THE TENSE, MOOD AND ASPECT SYSTEM OF HAITIAN CREOLE AND THE PROBLEM OF TRANSMISSION OF GRAMMAR IN CREOLE GENESIS *

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Summary

It is often assumed that creolization involves a break in the transmission of grammar. On the basis of data drawn from the tense, mood, and aspect (TMA) system of Haitian creole, as compared with those of its source languages –French, the superstratum language, and Fongbe, one of the substratum languages–, this paper argues that creolization does not involve a break in transmission of grammar. The properties of the Haitian creole TMA system are shown to reflect in a systematic way those of its contributing languages: while the syntactic and the semantic properties of the TMA markers of the creole parallel those of Fongbe, one of the substratum languages of Haitian, the phonological forms of these markers appear to be derived from phonetic strings found in the superstratum language. This systematic division of properties is predicted by the hypothesis that relexification has played a major role in the formation of the creole. The fact that the lexical entries of the creole have phonological representations which are derived from phonetic strings found in the superstratum language is the visible signal that creolization involves the creation of a new language. The fact that the lexical entries of the creole show semantic and syntactic properties that parallel those of the languages of the substratum argues that there has been no break in the transmission of *grammar* in the formation of the creole.

0 . Introduction

It is often assumed that creolization involves a break in transmission. For example, Thomason & Kaufman (1991: 152) claim that creole languages "resulted from a sharp break in transmission" and that "they did not arise through any sort of direct transmission". In his outline of the Language Bioprogram Hypothesis (LBH), Bickerton (1984: 173) makes three related claims. First, he claims "that the innovative aspects of creole grammar are inventions on the part of the first generation of children who have a pidgin as their linguistic input, rather than features transmitted from preexisting languages." Second, he claims that "such inventions show a degree of similarity, across wide variations in linguistic background, that is too great to be attributed to chance." Finally, he claims that "the most cogent explanation of this similarity is that it derives from the structure of a species-specific program for language, genetically coded and expressed, in ways still largely mysterious, in the structures and modes of operation of the human brain."

Bickerton presents the tense, mood, and aspect system of creole languages as evidence supporting the LBH. He claims that creoles show a great deal of similarity in the way they encode tense, mood, and aspect: (a) in these languages, tense, mood, and aspect are encoded by preverbal markers; (b) the inventory of these markers, as well as their semantics, is very similar in all creoles; and (c) the combinations of these markers have meanings that are consistent across all the more radical creoles. These properties are outlined in Table 1, reproduced from Bickerton (1984: 183).

Table 1. *Tense, modality, and aspect in six creoles*

±A±I±N[a]	Saramaccan	Sranan	Haitian C	Guyanese C	Hawaiian C	Lesser Antilles C
−A−I−N	∅	∅	∅	∅	∅	∅
−A−I+N	ta	e	ap	a	stei	ka
−A+I−N	o	sa	av	sa/go	go	ke
−A+I+N	o-ta	sa-e	av-ap	−	go stei[b]	ke ka
+A−I−N	bi	ben	te	bin	bin/wen	te
+A−I+N	bi-ta	ben-e	t'ap	bina	bin stei[b]	te ka
+A+I−N	bi-o	ben-se	t'av	bin sa/go	(wuda)[c]	te ke
+A+I+N	bi-o-ta	ben-sa-e	t'av-ap	−	−	te ke ka

[a]A = anterior tense; I = irrealis modality; N = nonpunctual aspect. [b]Forms that are now extremely rare. [c]A form borrowed from English, not part of the original creole system. (Bickerton, 1984, p. 183)

According to the LBH, there is a species-specific built-in device, the Language Bioprogram, which provides the basis for a system of tense, mood, and aspect; this device is only activated when there is insufficient data in the linguistic input for the child to create a TMA system. Bickerton argues that this is the case for children in the multilingual communities where creoles are created. He considers this a break in the transmission of grammar, since, normally, the linguistic input is assumed to be sufficient to transmit the grammar. This species-specific built-in device accounts for the postulated similarity between the TMA systems of creole languages.

Bickerton's first claim rests on the demonstration that children, not adult speakers, created the TMA systems of creoles. I discuss data from Haitian, and argue that it had to be the adults who created the creole. The data further show, I argue, that there could not have been a break in the transmission of grammar.

For Bickerton's second claim to hold, it has to be demonstrated that the TMA systems of creoles are indeed alike in a way which sets them apart from other natural languages. There are three types of potential counter-examples to this claim: (i) a creole with a TMA system significantly different from those Bickerton describes; (ii) a non-creole

language that has a TMA system very similar to those Bickerton describes; and (iii) speakers of a creole language who do not have the TMA system supplied by the LBH. The TMA system of Tok Pisin, shown in (1) (= (24) in Sankoff, to appear) provides a counter-example of the first type. Two major differences between this system and those described by Bickerton are the existence of the predicate marker i, which can occur in several positions, and the fact that aspectual markers may occur both pre- and post-verbally.

$$
\begin{array}{cccccc}
(1) & \text{IRR} & \text{NEG} & \text{MODAL} & \text{ASP} & \text{ASP} \\[4pt]
& \text{bai (i)} & \text{no (i)} &
\left\{\begin{array}{l} \text{save} \\ \text{laik} \\ \text{ken} \\ \text{mas} \end{array}\right\} \text{(i)} &
\left\{\begin{array}{l} \text{go} \\ \text{kam} \\ \text{(stap)} \end{array}\right\} \text{(i) V ... (i)} &
\left\{\begin{array}{l} \text{go} \\ \text{kam} \\ \text{stap} \end{array}\right\}
\end{array}
$$

The LBH does not account for these data.

Kwa languages constitute counter-examples of the second type, since they have TMA systems which share the basic properties of those described above for radical creoles. The TMA system of Fongbe, a Kwa language spoken mainly in Benin, will be discussed in detail below. Under Bickerton's proposal, the Fongbe data would also have to be considered an instantiation of the Language Bioprogram. This is a major drawback to his theory.

Spears (1990: 127) provides a counter-example of the third type; he shows that there are Haitian speakers who have a TMA system that differs from Bickerton's classic one. For example, the speakers he studied have two future markers instead of one: *ap* "marking near futurity and/or certainty" and *a-va*, which encodes indefinite or potential future. In this paper, I present a detailed analysis of the Haitian TMA system. This system departs even more from Bickerton's classic system.

As for Bickerton's third claim, it is undermined if it can be demonstrated that, while the phonological representations of the tense, mood, and aspect markers are derived from phonetic strings of one language, their syntactic and semantic properties reflect in a
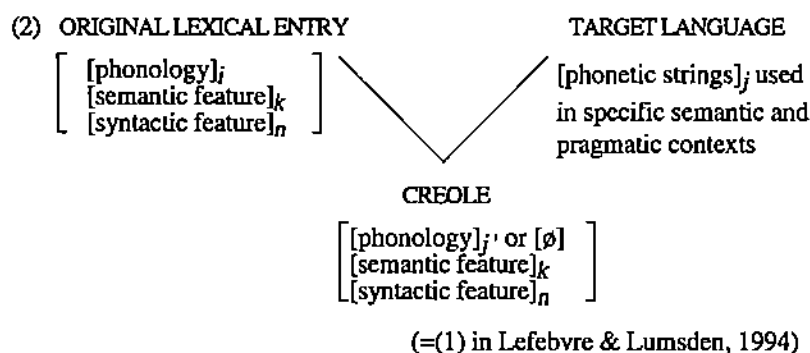
systematic way those of the other languages present at the time of the formation of the creole. This paper shows that, while the phonological representation of the TMA markers of Haitian are all derived from French phonetic matrices, the semantic properties of these markers parallel in a systematic way those of a dialect of Fongbe, one of the substratum languages of Haitian creole.

