal evidence is possible. If a preposed DC that ends with *mee* were found that had a tense other than IP.N or

covert IP.E, this would be unequivocal counter-evidence to my hypothesis. A clause that ends with *mee* cannot be analyzed as a relative clause or a juxtaposed clause.

I will go a little further with this hypothesis, and propose that no other tense-modals (i.e. not just no other tenses) are possible in preposed DCs, besides IP.N and covert IP.E. The reasoning is the same as above: whenever a tense-modal other than IP.N and covert IP.E occurs in a clause that looks like a preposed DC, then this clause is to be analyzed as some other kind of clause. As we have seen above, juxtaposed clauses often have the intentive suffix *-habone/-hibona*. This same suffix is characteristic of another kind of preposed subordinate clause, the purpose clause. In (154) below, *mee mee mowa nabone* 'to fight against them' is a purpose clause.

(154) [*Yima* *mee* *ihi* *iiti* *toha* *mee,*]$_{DC}$
Yima mee ihi i-iti to-ha mee
Yima.M 3PL.POSS result.of+F DUP-kill CH-AUX+F 3PL.DC

[*mee* *mee* *mowa* *nabone*
mee mee mowa na-habone
3PL.O 3PL.S fight.against AUX-INT+F

awani *mee* *wati* *kawahematamonaka.*]$_{MC}$
awani mee wati ka-na-waha-himata-mona-ka
wasp.M 3PL.O go.after COMIT-AUX-CHANGE-FP.N+M-REP+M-DECL+M
'In order to fight against them, he went after the wasps.'

Like juxtaposed clauses and relative clauses, purpose clauses do not have a third pronominal position (i.e. they cannot end with *mee*). Also, like juxtaposed clauses and relative clauses, and unlike preposed DCs, purpose clauses typically have no pause separating them from the main clause.

Comrie (1985:102f) dedicates a section of his book on tense to the neutralization of tenses. He gives a very interesting example from Bahinemo, a language of the Sepik Hill family of Papua New Guinea (155).

(155) Nem na ya-tagiya-m, du-qui-yasinu,
we sago EAT-satisfy-REMOTE.PAST NEUTRAL-REPEAT-get.up.PRESENT

de-tenowa-u niba la-hina-fanel,
NEUTRAL-ascend-PRESENT ridge IMMEDIATE-UPSTREAM-arrive.PRESENT

idu du-wei
to.right NEUTRAL-walk.along.ridge.PRESENT
'After we ate sago until we were satisfied, we got up again, we ascended, immediately we went up the stream bed and arrived at the ridge, we walked along the ridge to the right.'

The sentence consists of five clauses, and whereas the first clause has remote past tense, the following four clauses have present tense. Only the tense of the first clause indicates its time frame in relation to the narration; each of the following four clauses has present tense, even

though they do not refer to events that are present for the narrator. They refer to events that occurred soon after the event of the first clause, with each one occurring soon after the previous one.

Bahinemo looks like a mirror image of Jarawara, with the main clause at the beginning of the sentence, and the dependent clauses following it. But according to Longacre (1972: 47), the original source of this example, it is the first clause that is dependent, and the following clauses are independent. Before I knew this, Bahinemo looked like a consecutive-chaining language to me, but according to Longacre (p. 42), Bahinemo is not a chaining language.[41]

Longacre's discussion of this example (p. 47ff) is worth quoting in full:

> …in Bahinemo sentence and paragraph are collapsed into the one hierarchical level. We can speak therefore of the first base of the paragraph, which could be called the paragraph Setting. Here and only here occurs the dependent verb. All other verbs in the paragraph are independent. However, the dependent verb in the Setting of the paragraph is the only verb which marks real time in relation to the real world situation. In that the dependent verb encodes a back-reference to the previous paragraph, the time of the new paragraph is established as just after that of the paragraph Setting. The independent verbs which occur in the balance of the paragraph mark tense which is relative to the time indicated in this oblique fashion by the dependent verb. Thus, a present tense in an independent verb later on in the paragraph indicates time concurrent with that established in the paragraph Setting. A past tense in an independent clause later on in the paragraph indicates time prior to that of the paragraph Setting, while a future tense in an independent verb later on in the paragraph indicates time that is future relative to that of the paragraph Setting. We have here a strange situation in which what is grammatically dependent is lexically dominant and what is grammatically independent is lexically dependent.