Bickerton (1984) has clearly stated a strong challenge that proponents of any substratum account of creole genesis must meet: (a) They must show point-for-point similarity between the grammar of the given creole and the grammar of some specific West African language, rather than some vague generalization across West African languages; (b) they must show that this West African language was at the right place at the right time to make plausible its role in the genesis of that creole. In this paper, I take up Bickerton's challenge from these two points of view. First, I argue that Fongbe speakers were in the right place at the right time. Second, I present independent analyses of the Haitian and the Fongbe TMA systems, based on original data that exhaust the inventory of both TMA systems. The two systems are then being compared in detail. On the basis of data pertaining to the TMA system of Haitian, I further argue that the genesis of the TMA systems of creole languages is best accounted for by the mental process of relexification. This process has been hypothesized to play a central role in the formation of creole languages (cf. Lefebvre, 1986, 1993a; Lefebvre & Lumsden, 1989, 1994). This paper argues that data involving the TMA system of Haitian do support the hypothesis that relexification has played a major role in the formation of Haitian creole.

Relexification (as defined in Lefebvre & Lumsden, 1994: 5) is a process that builds a new lexicon in two steps:

> first, by copying the lexical entries of a lexicon that is already established and second, by replacing the phonological representations in these copied lexical entries with phonological representations taken from the phonetic strings of a different language or with a phonologically null string.

The second step is referred to as relabelling. The choice of the pertinent phonetic strings in the superstratum language is based on their use in specific semantic and pragmatic contexts in such away that the semantics of the superstratum string must have something in common with the semantics of the substratum lexical entry that is being relabelled (see also Weinreich, 1953; Muysken, 1981). The process is illustrated in (2) (from Lefebvre & Lumsden, 1994).

(2) ORIGINAL LEXICAL ENTRY   TARGET LANGUAGE

$$\begin{bmatrix} [\text{phonology}]_i \\ [\text{semantic feature}]_k \\ [\text{syntactic feature}]_n \end{bmatrix}$$ [phonetic strings]$_j$ used
in specific semantic and
pragmatic contexts

CREOLE

$$\begin{bmatrix} [\text{phonology}]_{j'} \text{ or } [\text{ø}] \\ [\text{semantic feature}]_k \\ [\text{syntactic feature}]_n \end{bmatrix}$$

(=(1) in Lefebvre & Lumsden, 1994)

In the literature on creole languages, it has been observed that the agents of creole languages generally do not identify the functional category lexical entries of the superstratum languages (*cf.* e.g. Lefebvre, 1984; Carden & Stewart, 1988; Mufwene, 1991; Lefebvre & Lumsden, 1994; etc.). On the basis of this fact, Lefebvre & Lumsden (1994) hypothesize that the creators of creole languages relexify the functional category lexical entries of their native lexicons on the basis of phonetic forms of superstratum *lexical* category items. As we will see below this claim is supported by the data pertaining to the TMA system.

The hypothesis that relexification plays an important role in creole genesis predicts that the properties of creole lexical entries should have the semantic and syntactic properties of the corresponding lexical entries in the substratum languages, and phonological representations derived from the phonetic strings of the superstratum language. With respect to the lexical entries involved in the TMA system, the relexification hypothesis outlined above makes the following predictions. First, it predicts that the semantic and

syntactic properties of the tense, mood, and aspect markers of Haitian will parallel those of the corresponding lexical entries in the substratum languages and that the phonological representations of these markers will be derived from phonetic forms of French lexical category items. This prediction will be shown to be borne out by the data presented in this paper. Second, the relexification hypothesis predicts that the TMA systems of creoles produced from different substratum language families, for example Haitian and Tok Pisin, will exhibit variation which reflects the grammars of the substratum languages involved. Hence, while the Haitian TMA system(s) should share properties with those of the Niger-Congo languages, the Tok Pisin TMA system(s) should share properties with those of the Austronesian languages. As we will see in this paper, this prediction is borne out by the data.

A detailed comparison of the lexical entries of the creole with those of its source languages constitutes the test of the relexification hypothesis (*cf.* Lefebvre, 1986, 1993a). French is the superstratum language of Haitian creole. As we will see below there were several African substratum languages present at the time Haitian creole was formed. The conviction that an in-depth study of one West African language would provide a better data base for the detailed comparison than a general survey of all the West African languages involved at the time the creole was formed led us to choose one West African language for the purpose of the detailed comparison (*cf.* Lefebvre & Kaye 1985-1988 project, and Lefebvre, 1993a). Because of the prominence of the Fon people in the history and popular culture of Haiti (Bastide, 1967; Herskovits, 1975), Fongbe, one of the Gbe languages of the Kwa family, was selected. This choice turned out to be supported by historical facts.

The results of the historical study conducted by Singler (during the 1989-1994 project) includes the following features. First, Singler (1993a, to appear) establishes that Haitian creole was created between 1680 and 1740. Second, Singler (1993b: 237-8) remarks that during that period the creole society was "marked by both a disproportionately

small number of children and an ongoing stream of recently arrived slaves from Africa".

On the basis of these facts, Singler (to appear) concludes that the principal agents of Haitian

creole genesis were adults. Third, according to Singler (to appear), the substratum

languages in Haiti, at the crucial period, were mostly from the Niger-Congo group and

more particularly from the Kwa (Gbe and Akan) and the Bantu language families. As is

shown in Appendix I, the percentage of Gbe speakers in the African population of Haiti

during the period Haitian creole was formed was larger than that of the other groups of the

substratum. According to the figures provided by Singler, Gbe speakers made up half, or

more than half, of the total population of Africans brought to Haiti at the relevant period.

Fongbe speakers were thus among the right people, in the right place, at the right time.

The paper is organized in the following way. Section 1 establishes the data of the

Haitian TMA system. This TMA system is shown to depart significantly from Bickerton's

classic system. Section 2 compares the TMA system of Haitian with that of French, the

superstratum language of Haitian. The comparison reveals three major facts about the

genesis of the Haitian creole TMA system. First, the creators of Haitian did not identify the

French inflectional morphology involved in the tense, mood, and aspect system of French.

Second, the semantic organization of the two systems is not parallel. Third, while the

Haitian TMA markers have phonological representations that appear to be derived from

semantically-similar French *lexical* category items, the details of the semantics of the pairs

of lexical entries are often quite distinct. Section 3 establishes the data of the TMA system

of Fongbe. Section 4 presents an extensive comparison of the TMA system of Haitian,

described in section 1, with that of Fongbe, described in section 3. It is shown that the

inventories of the two systems bear striking resemblances, the expressions of complex

tenses are similarly constructed, the two languages express relative tense, rather than

absolute tense and the semantic and distributional properties of the TMA markers are

remarkably parallel. The fact that the lexical entries of the Haitian TMA system show

semantic properties which parallel those of corresponding lexical entries in Fongbe, a substratum language, together with the fact that the phonological forms of the creole lexical entries are derived from phonetic strings found in French, the superstratum language, is predicted by the relexification hypothesis. Section 5 provides a scenario of how relexification must have applied in the case of each of the TMA markers of the Haitian system. Section 6 discusses the predictions made by the relexification hypothesis and the consequences of the findings presented in this paper for a theory of the transmission or acquisition of grammar in the context of creole genesis.

The lexical entries involved in the TMA system of any grammar constitutes a coherent subsystem of that grammar. The available literature on the TMA markers of Haitian and Fongbe falls into two general patterns. On the one hand, traditional grammars provide a list of the morphemes involved, a list of their allomorphs, and the basic semantics of each marker. On the other hand, more recent studies have concentrated on specific markers. For example, the Haitian marker *ap*, which has an ambiguous status between a progressive and a future interpretation in all Haitian grammars, is a case in point (*cf.* Spears, 1990; Déchaine, 1991; Lumsden in press). The Haitian irrealis preverbal marker *pou* which is semantically ambiguous between 'must', 'should' and 'may' has also been given much attention (*cf.* Koopman & Lefebvre, 1982; Fournier, 1987; Sterlin, 1988). Similarly, in his study of some aspects of the Fongbe TMA system, Avolonto (1992) concentrates on a subset of aspectual and irrealis markers. These two types of studies are most valuable in themselves and they constitute a rich source of data. They do not provide us, however, with a unified set of data on which to base our discussion of the TMA systems of the languages under analysis.

The data on which this paper is based consist in original data that I collected over the years from speakers of both Haitian and Fongbe. I am not claiming that all Haitian or Fongbe speakers have all the details of the TMA systems described in this paper. What I

am claiming, however, is that the TMA systems discussed here do define the grammar of a subset of speakers of both languages. Variation among speakers will be pointed out either in the text or in footnotes whenever the data is available. I also make extensive reference to dictionaries, grammars and published work on the topic, noting similarities and differences in the data and analyses.

1. The tense, mood, and aspect system of Haitian

This section extablishes the forms which encode tense, mood and aspect in the Haitian grammar under consideration in this paper. It establishes the list of complex tenses available in this grammar. It shows how bare sentences are being assigned a temporal interpretation. Finally, the TMA system described here is shown to depart in several ways from Bickerton's classic one.

1.1. The inventory of TMA markers in Haitian creole

The inventory of the TMA markers of the Haitian grammar under analysis is as in (3).

(3)	RELATIVE TENSE ANTERIOR	MOOD IRREALIS	ASPECT NON-COMPLETE
	• Past/ Pluperfect te	• Definite future ap	• Imperfective ap
		• Indefinite future a-va	• Prospective apr-ale
		• Subjunctive pou	

Allomorphs[1] of the Haitian indefinite future: *va, av, a*
Allomorphs of the Haitian imperfective marker: *apr, pr, ape, apo, pe*
Allomorphs of the Haitian prospective marker: *apr-al, pr-ale, pr-al*

The marker *te* expresses anteriority. Sentences containing the marker *te* are interpreted as past or as pluperfect, depending on the aspectual class of the verb (see also Damoiseau, 1988; Lumsden, in press). Damoiseau (1988) distinguishes three aspectual

classes of verbs in Haitian. Dynamic verbs describe a process that can be perceived as ongoing; examples are verbs like *manje* 'to eat', *plante* 'to plant', and *ale* 'to go'. Resultative verbs, such as *wè* 'to catch sight of',[2] and *jwenn* 'to find', describe a situation which is the result of some process. Finally, there are stative verbs, which do not refer to a process; these are verbs like *kònnèn* 'to know', and *bezwèn* 'to need'.[3] Sentences containing *te* in the context of a dynamic verb are always interpreted as pluperfect. The pluperfect situates an event prior to a reference point that is itself in the past with respect to the moment of speech (see Comrie, 1985).

(4) Dynamic verb
Lè   m'   rive,   Mari   te   prepare   pat.   HAITIAN
When   I   arrived   Mary   ANT   prepare   dough
'When I arrived Mary had prepared dough.'

Sentences containing *te* and a resultative verb are ambiguous. They may be interpreted as pluperfect or as past, depending on the context. Past indicates that the event described by the verb is simultaneous with a reference point, which is past with respect to the moment of speech (Hornstein, 1977; Comrie, 1985).

(5) Resultative verb
Mari   te   wè   volè   a.   HAITIAN
Mary   ANT   catch sight of thief DET
'Mary caught sight of the thief.'
'Mary had caught sight of the thief.'

Sentences containing *te* and a stative verb have a past or a pluperfect interpretation, depending on the context.

(6) Stative verb
Mari   te   kònnèn Jan.   HAITIAN
Mary   ANT   know   John
'Mary knew John.'
'Mary had known John.'

The above examples show that *te* always situates an event in the past with respect to the moment of speech. In some cases, the time of the event coincides with the reference point (*i.e.*, past), in other cases, the time of the event is itself prior to the reference point (*i.e.*, pluperfect). The fact that a sentence containing *te* may be assigned different past readings (*i.e.*, past or pluperfect), which are defined with respect to the reference point in

different ways, suggests that *te* is best analyzed as a relative tense marker, rather than as an absolute tense marker. I am assuming the distinction made by Comrie (1976: 2) between absolute and relative tense: absolute tense relates the time of the event to the moment of speech, while relative tense relates the time of the event to a reference point.

Mood expresses the speaker's attitude towards the content of an utterance. For example, the proposition may be considered something that will definitely happen, something that might happen, something to be wished, something to be done, etc.[4] The inventory in (3) lists three irrealis mood markers: *ap*, *a-va*, and *pou*. The definite future marker *ap* is used to convey the speaker's attitude that the event referred to by the clause will definitely take place in the near future. In contrast, the indefinite future marker *a-va* (and its allomorphs) is used to convey the speaker's attitude that the event referred to by the clause might eventually or potentially take place at an undetermined point in the future. The difference between the semantics of these two mood markers is illustrated by the contrast in interpretation between (7) and (8).

(7)   M'   ap   vini.   HAITIAN
        I   DEF-FUT come
        'I will definitely come.'

(8)   M'   a   vini   yòn   jou.   HAITIAN
        I   IND-FUT come one   day
        'I will/might eventually come one day.' (Dumais, 1988: 247)

Both *ap* and *a-va* can occur with verbs of all three aspectual classes, as shown in (9) and (10), respectively.

(9)   a.   Dynamic verb
              Mari   ap   prepare   pat.   HAITIAN
              Mary   DEF-FUT prepare   dough
              'Mary will prepare dough.'
        b.   Resultative verb
              Mari   ap   wè   Jan.   HAITIAN
              Mary   DEF-FUT catch-sight of   John
              'Mary will catch sight of John.'
        c.   Stative verb
              Mari   ap   kònnèn   Jan.   HAITIAN
              Mary   DEF-FUT know   John
              'Mary will know John.'

(10) a. Dynamic verb
     Mari   a-va   prepare pat.   HAITIAN
     Mary   IND-FUT prepare dough
     'Mary will eventually prepare dough.'

   b. Resultative verb
     Mari   a-va   wè   Jan.   HAITIAN
     Mary   IND-FUT catch-sight of John
     'Mary will eventually catch sight of John.'

   c. Stative verb
     Mari   a-va   malad.   HAITIAN
     Mary   IND-FUT sick
     'Mary will eventually be sick.'

The basic meanings of *ap* and *a-va* support the analysis of these markers as mood markers, rather than as tense markers. In both cases, the marker conveys the speaker's attitude (certainty versus uncertainty) towards the event yet to occur. This is in line with an observation in Comrie (1985: 44) that future is often a difference of mood, rather than tense.

The fact that speakers of Haitian distinguish between definite and indefinite future is widely documented in the literature on Haitian (see Valdman, 1970; 1978; Spears, 1990, and the references therein). The two following contrastive examples are from Spears (1990).

(11) An tou ka... m' ap   lapriye.   HAITIAN
     in   all   case I   DEF-FUT pray
     '... regardless, I am going to pray.' (=(23) in Spears, 1990: 134)

(12) M' espere ke   piti   mwen an   a   HAITIAN
     I   hope COMP child POSS DET IND-FUT
     vin   dòktè.
     become doctor
     'I hope that my child will become a doctor.' (=(9) in Spears,
     1990: 130)

These examples also illustrate that the definite future marker *ap* conveys the meaning of near futurity, whereas the indefinite future conveys the meaning of far futurity. This semantic difference between *ap* and *a-va* may be expressed as follows: both *ap* and *a-va* situate an event with respect to the moment of speech; while *ap* situates an event with respect to a reference point that coincides with the moment of speech, *a-va* situates an event with respect to a reference point that coincides with the event. These data show that, like *te*,

ap and *a-va* express relative tense. The fact that this is so is further supported by the following interpretive facts.

A clause containing either *ap* or *a-va* may be assigned a future perfect interpretation, given the appropriate context. In this case, the reference point is future with respect to the event, which is itself future with respect to the moment of speech. This is shown in (13), where *ap* has scope over *deja* 'already', forcing a future perfect interpretation, and in (14), where *a-va* is interpreted as future perfect on the basis of the context in which it appears. Notice that, in this case, the near/far future distinction is neutralized in favor of the mood interpretation of *ap* and *a-va*.

(13)   Mari   ap   (deja)   prepare   pat.   HAITIAN
             Mary   DEF-FUT already   prepare   dough
             'Mary will have prepared dough.'

(14)   Moun   ki   a   manti   yo   a-va   neye.   HAITIAN
             Person who IND-FUT lie   they IND-FUT drown
             "The person who will have lied, they will drown.' (Sylvain, 1936: 87)

In fact, the only way to express the future perfect is with one of these markers.

The third mood marker in (3) is *pou*. This marker is used to express a wish (exhortative), as in (15a), an obligation, as in (15b), or an order (injunctive), as in (15c). In order to capture the range of meanings covered by *pou*, I will refer to it as the subjunctive marker.