Thus, the function of the present tense in Bahinemo independent clauses is similar to that of IP tense in Jarawara DCs. Just as present tense in these Bahinemo clauses indicates that the events occurred in the same time frame as the event of the initial clause, in Jarawara IP tense in DCs indicates that the events occurred concurrently with the event of the main clause, or shortly before it.

Coming back to postposed DCs, the situation with them is somewhat different than that of preposed DCs. As we have seen, there are formal features that distinguish preposed DCs from other kinds of finite subordinate clauses such as relative clauses and juxtaposed clauses, i.e. the existence or not of the third pronominal position, and whether or not there is a pause between the preposed clause and a following clause. But these kinds of formal distinctions do not exist when it comes to postposed DCs. It may be possible to distinguish postposed DCs from postposed relative clauses and postposed juxtaposed clauses, and semantically it is no doubt possible to do so; but the only possible formal criterion would be the presence or not of a tense-modal other than IP. The idea in this case would be that if a postposed finite clause has a tense-modal other than IP, then it must not be a postposed DC. And if it has IP, then it could be a postposed DC or another kind of clause, depending on the semantics. (Other as yet undiscovered formal criteria are possible, of course.)

For example, it may be possible to analyze the postposed DC in (156) as a relative clause, but the only reason to do so is the meaning, and the fact that it has recent past tense.

[41] My thanks to Wayne Dye and Robert Longacre for personal communications clarifying the analysis of Bahinemo.

(156) [*Ifa* *amake* *haaro,*]$_{MC}$ [*owasiharoho.*]$_{DC}$
ifa ama-ke haaro o-wasi-haro-ho
THIS+F be-DECL+F THAT.ONE+F 1SG.S-find-RP.E+F-DUP.DC
'It's this (harpoon cord) here that I found.'

Alternatively, one might want to simply say that postposed finite clauses are not divisible into various types as preposed finite clauses are, and therefore that a postposed DC is not just a postposed version of a preposed DC. At this point I am leaning toward the first alternative, but this other alternative has its appeal, too.

If we assume that any finite subordinate clause that has a tense-modal other than IP is to be classified as some other clause type other than a DC, then the next question is, how are tense-modals interpreted in these clauses, relatively or absolutely? As we have seen, IP in DCs is to be interpreted relative to the tense of the main clause. Is this true also of other tense-modals in the other kinds of finite subordinate clauses, such as relative clauses and juxtaposed clauses?

The examples we have seen so far in this discussion are ambiguous. In (153) and (156) above, the main clause does not have tense, and in (152) the main clause has IP.E tense, making the time frame of the main clause the present in all three cases, so it is not possible to tell whether the tense of the subordinate clause is interpreted relative to the tense of the main clause or not. Other data make it clear, though, that when a relative clause or a juxtaposed clause has IP tense, it is indeed interpreted relative to the tense of the main clause. We may cite (157) and (158), both repeated from above, in this connection.

(157) [*Fati* *kakatorarawe*]$_{DC}$
fati kakatora-rawa
3SG.POSS.wife.F lie.in.hammock.with-F.PL+M

[*winera* *haa* *nematamonane.*]$_{MC}$
wina-ra haa na-himata-mona-ne
lie+M-O call AUX-FP.N+M-REP+M-BKG+M
'He called him as he lay in the hammock with his wives.'

(158) [*Faya* *okoma*]$_{DC}$
faya o-to-ka-ma
SO 1SG.S-AWAY-go/come-BACK+F

[*yama* *moni* *omita* *moni* *watararoke.*]$_{MC}$
yama moni o-mita moni wata-ra-haro-ke
thing.F sound 1SG.S-hear+F sound exist-NEG-RP.E+F-DECL+F
'I went and listened for the sound, but there was no sound.'

In (157), *wine* is a relative clause, with covert IP.E. The event of lying in the hammock, though, is not in the immediate past with respect to the speaker's time. The man in the story was lying in his hammock when the other man called him, and both events were in the far past with respect to the speaker's time. But only the verb of the main clause has far past tense. Similarly,

in (158) the tense in the juxtaposed clause verb *omita* is covert IP.E, but the time of the event is the same as the time of the main clause, i.e. recent past.

Another context that might be brought to bear on this question is when the future in combination with IP.N tense is used in postposed DCs (or however we might want to label these clauses). In (159), for example, repeated from above, the event in the postposed clause is future relative to the time frame of the main clause, but it is clearly past relative to the time of the narration of the story.