(15)   a.   Dye   pou   proteje   u.   HAITIAN
                  God   SUB   protect you
                  'May God protect you.'
      b.   Mari   pou   prepare pat.   HAITIAN
                  Mary   SUB   prepare dough
                  'Mary should prepare dough.'
      c.   Tut   sòlda   pou   vini   laplas kunyè a.   HAITIAN
                  All   soldier   SUB   come square now   DET
                  'All soldiers must come to the square now.' (Sylvain, 1936: 90)

It has been argued in the literature that *pou* must be analyzed as part of the TMA system, rather than as a modal verb. First, data provided in Koopman & Lefebvre (1982), Magloire-Holly (1982), and Sterlin (1988) show that the properties of *pou* contrast in a

systematic way with those of modal verbs (specifically, the modal verb *dwe* 'must'), showing that, unlike modal verbs, *pou* is not a verb. Second, *pou* is mutually exclusive with the other irrealis markers *ap* and *a-va*, as shown in (16), a fact which suggests that *pou* is in a paradigmatic relationship with these markers.

(16) a. * Mari   ap pou / pou ap   vini   HAITIAN
            Mary   DEF-FUT SUB/SUB DEF-FUT   come
     b. * Mari   a-va pou / pou a-va   vini   HAITIAN
            Mary   IND-FUT SUB/SUB IND-FUT   come

Third, like all the other TMA markers, and in contrast with modal verbs, *pou* does not allow for deletion of its VP complement. This is shown by the contrast in grammaticality between (17a) and (17b).

(17) a.   Li dwe.
          '(S)he must.'
     b. * Li pou
          [Lit.: '(S)he must.']

Finally, like the other TMA markers, *pou* may combine with other markers of the system to form complex tenses, as will be seen below.

Aspects are different ways of viewing the internal temporal constituency of a situation. In Haitian, there are two aspectual markers: *ap*, the imperfective, and *apr-al*, the prospective. These two aspects describe a situation that is not complete. The imperfective aspect describes a situation that has already begun, but that is not complete at the time of the moment of speech or at the time of a reference point. The prospective aspect describes a situation that is about to begin at the moment of speech or at the time of a reference point.

The imperfective marker *ap* is illustrated in (18).

(18) Mari   ap   manje   krab   la.   HAITIAN
     Mary   IMP   eat   crab   DET
     'Mary is eating the crab.'

Sentences marked for *ap* can only be interpreted as progressive if they contain a dynamic verb, as in (18). Sentences containing a resultative verb, such as *wè* 'to catch sight of', or a stative verb, such as *kònnèn* 'to know', cannot be interpreted as progressive, as shown in (19).

(19) a. # Jan   ap   wè   volè   a   HAITIAN
           John   IMP   catch-sight-of thief DET
           [Lit.: 'John is catching sight of the thief.']
      b. # Jan   ap   kònnèn Mari   HAITIAN
           John   IMP   know   Mary
           [Lit.: 'John is knowing Mary.']

Note, however, that the sentences in (19) are not ungrammatical. Both can be interpreted as

future (*cf.* (9b, c)). This is because the phonological representations of the definite future

marker and the imperfective marker are homophonous. This fact raises the question of

whether there should be only one lexical entry for *ap* (for competing views on this matter,

see Damoiseau, 1988; Déchaine, 1991; Lumsden, in press). On the basis of the following

arguments, I will treat the definite future marker *ap* and the imperfective marker *ap* as

separate lexical entries.

First, for a subset of speakers, the definite future marker *ap* and the imperfective

marker *ap* may occur in the same sentence, as in (20).

(20) M'   ap   ap   sòti.   HAITIAN
       I   DEF-FUT   IMP   go-out
       'I will be going out.'

Second, speakers who do not accept two co-occurring *ap*s in the same sentence have the

pertinent interpretations. For example, for this second group of speakers, a sentence

containing *ap* such as *M'ap sòti* may be assigned three interpretations: (a) 'I am going out',

where *ap* is assigned an imperfective reading; (b) 'I will go out' where *ap* is assigned a

definite future interpretation; or (c) 'I will be going out'. This latter interpretive fact shows

that the second group of speakers (those who do not pronounce two *ap*s in a row) present

the interpretation corresponding to (20), containing two *ap*s. Thus, the two groups of

speakers present similar interpretive data regardless of whether they allow the co-

occurrence of two *ap*s at surface structure. I would like to link this difference between the

two groups of speakers to a more general constraint that exists in Haitian on the

pronunciation of two adjacent similar forms. In the literature, this constraint has been

formulated as a surface Filter which prevents the pronunciation of two adjacent forms that

are phonologically or phonetically similar. Lefebvre & Massam (1988) have documented the effect of this Filter on the pronounciation of two adjacent determiners (e.g. *la la). Lumsden (1989) has documented the effect of this Filter on the pronounciation of two adjacent plural markers (*yo yo). On the basis of data drawn from a sample of Haitian speakers, Lefebvre (to appear) further shows that speakers manifest a more or less constrained version of this Filter. Speakers who generally have a less constrained version of this Filter are those who also accept two adjacent *aps*, as in (20). Speakers who generally have a more constrained version of this Filter are those who do not accept two adjacent *aps*. On this view, then, even for speakers who do not pronounce two adjacent *aps*, on the basis of interpretive facts, it can be argued that the definite future marker and the imperfective marker constitute two lexical entries. A third argument to this effect will be brought towards the end of this paper, where it is argued that the two *aps* have made their way to the Haitian TMA system via two different paths. Having established that the imperfective marker *ap* constitutes a lexical entry which is distinct from that of the future marker *ap*, we can pursue our discussion of the semantics of this aspectual marker in Haitian.

Two additional facts about the interpretation and distribution of the imperfective marker *ap* deserve attention. For one thing, the imperfective marker *ap* is used in contexts where English would require a gerund, as in (21).

```
(21)  Nou  ap         jwènn  Mari  ap     prepare  pat    la.    HAITIAN
      We   DEF-FUT    find   Mary  IMP    prepare  dough  DET
      'We will find Mary preparing the dough.'
```

Furthermore, a sentence containing the imperfective marker *ap* may be assigned a habitual interpretation. The presence of the adverb *toutan* 'all the time', in (22), prevents a progressive interpretation of the clause.

```
(22)  Mari  ap    joure   toutan.                    HAITIAN
      Mary  IMP   swear   all-the-time
      'Mary swears all the time.'
```

This is interesting for several reasons. First, Comrie (1976) reports that the use of the same marker to encode both progressive and habitual is common, and is found in languages belonging to various genetic and geographical groupings. He further shows that in these languages, this marker is best characterized as imperfective, a gloss which covers both the progressive and the habitual meaning of the form. On this view, then, *ap* is best characterized as an imperfective marker. Second, according to Comrie (1976), there are languages which have a locative expression of the progressive. In these languages (for example, West African languages) the progressive has the meaning 'be in a state of doing x' rather than 'be in the process of doing x'. Furthermore, Comrie (1976: 103) claims that only in languages which have a locative expression of the progressive can the same marker be used for the progressive and the habitual. Comrie concludes: "Thus one can establish a certain implicational relation between locative expression of progressive and of habitual meaning: the locative expression of progressive meaning is basic; and only if a language has this possibility can it further extend the same form to habitual meaning, and this extension is rather an extension of the earlier progressive to become the only imperfective form" (p. 103). Since, in Haitian, sentences containing the imperfective marker may be interpreted as either habitual or progressive, the implicational relationship in Comrie suggests that *ap* is basically a locative expression of the progressive. On this view, the sentence in (18) is best characterized as meaning 'Mary is at eating the crab', rather than as meaning 'Mary is in the process of eating the crab'.

Apr-al (and its allomorphs, see (3)) is the prospective marker. It conveys the combined meaning that an event has not yet begun and that this event is about to take place in the near future, as shown in (23).

(23) Mari   pr-al   manje.   HAITIAN
     Mary   PROSP   eat
     'Mary is about to eat.'