(159) [*Mee towakemetemoneke,*]$_{MC}$
mee to-ka-ka-hemete-mone-ke
3PL.S AWAY-COMIT-go/come-FP.N+F-REP+F-DECL+F

[*hiyara mee kaminama**bani*** *mati.*]$_{DC}$
hiyara mee kamina-ma-haba-ni mati
story.F 3PL.S tell-BACK-FUT+F-IP.N+F 3PL.DC
'Two of them went out, and they later told the news when they came back.'

So, on the whole it looks as though the tense of a finite subordinate clause is to be interpreted relative to the time frame of the main clause, whether or not the clause is a DC or some other kind of finite subordinate clause, and whether the tense of the subordinate clause is IP or some other tense.

More research is needed on this topic, though, because there is at least one kind of finite subordinate clause in which something else is going on. In indirect quotes, the subordinate clause typically has the reportive tense-modal *-hamone/-himona*, and it sometimes occurs that both the subordinate clause and the main clause have a non-IP tense, as in (160).

(160) [*Tafi kobo tonamaki awe,*]$_{DC}$
Tafi kobo to-na-makI awa
(man's.name).M arrive AWAY-AUX-FOLLOWING+M see+M

[*rabikamatasateemona mee hineri amaka.*]$_{MC}$
rabika-ma-tasa-tee-himona mee ati hi-na-hiri ama-ka
get.bad-BACK-AGAIN-RP.N-REP+M 3PL.S say OC-AUX-RP.E+M SEC-DECL+M
'When Tafi arrived and he saw him, they said later that he got bad again.'

In this sentence, both the main verb (*mee hine**ri** amaka*) and the subordinate clause immediately preceding it (*rabikamatasa**tee**mona*) have recent past tense, with the tense of the main clause being eyewitness, and that of the subordinate clause non-eyewitness.

Apparently what is going on is that the tense in the subordinate clause indicates that that event, the event of Tafi's father getting worse, occurred at a different time than the event in the main clause, which is the event of telling.[42] What suggests this is the contrast with other sentences such as the following (161).

[42] The tense in the subordinate clause is relative in that it means that the event occurred before the event of the main clause, but it is not relative in the sense of specifying a time frame a year or two before the time frame of the main clause. It just means before, but does not specify how long before.

(161) *Manakobisa mee ati hiyara mee ati ihi*
manakobisa mee ati hiya-ra mee ati ihi
THEN 3PL.POSS voice be.bad-NEG+F 3PL.POSS voice BECAUSE.OF+F

tokometo mata onabone, tokometo mee nofarihi namone
tokometo mata o-na-habone tokometo mee nofa-rihi na-hamone
document.F send 1SG.S-AUX-INT+F document.F 3PL.S want-NEG.LIST AUX-REP+F

mee ati naro mee amake.
mee ati na-haro mee ama-ke
3PL.S say AUX-RP.E+F 3PL.S SEC-DECL+F
'They said no. I was going to send the document because they had said to, but now they said that I shouldn't send the document.'

In this example, the main verb (*mee ati na**ro** mee amake*) has recent past eyewitness tense, but the subordinate clause (*mee nofarihi namone*) has no overt tense. This seems to be because the event in the subordinate clause, the event of the people not wanting the document, occurred at the same time as their telling it. As interesting as these data are, I will not take any more time to discuss them here, since they involve neither covert tense nor DCs, the topics of this paper; I am currently engaged in research on indirect quotes, and will report on this research in another paper (Vogel In preparation).

In summary, according to my view there are several parts of the explanation for Dixon's (2004:470) observation that it is uncommon for there to be any other past tense in DCs except for IP.N. The first part is that there actually is (I have proposed) covert IP.E tense in most DCs. Another part of the explanation is that no other tense besides IP (including IP.N and covert IP.E) is allowed in DCs. Along with this, the time frame of the DC is interpreted relative to the time of the main clause. When subordinate clauses that look like DCs have other tenses, it is because they are either relative clauses or juxtaposed clauses.

But it is not only the time frame of DCs that is interpreted relative to the main clause. The evidentiality value of DCs, too, is interpreted relative to the main clause. For main clauses, the evidentiality is calculated from the point of view of the speaker, as expected. If the speaker saw what happened, an eyewitness tense is used, but if the speaker didn't see what happened, then a non-eyewitness tense is used. But the point of view from which the evidentiality is calculated in a DC depends on whether the speaker/narrator was an eyewitness to the events of the story or not. Compare, for example, (162), repeated from above, with (163). Both sentences consist of a main clause and a postposed DC.