The semantics of *apr-al* is ambiguous between that of a mood marker and that of an aspectual marker. When interpreted from the point of view that an event is about to take

place in the near future, *apr-al* is more like a mood marker. When interpreted from the point of view that an event has not yet begun at the time of the moment of speech, *apr-al* is more like an aspectual marker. In (3), *apr-al* appears in a paradigmatic relationship with the imperfective marker *ap* because it is in complementary distribution with it. As we will see below, while it is in complemetary distribution with some of the mood markers in (3), it is not in complementary distribution with all of them. The following properties of *apr-al* argue that this lexical item must be analyzed as part of the TMA system of Haitian. First, unlike verbs, it has several allomorphs, which are listed in (3). As can be seen in (3) allomorphy is common among the TMA markers of Haitian. It is not a property of aspectual or of · modal verbs in this language (see Magloire-Holly, 1982). Second, unlike verbs, *pral* does not allow for deletion of its VP complement (see (26f) below). Third, like the other TMA markers, it combines with other markers to form complex tenses. The sentence in (24) exemplifies this fact.

(24) Mari te   pral   prepare pat.   HAITIAN
     Mary ANT   PROSP prepare dough
     'Mary was about to prepare dough.'

To the best of my knowledge, the inventory in (3) exhausts the inventory of the preverbal markers in the Haitian grammar considered here.

These markers form a coherent system. First, they all occur between the subject and the verb. Second, the preverbal markers occurring in the same column in (3) are mutually exclusive, showing that they are in a paradigmatic relationship. Third, while modal verbs do allow for deletion of their VP complement, as in (25) (see Koopman & Lefebvre, 1982; Magloire-Holly, 1982; Spears, 1990), preverbal markers do not, as shown by the ungrammaticality of the truncated sentences in (26).

(25) Esk Mari dwe   prepare pat?   Li   dwe.   HAITIAN
     Q   Mary must   prepare dough   3rd must
     'Must Mary prepare dough? She must.'

(26) a. Esk Mari te   prepare pat?   * Li te   HAITIAN
         Q   Mary ANT   prepare dough   3rd ANT
         'Has Mary prepared dough? She did.'

b. Esk Mari ap   prepare pat?   * L' ap   HAITIAN
    Q   Mary DEF-FUT prepare dough   3rd DEF-FUT
    'Will Mary prepare dough? She will.'

c. Esk li   a-va   ale?   * Li a-va   HAITIAN
    Q   3rd IND-FUT go   3rd IND-FUT
    'Will she eventually go? She might.'

d. Esk Mari pou prepare pat?   * Li pou   HAITIAN
    Q   Mary SUB prepare dough Q   3rd OBL
    'Must Mary prepare dough? She must.'

e. Esk Mari ap   manje crab la?   * L' ap   HAITIAN
    Q   Mary IMP eat   crab DET   3rd IMP
    'Is Mary eating crab? She is.'

f. Esk Mari pral   manje?   * Li pral   HAITIAN
    Q   Mary PROSP eat   3rd PROSP
    'Is Mary about to eat? She is.'

Fourth, the preverbal markers of (3) have no meaning outside of the TMA system. Finally, the TMA markers may combine to form complex tenses.

1.2. Complex tenses

In Haitian, complex tenses are formed by combining various preverbal markers. The combinations discussed in this section reflect the grammar of those speakers who can produce two *aps* in a row. The definite future marker *ap* may combine with the imperfective aspectual marker *ap*, yielding a future progressive interpretation.

(27) M ap   ap   sòti.   HAITIAN
      I   DEF-FUT IMP go out
      'I will be going out.'

Ap may also combine with the prospective aspectual marker *apr-al*, yielding a future prospective interpretation, another combination which is not possible in all Haitian dialects.

(28) Mari ap   apral manje.   HAITIAN
      Mary DEF-FUT PROSP eat
      'Mary will be about to eat.'

The combination of the definite future marker with the marker of anteriority yields a (definite) conditional interpretation, which I render as *would* (as opposed to *might*) in the translation (see also Spears, 1990). This combination is possible with verbs of all aspectual classes, as shown in (29)-(31). Note that this combination yields either a present or a past conditional interpretation, depending on the context.

(29) Dynamic verb
    Mari   t'   ap   prepare   pat.   HAITIAN
    Mary   ANT DEF-FUT prepare   dough
    'Mary would prepare dough.'
    'Mary would have prepared dough.'

(30) Resultative verb
    Mari   t'   ap   wè   Jan.   HAITIAN
    Mary   ANT DEF-FUT catch-sight-of John
    'Mary would catch sight of John.'
    'Mary would have caught sight of John.'

(31) Stative verb
    Mari   t'   ap   kònnèn   Jan.   HAITIAN
    Mary   ANT DEF-FUT know   John
    'Mary would know John.'
    'Mary would have known John.'

The indefinite future marker *a-va* may also combine with the marker of anteriority, yielding an (indefinite) conditional interpretation, which I translate with the English modal *might* (as opposed to *would*) (see also Spears, 1990). The present or past interpretation of the conditional is again determined by the context of the utterance.

(32) Dynamic verb
    Mari   t'   a   prepare   pat.   HAITIAN
    Mary   ANT IND-FUT prepare   dough
    'Mary might prepare dough.'
    'Mary might have prepared dough.'

(33) Resultative verb
    Mari   t'   a-va   wè   Jan.   HAITIAN
    Mary   ANT IND-FUT catch-sight-of John
    'Mary might catch sight of John.'
    'Mary might have cought sight of John.'

(34) Stative verb
    Mari   t'   a-va   malad.   HAITIAN
    Mary   ANT IND-FUT sick
    'Mary might be sick.'

The indefinite future marker *a-va* and its allomorphs may combine with the imperfective marker *ap*. This combination is interpreted as an indefinite future progressive.

(35) M'   a-va   ap   prepare   pat.   HAITIAN
     I   IND-FUT IMP   prepare   dough
     'I will eventually be preparing dough.'

Since indefinite future describes a situation that may eventually occur (in the far future), and since the prospective aspect describes a situation that is about to take place in the very

near future, *a-va* is not expected to cooccur with *apr-al*. This is borne out by the data, as

shown by the ungrammaticality of sentence (36).

```
(36)  *    M    a-va      pral     manje              HAITIAN
           I    IND-FUT   PROSP    eat
           [Lit.: 'I will eventually be about to eat.']
```

The subjunctive marker *pou* may combine with the imperfective aspectual marker

ap, as shown in (37). Not all Haitian speakers allow this combination. For example, the

speakers whose grammar Koopman & Lefebvre (1982) discuss do not show these data.

```
(37)  Mari   pou   ap    prepare   pat.             HAITIAN
      Mary   SUB   IMP   prepare   dough
      'Mary may/should/must be preparing dough.'
```

Pou may not combine, however, with the prospective marker *apr-al*, as shown by the

ungrammaticality of the following sentence.

```
(38)  *    Mari   pou   pral     manje              HAITIAN
           Mary   SUB   PROSP    eat
           [Lit.: 'Mary may/should/must be about to eat.']
```

This incompatibility follows from the fact that *pou* is exclusively deontic. Finally, *pou* may

combine with *te*. In this case, *te* may either precede or follow *pou*. The different scopal

relationships between the two markers induce slightly different interpretations, as shown in

(39) and (40).

```
(39)  Mari   te    pou   prepare   pat.             HAITIAN
      Mary   ANT   SUB   prepare   dough
      'Mary had to prepare dough.'
      'Mary had to have prepared dough.'

(40)  Mari   pou   te    prepare   pat.             HAITIAN
      Mary   SUB   ANT   prepare   dough
      'Mary has to have prepared dough.'
```

While all speakers I worked with allow the order in (39), judgements on the order in (40)

vary: not all speakers accept this order. Note, however, that the order in (40) has also been

attested elsewhere in the literature (Koopman & Lefebvre, 1982; Fournier, 1987).

In addition to combining with the irrealis markers (*cf.* (30-31), (32-34) and (39-

40)), the marker of anteriority may combine with the two aspectual markers.

(41) Mari   t'   ap   prepare   pat.   HAITIAN
     Mary   ANT   IMP   prepare   dough
     'Mary was preparing dough.'

(42) Mari   t'   apral   prepare   pat.   HAITIAN
     Mary   ANT   PROSP   prepare   dough
     'Mary was about to prepare dough.'

There are complex tenses which involve markers from all three paradigms. The combination of the three markers in (43) yields a (definite) conditional progressive interpretation of the clause.

(43) Mari   t'   ap   ap   prepare   pat.   HAITIAN
     Mary   ANT   DEF-FUT   IMP   prepare   dough
     'Mary would have been preparing dough.'

The combination of the three markers in (44) yields a (definite) conditional prospective interpretation of the clause.

(44) Mari   t'   ap   pral   prepare   pat.   HAITIAN
     Mary   ANT   DEF-FUT   PROSP   prepare   dough
     'Mary would be about to prepare dough.'

The combination of the three markers in (45) yields an indefinite conditional progressive interpretation of the clause.

(45) Mari   t'   av   ap   prepare   pat.   HAITIAN
     Mary   ANT   IND-FUT   IMP   prepare   dough
     'Mary might eventually be preparing dough.'

Finally, the combination in (46) yields a past obligational progressive interpretation of the clause.

(46) Mari   te   pou   ap   prepare   pat.   HAITIAN
     Mary   ANT   SUB   IMP   prepare   dough
     'Mary had to be preparing dough.'

The data presented in this section exhaust the possibilities for combining the TMA markers.

1.3. The temporal interpretation of bare sentences

Having discussed the system of preverbal markers of a Haitian grammar, I now turn to the interpretation of bare sentences, that is, sentences in which there is no preverbal marker. As has been documented in the recent literature on Haitian (Bentolila, 1987; Damoiseau, 1988; Déchaine, 1991; Lumsden, in press), the temporal interpretation of bare

sentences is computed from the various components that participate in establishing the aspectual properties of a clause. These components include the aspectual class of the verb (*cf.* Lumsden, in press), the specificity of the direct object of the verb (*cf.* Damoiseau, 1988) and the specificity of the subject (*cf.* Bentolila, 1987). A noun phrase is specific if it has the postnominal determiner *la* or its allomorphs *a, an, nan* (*cf.* Lefebvre, 1992b). For example, a bare sentence containing a dynamic verb with a specific object is interpreted as present perfect, as shown in (47). Present perfect expresses the present result of a past event; it indicates that the past situation has current relevance (Comrie, 1985).

(47)   Mari   prepare   pat   la.   HAITIAN
          Mary   prepare   dough   DET
          'Mary has prepared the dough.'

A sentence containing a dynamic verb with a non-specific object is ambiguous between a general present and a past interpretation.

(48)   Mari   prepare   pat.   HAITIAN
             Mary   prepare   dough
       a.   'Mary (generally) prepares dough.'
       b.   'Mary prepared dough.'

In (47), the specificity of the object imposes an end point to the event denoted by the verb. This property of the object forces the event of the bare sentence to be interpreted as accomplished. In (48) the object is not determined. Non-determined NPs in Haitian are assigned a generic reading. Generic objects do not impose an end point to the event denoted by the verb. Hence, the event of the bare sentence may be interpreted either as accomplished (*i.e.,* past) or as non-accomplished (*i.e.,* general present).

Bentolila (1987) shows that the property [± specific] of the subject may also have an effect on the interpretation of a bare sentence. Compare the interpretation of the (a) and (b) sentences in (49).

(49)   a.   Mayi   a   ba   nou   bon   garanti.   HAITIAN
             corn   DET   give   us   good   profit
             'The corn has brought us good money.' (Bentolila, 1987: 107)
       b.   Mayi   ba   nou   bon   garanti.   HAITIAN
             corn   give   us   good   profit
             'Corn (generally) brings us good money.' (Bentolila, 1987: 107)

In (49a), the specificity of the subject induces a present perfect reading of the bare sentence, while in (49b) the generic interpretation of the subject induces a generic interpretation of the bare sentence (*i.e.*, general present).

A bare sentence containing a resultative verb is ambiguous between a present and a present perfect interpretation, as shown in (50) (see also Lumsden, in press).

(50) Mari wè   vòlè (a).   HAITIAN
     Mary catch-sight-of thief DET
  a. 'Mary catches sight of the thief.'
  b. 'Mary has caught sight of the thief.'

Finally, a bare sentence containing a stative verb is always interpreted as present (see also Damoiseau, 1988; Déchaine, 1991; Lumsden, in press).

(51) Mari kònnèn Jan.   HAITIAN
     Mary know John
     'Mary knows John.'

The data presented above show that the tense interpretation of a bare sentence is computed from the various components defining the aspectual properties of the clause. The temporal interpretation of a bare sentence thus ranges from past, to general present, through present perfect, depending on the other aspectual components present.

1.4. The expression of tense as relative tense in Haitian

Throughout this section, it has been argued that the preverbal markers of Haitian encode not absolute tense, but relative tense. Recall that absolute tense relates the time of the event to the moment of speech, while relative tense relates the time of the event to a reference point (Comrie, 1976).

The fact that the Haitian TMA markers express relative tense, rather than absolute tense, becomes even clearer when the temporal interpretations that they may be assigned are schematized in the system of representation of tense proposed by Hornstein (1977), drawing on Reichenbach (1947). This system makes use of three variables: E for event, R for the reference point, and S for the moment of speech. The notation S, R, E, corresponds

to the interpretation where the moment of speech, the reference point and the moment of the event coincide (*i.e.*, simple present). The notation E_R_S corresponds to the interpretation where the event is anterior to the point of reference, which is itself anterior to the moment of speech, (*i.e.*, the pluperfect), and so on. The distribution of the Haitian TMA markers within such a system is depicted in Table 2, which also takes into account the aspectual classes of verbs. For convenience, bare sentences are represented as ø.[5] The symbol — indictes the absence of interpretation for a specific logical possibility.

Table 2. *The expression of Time in Haitian creole*

	Dynamic verbs	Resultative verbs	Stative verbs
Pluperfect E_R_S	te	te	te
Simple past E, R_S	ø	te	te
Present perfect E_S, R	ø	ø	—
Present S, R, E	ø	ø	ø
Definite future S,R_E	ap	ap	ap
Indefinite future S_R, E	a-va	a-va	a-va
Future perfect S_E_R	{ ap a-va }	{ ap a-va }	{ ap a-va }

As can be seen in Table 2, no preverbal marker in Haitian corresponds to only one tense; *te, ap, a-va*, and even ø, all correspond to more than one. This is because the preverbal markers encode relative tense, which relates the time of the event to a reference point.*Te* expresses relative tense because it situates an event prior to the reference point, yielding a pluperfect intepretation, or it situates an event at a time that coincides with the rererence point, yielding a past interpretation. ø expresses relative tense because it situates an event at a moment in time that coincides with the reference point (past), at a moment that is prior to the reference point (present perfect), or at a moment where both the event and the reference point coincide with the moment of speech (present). The definite future marker *ap* may situate an event at a time following the reference point (simple future), or it may situate an event prior to the reference point (future perfect). Similarly, *a-va* relates the time of the event to a reference point, allowing it to induce either an indefinite future interpretation or a future perfect interpretation of the clause. The fact that the TMA markers of Haitian express relative tense is in line with the analysis that the temporal interpretation of a clause is

computed from the various components that define its aspectual properties, including the aspectual classes of verbs.

The Haitian TMA system presented in this section has the following salient features. Haitian has bare verbs, which have no inflectional morphology encoding tense, mood, aspect, or subject-verb person/number agreement. Tense, mood, and aspect are encoded by markers occurring between the subject and the verb. Complex tenses are formed by the combination of these markers. There are also bare sentences, which do not contain any overt tense, mood, or aspect markers. Whether or not a sentence contains an overt preverbal marker, temporal interpretation always involves relative tense, rather than absolute tense.