(162) [*...otaa naoriya**hamaro** otaake,*]$_{MC}$
otaa naho-rI-hamaro otaa-ke
1EX.S stand-RAISED.SURFACE-FP.E+F 1EX.S-DECL+F

[*yama otaa kamita otaa.*]$_{DC}$
yama otaa ka-mita otaa
thing.F 1EX.S COMIT-hear+F 1EX.DC
'We stayed in the house, listening.'

(163) [*Haahaa* ***tee****monaka,*]$_{MC}$ [*Isaki haahaa kanahaari.*]$_{DC}$
haahaa na-tee-himona-ka Isaki haahaa ka-na-haari
laugh AUX-IP.N-REP+M Izac.M laugh COMIT-AUX-IP.E+M
'He (the dog) laughed, being happy to Izac.'

The postposed DCs both have IP.E tense as I have defined it. But in the respective main clauses, there is a contrast in evidentiality values. The tense of the main clause in (162) is eyewitness (FP.E), whereas that of the main clause in (163) is non-eyewitness (RP.N). This difference affects how the eyewitness tense of the postposed DC clause is interpreted in each case. For (162) it means that the narrator saw the people that were listening, because he was there. But for (163) it does *not* mean that the narrator saw the dog being happy toward Izac, because the narrator was not there. The fact that he was not there is encoded in the non-eyewitness tense of the main clause. The reason the DC is eyewitness is because Izac, the character in the story, was present with the dog and he saw it. So the evidentiality value of the main clause in each case is determined from the point of view of the narrator, but the evidentiality value of the DC is determined from the point of view of someone in the story.

The next two examples are similar. Both examples have a preposed DC with IP.N tense, and both have a main clause with an eyewitness tense (IP in (164), and far past in (165), repeated from above). Again, the evidentiality values of the respective main clauses are different, and this has consequences for how the IP.N tense in the respective DCs is interpreted.

(164) [*Amo ona****ni***]$_{DC}$
amo o-na-hani
sleep 1SG.S-AUX-IP.N+F

[*yomee habo ni owa natafiy****are*** *oke.*]$_{MC}$
yomee habo na owa na-tafi-hare o-ke
dog.M bark AUX.NFIN 1SG.O CAUS-wake.up-IP.E+M 1SG.O-DECL+F
'I was sleeping, and the dog's barking woke me up.'

(165) [*Yomee towake,*]$_{DC}$
yomee to-ka-ka
dog.M AWAY-COMIT-go/come+M

[*yomee bani mee mee hikiyowa mee,*]$_{DC}$
yomee bani mee mee hi-kiyo mee
dog.M animal.M 3PL.O 3PL.S OC-chase+F 3PL.DC

[*nokobiri maka itariya****ni***]$_{DC}$ [*wai hine****imata****monaka.*]$_{MC}$
nokobi-ri maka ita-rI-hani wai hi-na-himata-mona-ka
door-PN snake.F sit-RAISED.SURFACE-IP.N+F bite OC-AUX-FP.N+M-REP+M-DECL+M
'He went out with his dog. The dogs chased after some animals. A snake was sitting at the entrance to the hole, and it bit him (the dog).'

In neither case did the narrator see what happened in the preposed DC. He did not see himself sleeping (164), nor did he see the snake at the entrance to the hole (165). But the reason

IP.N is used in (165) is not because the narrator didn't see the snake, it is because the man in the story didn't see the snake. As in the first pair of examples, the evidentiality value of the main clause in each case is determined from the point of view of the narrator, eyewitness in (164) and non-eyewitness in (165). But the evidentiality value of the DC is determined from the point of view of someone in the story.

One of the consequences of this is that in a single text, the point of reference for IP.N in DCs may change while the point of reference for main clauses stays the same. This is because the tense of the main clauses will be determined from the point of view of the narrator, whereas the evidentiality value of DCs may be determined from the point of view of more than one character in the story. The following two passages are from a traditional story about a man who married successively four sisters, in order to kill them and eat them. He succeeded in killing and eating the oldest two, one at a time, and then went back for the younger two, and brought them back to his village. When they didn't see their sisters, they looked around, and found their skulls. They ran home, and he was left without anyone to process his manioc or to be his meat.

The putative events occurred long before the narrator was born, so the far past non-eyewitness tense is used in the main clauses of the story. There is an interesting contrast, however, in how IP.N is interpreted in DCs of two sentences of the story. The first sentence (166) occurs early in the story, when the man is going to kill one of his brides. There is a preposed DC that can be translated 'he was planning against her,' which has IP.N because the woman did not know he was going to kill her.

(166)

[*Wati*	*hikana**ni**,*]$_{DC}$	[*amo*	*na*]$_{DC}$
wati	hi-ka-na-hani	amo	na
plan_against	OC-COMIT-AUX-IP.E+F	sleep	AUX+F

[*amo*	*ni*	*tati*	*baa*	*hiremetemoneke,*]$_{DC}$
amo	na	tati	baa	hi-ra-hemete-mone-ke
sleep	AUX.NFIN	head	hit	OC-NEG-FP.N+F-REP+F-DECL+F

[*amo*	*naaro*	*ahi,*]$_{DC}$	*yama*	*wee*	*kamaki*	*yaa.*
amo	na-haaro	ahi	yama	wehe	ka-makI	yaa
sleep	AUX-IP.E+F	THEN	thing.F	light+F	go/come-FOLLOWING	ADJNCT

'He was planning against her. She was sleeping. While she was sleeping, he hit her on the head, at dawn.'

The second example (167) occurs after the younger sisters go home. It is a long preposed DC, the first two clauses of which constitute a relative clause. The verb *towakamani* 'they went away' has IP.N tense, because the man did not see the two women leaving the village (he was out in the garden cutting firewood).

(167) [*oko* *bani* *mee* *okobabone* *mee* *ona*
o-kaa bani mee o-kaba-habone mee ati o-na
1SG.POSS-POSS animal.M 3PL.O 1SG.S-eat-INT+F 3PL.O say 1SG.S-AUX+F

mee *towakama**ni*** *mee*]$_{DC}$
mee to-ka-ka-ma-hani mee
3PL.S AWAY-COMIT-go/come-IP.N+F 3PL.S
'My two animals that I intended to eat went away.'

We see thus that IP.N in these DCs is interpreted from the point of view of two different characters in the story: in (166) the point of view is that of one of the brides, and in (167) the point of view is that of the husband. The point of view for interpreting the tense of the main clauses does not change throughout the story, it is always the narrator.[43] It is also worth noting that most of the DCs in this text are IP.E as I have defined it, for example the preposed DC *amo na* and the postposed DC *amo naaro* in (166) above. Here the evidentiality of the DCs is determined by one of the characters, the man, who saw the woman sleeping. So in this single sentence, the standpoint of not only the narrator but also two different characters of the story come into play in determining the evidentiality value of the tenses.

There are indications that evidentiality in other kinds of finite subordinate clauses is interpreted in this same way, although the evidence I have seen for this is incomplete. For relative clauses, at least, the situation is clear. In (168), the relative clause *foreino* 'lying' has non-eyewitness tense, and this is not because the narrator didn't see Baka (it is a traditional story, so the narrator didn't see any of the events), but because the people in the story came upon Baka unexpectedly. Contrast the preposed DC preceding the main clause, which has covert IP.E tense, since the people saw themselves going upstream.

(168) […*mee* *towakatimamakiya* *mee*,]$_{DC}$
mee to-ka-ka-tima-makI mee
3PL.S AWAY-COMIT- go/come-UPSTREAM-FOLLOWING+F 3PL.S

[*Baka* *fore**ino*** *mee* *towasimakiyemetemonehe.*]$_{MC}$
Baka forI-hino mee to-wasi-makI-hemete-mone
(man's.name).M lie.on.top-IP.N+M 3PL.S AWAY-find-FOLLOWING-FP.N+F-REP+F
'They went upstream, and came upon Baka lying.'

There are thus two principles involved for interpreting tenses in DCs, one for time and the other for evidentiality. The two principles are somewhat analagous, since both say in effect that the interpretation of the tense in the DC depends on the nature of the tense in the main clause. Whereas the time frame of the tense of a main clause is absolute, since it is in relation to the speaker's time, the time frame of a DC is relative to the time of the main clause it is attached to. The evidentiality value of the tense of a main clause is calculated in relation to the speaker, but the evidentiality value of the tense of a DC is calculated in relation to someone in the story. If the speaker is an eyewitness, he or she will be the "one in the story". But if the speaker is not an

[43] Naturally, this statement only applies to the narrative portions of the text. In direct quotations contained in dialogue portions, the point of view is each speaker.

eyewitness, the evidentiality value of the tense of a DC will be calculated in relation to someone else, not the speaker.