1.5. Back to Bickerton's TMA system

The TMA system outlined above is more complex than that proposed by Bickerton, outlined in Table 1. First, in addition to the three markers considered by Bickerton (*i.e., ap, a-va,* and *te*), the inventory presented here includes the subjunctive marker *pou* and the prospective marker *apr-al*. The inventory in (3) also identifies two irrealis markers, involving a future interpretation, rather than one: *ap* 'definite future' and *a-va* 'indefinite future'. Second, the system proposed by Bickerton identifies four complex tenses resulting from combinations of the preverbal markers (*cf.* Table 1). The data presented above show a much wider range of complex tenses: there are fourteen complex tenses in the grammar of the Haitian speakers discussed here. Finally, under Bickerton's analysis, a bare sentence is always interpreted as a general present (Table 1); the data presented here show that the interpretation of a bare sentence is much more complex than that. The TMA system presented in this section is thus significantly different from Bickerton's classic one.

2. The TMA system of Haitian compared with that of French

This section compares the TMA system of Haitian with that of French, the superstratum language of Haitian creole. The comparison reveals three major features of the genesis of the Haitian TMA system. First, the creators of Haitian did not identify the inflectional morphology involved in the tense, mood, and aspect system of French. Second, the semantic and syntactic organization of the two systems is not parallel. Third, although the phonological representations of the Haitian TMA markers appear to be derived from phonetic matrices of semantically-similar French lexical category items, the details of the semantics of the pairs of lexical entries are often quite distinct.

2.1. Inflectional morphology on the verb

In French, tense, mood, and aspect are encoded by means of inflectional affixes on the verb. In the following examples, the different endings on the verb distinguish between simple past, present and future tense, respectively: *j'aimai* 'I loved'; *j'aime* 'I love'; *j'aimerai* 'I will love'. Similarly, the different endings on the verbs contained in the following examples distinguish between indicative and subjunctive mood. *Je finis* 'I finish'; ...*que je finisse* 'I must finish'. Aspect may also be encoded by means of an inflectional affix on the verb.[6] The imperfect aspect is an example in point: *je finissais* 'I was finishing'. Furthermore, French has obligatory subject-verb agreement in person and number, which is reflected in the inflectional morphology of a verb occurring in a tensed clause. Hence, *je finir-ai* 'I will finish'; *nous finir-ons* 'we will finish'. French allows no bare verbs: each verb of a tensed clause must bear tense, mood, person and number inflectional morphology.

In contrast, Haitian shows no inflectional morphology on the verb, be it tense, mood, aspect, person, or number. Haitian expresses tense, mood and aspect solely by means of preverbal markers; in Haitian, there are only bare verbs. This first point of

comparison shows that the creators of Haitian did not identify the inflectional morphology of French.

2.2. Bare sentences

In French, there are no bare sentences. Each sentence or clause must, minimally, be overtly marked for mood (indicative, subjunctive or infinitive). As we saw earlier, in Haitian, there are bare sentences, and these bare sentences are assigned a temporal interpretation.

2.3. Auxiliaries and complex tenses

In French, complex tenses are formed by combining a form of the auxiliary *être* 'to be' or *avoir* 'to have' with the past participle of the verb. In these cases, the auxiliary bears the tense, mood, aspect, person and number morphology discussed above. The perfect is formed in this way: *J'ai fini* 'I have finished'; *je suis venu* 'I have come'. The future perfect is also formed in this way: *j'aurai fini* 'I will have finished'; *je serai venu* 'I will have come'. The form of the pluperfect follows the same pattern: *j'avais fini* 'I had finished'; *j'étais venu* 'I had come'. French also has a complex tense, anterior past, which follows this pattern: *dès qu'il eut chanté* 'as soon as he had sung'. The above examples all express complex tenses in the indicative mood; the same complex tenses can also be formed in the subjunctive mood with the appropriate affixes on the auxiliary.

In Haitian creole, there are no auxiliaries corresponding to *être* 'to be' and *avoir* 'to have' in French. Complex tenses are formed by combining the tense, mood and aspect markers as described earlier.

2.4. Absolute versus relative tense

French has at least three absolute simple tenses: simple past, present and future. It has several absolute complex tenses: perfect, pluperfect, future perfect, anterior past.

In contrast, in Haitian, there are no absolute tenses. It has been argued that *te, ap, a-va*, and *ø* all express relative, rather than absolute, tense.

2.5. Periphrastic expressions encoding tense, mood, and aspect

Periphrastic expressions are also available in French to encode tense, mood or aspect, as illustrated in (52). The (a) sentence is an example of the periphrastic future; the (b) sentence shows a popular usage of the preposition *pour* 'for/to' with a prospective meaning (*cf.* also Grevisse, 1975: 646); the (c) sentence illustrates the use of the preposition *après* with a progressive meaning (*après* is used in some of the same contexts as *en train de* or *à* (Grevisse, 1975: 646; Féraud, 1768)). The (d) sentence shows that the prospective aspect is encoded by the periphrastic expression *être sur le point de*. Finally, the example in (e) shows the use of *été*, a form of the auxiliary *être* 'to be', to conjugate stative adjectives.

(52)   a.   Jean va manger.   FRENCH
                  'John will eat (in the near future).'
           b.   Jean est pour partir.   FRENCH
                  'John is about to go.'
           c.   Jean est après / à / en train de manger.   FRENCH
                  'John is eating.'
           d.   Jean est sur le point de partir.   FRENCH
                  'John is about to leave.'
           e.   Jean a été malade.   FRENCH
                  'John has been sick.'

The French periphrastic expressions listed in (52) are similar to the Haitian TMA markers in two ways. First, like the Haitian TMA markers, they occur between the subject and the verb. Second, in several cases, the phonological representations of the periphrastic expressions are similar to those of the Haitian TMA markers. For example, Haitian *a-va* is phonologically similar to French *va* in (52a). Haitian *pou* is phonologically similar to

French *pour* in (52b). Haitian *ap* (imperfective) is phonologically similar to French *après* in
(52c), and Haitian *te* is phonologically similar to the French form *été* as it occurs in (52e).
As has been extensively discussed in the literature on Haitian (for example, Sylvain, 1936;
Goodman, 1964), the phonological representations of the Haitian TMA markers are
probably derived from these French periphrastic expressions. When we compare the
semantics of these pairs of lexical items, however, we find that the members of each pair
are strikingly different.

French grammars report that the periphrastic future in (52a) is used to express a
near future, in contrast with the future encoded by an affix on the verb, which is used to
express a far future (see Grevisse, 1975: 731). Emirkanian & Sankoff (1984) report a
similar semantic distinction between the two forms of the future for Montreal French. In
contrast with the French periphrastic future, Haitian *a-va* is used to convey the speaker's
attitude that the event referred to by the clause may eventually or potentially take place, at an
undetermined point in the future. So, although the two forms share the property of
expressing irrealis, they have opposite values with respect to the property far/near future.
Furthermore, we saw that *a-va* combines with *te* to form the conditional (*cf.* (32)-(34)).
French *va* does not show this property. Finally, Haitian *a-va* is not compatible with
negation, a fact also noted in Sylvain (1936: 87), in Spears (1990), and in Hall (1953: 33).

```
(53)  *   N'  p'    a / a-va / va  kabicha              HAITIAN
          we  NEG  IND-FUT        doze off
          [Lit.: 'We might not doze off.']  (Sylvain, 1936: 87)
```

Although negation appears to not be a favorable environment for the use of the periphrastic
future in spoken popular French (Emirkanian & Sankoff, 1984), a sentence containing both
negation and the periphrastic future is grammatical. For example, a sentence like *Jean (ne)
va pas aller à l'école aujourd'hui* 'John will not go to school today' is perfectly
grammatical. So, although the Haitian form of the indefinite future *a-va* is phonologically
similar to the form of the French periphrastic future *va*, and in spite of the fact that these

lexical entries both share the meaning irrealis, the details of their semantics and distribution are not parallel.

The semantics of *être pour* (*cf.* (52b)) in French is described by Grevisse (1975: 646) in the following terms:

> *Être pour* peut servir à indiquer un fait prochain, à présenter une action comme convenue, préparée, ou encore à marquer la nuance qu'exprimeraient 'être de nature à, être disposé à, destiné à'.[7]

Haitian *pou* is used to express the speaker's attitude that the event denoted by the clause may, should, or must take place. French *être pour* and Haitian *pou* are thus semantically distinct. The sole element of meaning that they appear to share is their irrealis meaning.