7. Secondary Verbs

In this final section I come back to the analysis of the secondary verbs *ama* and *awine/awa*. These present a certain difficulty for the proposal I have made here concerning covert IP.E tense. I have proposed that covert IP.E tense is associated with a certain kind of gender agreement at the end of the verb stem. This gender agreement occurs in the main clauses with no overt tense-modal which Dixon analyzed as having IP.E tense. It also occurs in DCs that have no overt tense-modal. I have analyzed these DCs as having IP.E tense, and this is supported by evidence from possessor agreement. Besides these two contexts, there is one other context in which this kind of gender agreement is found, and that is in main clauses with a secondary verb that do not have an (overt) tense-modal. These clauses also occur with overt tense-modals, and possessor agreement is found in these as well. Does this mean that main clauses with a secondary verb that do not have an overt tense-modal should be analyzed as having covert IP.E tense, like the other two contexts?

In the case of *ama*, there is actually no problem in analyzing sentences that have no tense-modal like (169), repeated from above, as having covert IP.E tense.

(169) *Bita* *mee* *tama* *mee* ***ama****ke,*
bita mee tama mee ama-ke
mosquito.M 3PL.S be.many+F 3PL.S SEC-DECL+F

baha, faa sai yaa.
baha faha sai yaa
BEFORE water.F empty ADJNCT
'There were many mosquitoes when the waters were receding.'

This can be contrasted with a sentence like (170), which has IP.N and clear non-eyewitness meaning. In the context of the story, the man speaking had not seen the one he was speaking to turn into an animal.

(170) *Tihiya****ni*** ***ama*** *tini.*
ti-hiya-hani ama ti-ni
2SG.S-be.bad-IP.N+F SEC 2SG.S-BKG+F
'You turned into an animal.'

But *awine/awa* is more problematic. When *ama* co-occurs with an overt tense suffix, this may be either eyewitness or non-eyewitness. For example, the tense in (171) is non-eyewitness (FPn), whereas that in (172) is eyewitness (RP.E).

(171) *Faya* *mee* *yahawee****hemete*** *mee* *amake.*
faya mee yaha-waha-hemete mee ama-ke
SO 3PL.S be.gentle-CHANGE-FP.N+F 3PL.S SEC-DECL+F
'Then they weren't wild anymore.'

(172) *Waha* *nima* *ona**haro*** *ama* *oke.*
waha na-nima o-na-haro ama o-ke
fall AUX-ABOUT.TO 1SG.S-AUX-RP.E+F SEC 1SG.S-DECL+F
'I almost fell from the tree.'

But when *awine/awa* co-occurs with overt tense suffix, it is always non-eyewitness. In section 4 above, we saw examples of *awine/awa* with IP.N, RP.N, and FP.N, but there are no occurrences with RP.E or RP.E. If, as is appears, there is a rule against *awine/awa* occurring with eyewitness tenses, then how could any clause with *awine/awa* be analyzed as having covert IP.E tense?

On the other hand, as we have seen, *awine/awa* (like *ama*) can co-occur with IP.N tense, as in (173) and (174).

(173) *Owa* *aware**no*** ***awa**ne.*
owa awa-ra-hino awa-ne
1SG.O see-NEG-IP.N+M SEEM+M-BKG+M
'I guess he didn't see me.'

(174) *Barako* *taa* *hina**ni*** ***awine**ke.*
Barako taa hi-na-hani awine-ke
Branco.M give OC-AUX-IP.N+F SEEM+F-DECL+F
'Branco gave it (to Okomobi).'

So what does it mean, when *awine/awa* occurs without any overt tense-modal at all, as in (175) and (176)?

(175) [*Baro* *hina*[44]]$_{DC}$ *Aaba* ***awine**ke.*
baro hi-na ahaba awine-ke
hit OC-AUX+F die+F SEEM+F-DECL+F
'He hit her. "I think she's dead."'

(176) [*Faa* *watara*]$_{DC}$ *Faa* *fawa* *na* ***awine**ni.*
faha wata-ra faha fawa na awine-ni
water.F exist-NEG+F water.F disappear AUX+F SEEM+F-BKG+F
'There was no water. "The stream seems to have disappeared."'

This appears to be a subtle matter, and I do not claim to fully understand it. It would be nice if there were a pair unelicited sentences in my data, both with *awine/awa*, with the only difference being that one has IP.N and the other has no tense-modal, but I do not have such a pair. There are, however, plenty of occurrences of *awine/awa* both with IP.N and without any overt tense. I went through my data and collected several dozen examples, and tried to elicit the the corresponding sentences with a Jarawara speaker. That is, for sentences that had *awine* or *awa*

[44] It is very common for a preposed DC to lead into a direct quote, as in this example and the following one.

with IP.N, I tried to elicit the same sentence with no tense, and for sentences that had *awine* or *awa* with no tense, I tried to elicit the same sentence with IP.N.

In most cases the speaker said the sentence would be all right, and would have the same meaning. For example, when I asked if it would be all right to say (173) above without *-hino*, i.e. *owa aware awane*, the speaker repeated the sentence and said it would have the same meaning. Similarly, when I asked whether (121) could be said with *-hani*, i.e. *mee kamakiya**ni** mee awineke*, the speaker likewise said that the sentence would have the same meaning.

There were, however, just a few cases which pointed to a clear eyewitness/non-eyewitness contrast. For example, one time I heard a man crying loudly in the darkness, and when I asked someone what he was crying about, (177) was the person's answer. When I now asked whether this could be said with *-hino*, i.e. *Kofeno mati wati nawaheno awaka*, the speaker said yes, but that would mean the original speaker had not heard Kofeno crying. In the original context, everyone including the speaker had heard Kofeno crying.

(177)	*Kofeno*	*mati*	*wati*	*nawahe*	*awaka.*
	Kofeno	mati	wati	na-waha	awa-ka
	(man's.name).M	3SG.POSS.mother.F	remember	AUX-CHANGE+M	SEEM+M-DECL+M
	'Kofeno remembered his (deceased) mother.'				

Another particularly illuminating example was (178). When I asked if this sentence could be said with *-hino*, the speaker said yes, but that would have a different meaning. It would mean you were saying that Yima Owiya had done something bad, i.e. 'It must have been Yima Owiya (who did it).' While there is a time frame change from one utterance to the other, from present to past, it is also clear that adding *-hino* adds non-eyewitness evidentiality, since the person who said such a sentence could not have seen Yima Owiya doing the bad thing in question.

(178)	*Yima Owiya*	*tohe*	*awaka.*
	Yima Owiya	to-ha	awa-ka
	(man's.name).M	CH-be+M	SEEM+M-DECL+M
	'I guess that's his name, Yima Owiya.'		

In a good number of other cases, when I asked what the effect would be if IP.N were added to a sentence with *awine/awa*, the speaker said that this would mean that the event in question happened yesterday rather than today. For example, I was informed that adding *-hani* to (179), i.e. *farina kaahani awine?* would change the translation to, 'Was the manioc meal ready yesterday?' And adding *-hino* to (180), i.e. *Haimoto tokomeno awa?* would change the meaning to, 'Did Haimoto go yesterday?'

(179)	*Farina*	*kaa*	*awine?*
	farina	kaha	awine
	manioc.meal.F	be.toasted+F	SEEM+F
	'Is the manioc meal ready?'		

(180) *Haimoto* *tokome* *awa?*
Haimoto to-ka-ma awa
(man's.name).M AWAY-go/come-BACK+M SEEM+M
'Has Haimoto gone?'

The first set of data above give some support to the idea that there is covert IP.E tense in sentences with *awine/awa* that have no overt tense-modal, but this second set suggest that in some cases, at least, these sentences may have a different time frame than the sentences with IP.N, i.e. a present or more immediate past. It could be that these two are not necessarily incompatible. However, there is one piece of unelicited data that casts doubt on the idea that there is eyewitness evidentiality involved in these kinds of sentences (181).

(181) [*Okoto* *maa* *towa* *awineni,*]$_{MC}$
okoto maa to-ha awine-ni
my.daughter.F be.tired CH-AUX+F SEEM+F-BKG+F

[*fowa* *hiti* *naaro.*]$_{DC}$
fowa hiti na -haaro
manioc.M rub AUX-IP.E+F
"'I guess my daughter is tired, because she is grating manioc.'"

This sentence is from the same traditional story as (166) and (167) above. After killing and eating his first wife, the man went back to her family's village to ask for her younger sister. (181) is what the girls' mother said to him, after he asked for the sister. The main clause, which has *awine* and no overt tense-modal, cannot have eyewitness meaning, because the mother did not see her daughter in the other village. Furthermore, the eyewitness evidentiality of the postposed DC suggests that the main clause is in fact non-eyewitness, according to the interpretation rule proposed above. The reasoning goes like this. If the main clause is eyewitness, then the verb in the DC should have non-eyewitness evidentiality, since the event in the DC was not witnessed by the narrator (the speaker in this case, since it is quoted speech). But the DC has eyewitness evidentiality, so this must mean that the main clause has non-eyewitness evidentiality. When the main clause has non-eyewitness evidentiality, the evidentiality of a DC is calculated from someone else's point of view, not the narrator's. In this case, the DC is eyewitness because its evidentiality value is determined not by the narrator/speaker, who is the mother, but from someone else's point of view, either the man's or the older daughter's.

Thus, most of the evidence so far suggests that when a main clause with *awine/awa* has no overt tense-modal, this should be interpreted as indicating a time frame that is present or more immediate past, compared to the time frame if IP.N were present. It probably is still possible to say that such sentences have covert tense, as indicated by the gender agreement pattern, but it seems that this tense cannot be identified with IP.E, since most of the evidence is against there being eyewitness evidentiality in these sentences. So it is probably not necessary to refer to secondary verbs in generalizing about possessor agreement, but more research is necessary to determine the nature of the covert tense in sentences with *awine/awa*. Furthermore, it seems that it is not possible to make the simple generalization that the gender agreement pattern I have described may always be identified with IP.E tense.

8. Summary

In this paper, I have started with Dixon's observation that IP.E tense is present in some main clauses in Jarawara that do not contain the IP.E morpheme, and I have called this "covert IP.E tense". Making use of Dixon's observation that possessor agreement is only possible when either a tense-modal or a secondary verb are present, I have shown that covert IP.E tense is not only present in main clauses; it is also present in dependent clauses, since possessor agreement is found in dependent clauses that have no tense morpheme, and secondary verbs are not allowed in dependent clauses. I have also shown that covert IP.E tense is associated with a particular type of gender agreement, and that in postposed dependent clauses, it has the allomorph *-haaro/-haari*.

If this conclusion is accepted, then it means that all dependent clauses have some tense-modal category, and that most of them have covert IP.E. On the basis of this and other data, I have argued that Dixon's idea that IP.N is the unmarked tense in dependent clauses should be broadened to say that immediate past (either eyewitness or non-eyewitness) is the only tense that dependent clauses may have. When recent past or far past occurs in what appear to be dependent clauses, these should be analyzed as relative clauses or juxtaposed clauses. I have further advanced the hypothesis that immediate past tense is the only tense-modal (not just the only tense) allowed in preposed dependent clauses, and possibly in postposed dependent clauses as well. Whether or not this generalization can apply to postposed dependent clauses will depend on whether postposed finite clauses can be divided into dependent clauses, juxtaposed clauses, relative clauses, and others the way preposed finite clauses can.

When a dependent clause has immediate past tense, the time frame must be interpreted relative to the time frame of the main clause to which it is attached; and this is true of relative clauses and juxtaposed clauses as well. The evidentiality value of a dependent clause also has a different frame of reference than that of the main clause to which it is attached. Whereas the evidentiality value of a main clause is interpreted in relation to the narrator, the evidentiality value of a dependent clause is interpreted with reference to someone in the story. This means that if the story is second-hand, then the evidentiality value of dependent clauses must be interpreted in relation to someone else besides the narrator.

I have proposed to narrow Dixon's generalization regarding possessor agreement, so that it does not have to refer to secondary verbs. The generalization I propose is that possessor agreement is possible only when there is a tense-modal present. This is based on the postulated existence first of all of covert immediate past eyewitness tense, and secondly of covert immediate past eyewitness tense in main clauses with a secondary verb. In the case of main clauses with the secondary verb *awine/awa*, the covert tense probably should not be characterized as eyewitness.

The Jarawara data on dependent clauses fits well with Longacre's (2007) characterization of medial-final chaining languages, with the preposed dependent clauses being medial clauses, and main clauses being final clauses. I have not tried to relate the Jarawara phenomena to generative grammar, but given the close relationship between functional heads and agreement posited in generative theories (for example, Chomsky and Lasnik (1995)), Jarawara shows interesting connections between tense and agreement in at least two ways. On the one hand there is a tense (immediate past eyewitness) that has a kind of agreement as one of its allomorphs, and on the other hand, another kind of agreement (possessor agreement) is only possible in clauses that have a tense-modal.

This research has helped to clarify some of the similarities and differences between finite subordinate clauses of various types (dependent clauses, juxtaposed clauses, relative clauses, and others), but further research is needed in this area, particularly on how other tenses besides immediate past work in the various kinds of finite subordinate clauses. Also, the question of how much correspondence there is between preposed and postposed finite subordinate clauses needs to be considered more carefully.

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