In French, there are three periphrastic expressions which can be used to express the fact that an event is not complete: *être après*, *être en train de*, and *être à* (see (51c)). While the first two forms mean 'be in the process of doing x', the third form means 'be in the state of doing x'. This is shown in (54).

(54) a. Marie   est   après manger.   FRENCH
          Marie   AUX   after eat
          'Mary is (in the process of) eating.'
      b. Marie   est   en train de manger.   FRENCH
          Marie   AUX   PROG   eat
          'Mary is (in the process of) eating.'
      c. Marie   est   à   manger.   FRENCH
          Marie   AUX   at   eat
          'Mary is (in the state of) eating.'

Assuming the distinction made in Comrie (1976) discussed earlier, *être après*, and *être en train de* express the progressive aspect, while *être à* expresses the imperfective aspect. This semantic distinction is further supported by the fact that *être après*, and *être en train de* cannot be interpreted as habitual, whereas *être à* can (Grevisse, 1975).

The phonological representation of the Haitian imperfective *ap* is probably derived from the French form *après*, as it occurs in (54a). The semantics of the Haitian marker *ap* has been characterized as imperfective. This term was shown to subsume its progressive (*cf.* (18)) and its habitual (*cf.* (22)) interpretation. So, while *ap* and *après* share the property

of encoding the progressive, they differ in that while *ap* can also be interpreted as habitual, *après* cannot. The two forms also share the property of combining with various tenses. Of course, in French it is the auxiliary *être* which bears the tense morphology in this case. Hence, *Marie était / sera après manger* 'Mary was / will be eating'. Recall that Haitian *ap* may be used in the following context (=(21)).

(55) Nou ap   jwènn Mari ap   prepare pat   la.   HAITIAN
      We   DEF-FUT   find   Mary IMP   prepare dough DET
      'We will find Mary preparing the dough.'

The French periphrastic expression cannot be used in a similar context, as is shown by the ungrammaticality of (56).

(56) *   Nous trouverons Marie après manger   FRENCH
          [Lit.: 'We will find Mary eating.']

In order to convey the same meaning as the Haitian sentence in (55), speakers of French require another periphrastic expression: *Nous trouverons Marie en train de manger* 'we will find Mary eating', or a present participial form: *Nous trouverons Marie mangeant* 'we will find Mary eating'. So, again the Haitian form *ap* shares some, but not all, of the semantic properties of the French periphrastic expression *être après*.

The French expression that is closest in its semantics to the Haitian imperfective marker *ap* is *être à*; but the creators of Haitian obviously ignored it. I propose that this is because *à* in *être à* is a functional category (e.g. an expression of case (Kayne, 1981)). The creators of Haitian identified *après*, which is a lexical category item. This shows, once again, that the creators of Haitian did not identify the functional category items of French.

The phonological form of the French periphrastic expression *être sur le point de* 'to be about to' in (52d), used to express prospective aspect, has nothing in common with the Haitian prospective form *apr-al*.

The form *été* of the auxiliary *être* 'to be' in (52e) is used to form complex tenses with stative adjectives. This form of the auxiliary occurs in complex tenses, such as: pluperfect, *Marie avait été malade* 'Mary had been sick'; perfect, *Marie a été malade* 'Mary

has been sick'; future perfect, *Marie aura été malade* 'Mary will have been sick'; past

conditional, *Marie aurait été malade* 'Mary would have been sick'. The distribution of the

Haitian marker of anteriority *te*, described earlier, shows two major differences in

comparison with the French form *été*. First, in contrast with *été*, *te* occurs with verbs of all

aspectual classes (*cf.* (4)-(6)). Second, *te* does not participate in the expression of the

Haitian future perfect (*cf.* (13) and (14)). Although the two forms are phonologically

similar and share some element of meaning (namely, anteriority), the details of their

semantics are not entirely parallel.

Finally, there is no French periphrastic expression of the same type as those listed

in (52) corresponding to the Haitian definite future marker *ap*. This matter will be taken up

below.

2.6. The contribution of French to the Haitian TMA system

The comparison of the Haitian TMA system with that of its superstratum language

has revealed the following major features of the genesis of the Haitian system. First, it is

clear that the creators of Haitian have not identified the inflectional morphology and the

functional categories involved in the tense, mood, and aspect system of French. Second,

while the Haitian TMA markers have phonological representations that can be shown to be

derived from phonetic matrices of French lexical category items with which they share

some semantics, the details of the semantics of the pairs of lexical entries are often quite

distinct. Consequently, we conclude that the contribution of French to the Haitian TMA

system was to provide the phonetic matrices from which the phonological representations

of the Haitian TMA markers were derived.[8]

In view of this situation, we must ask where the details of the semantics of the

Haitian creole TMA system come from. On the basis of a detailed comparison of the TMA

system of Haitian with that of one of its substratum languages, Fongbe, I will argue that

the semantics of the Haitian TMA markers come from the substratum languages. Since there is no available complete description of the TMA system of Fongbe in the literature, I first present an outline of the Fongbe data.

3. The tense, mood, and aspect system of Fongbe

This section establishes the forms which encode tense, mood, and aspect in Fongbe, one of the substratum languages of Haitian. It establishes the list of complex tenses available in this language. It shows how bare sentences are being assigned a temporal interpretation.

3.1. The inventory of TMA markers in Fongbe

The inventory of the TMA markers in Fongbe is as in (57).

(57)	RELATIVE TENSE	MOOD	ASPECT	
	ANTERIOR	IRREALIS	NON-COMPLETE	
	• Past/ Past perfect	• Definite future	• Habitual	• Imperfective
	kò	ná	nò	ɖò...wè
		• Indefinite future		• Prospective
		ná-wá		ɖò... ná...wè
		• Subjunctive		
		ní		

In Fongbe, the interpretation of a sentence containing kò is ambiguous. In (58a), kò is interpreted as 'already', and the sentence is assigned a simple past reading. The second interpretation involves a pluperfect reading, and no mention is made of the adverb 'already' in the interpretation of the clause.

(58)   Sìká   kò   ɖà   wɔ̃.   FONGBE
        Cica   kò   prepare   dough
   a.   'Cica already prepared dough.' (Avolonto, 1992: 36)
   b.   'Cica had prepared dough.'

This contrast in interpretation reveals the two functions of kò in the language: kò is an adverb meaning 'already' (cf. Anonymous, 1983; Avolonto, 1992), and it is also a marker of anteriority. The claim that kò has two functions is supported by two sets of facts. First,

there can be two occurences of *kò* within the same clause. In (59), the first occurence of *kò* corresponds to its function as a marker of anteriority, and the second corresponds to its function as an adverb.

(59) Sìká kò   nò   kò   dà   wó.   FONGBE
      Cica ANT   use-to already prepare dough
      'Cica had usually already prepared dough.'

Futhermore, as an adverb, *kò* must immediately precede the VP, but as a marker of anteriority *kò* occurs as the first of a series of TMA markers. The position of the adverb *kò* with respect to the VP may be observed in (59) above, which cannot be translated as 'Cica has the habit of having prepared dough'. The example sentences presented below show that, as a marker of anteriority, *kò* precedes the other TMA markers (*cf.* (86)-(88), (89)-(91), (105)-(108)). On the basis of this distribution, I suggest that there are two lexical entries for *kò* in Fongbe: one corresponds to its use as an adverb meaning 'already', and one corresponds to its use as a marker of anteriority in the Fongbe TMA system. The assumption that two lexical entries can have the same phonological representation is not unusual. For example, Lord (1976) argues that in several Kwa languages, the verb meaning 'to say' has been reanalyzed as a complementizer. The result of the process of reanalysis is that there are two lexical entries having the same phonological representation: one for the verb 'to say' and one for a *that*-type complementizer. Similar facts are found in English. For example, *of* is both the phonological representation of a lexical entry of the category P(reposition) and the phonological representation of a lexical entry of the category K (=case) (Chomsky, 1981). Having established the double status of *kò* in Fongbe, I will henceforth consider only its function as a marker of anteriority.

Sentences containing the marker *kò* are interpreted as past or as pluperfect depending on the aspectual class of the verb. As is the case in Haitian, Fongbe distinguishes between three aspectual classes of verbs: dynamic, resultative and stative.[9] Sentences containing *kò* and a dynamic verb are always interpreted as pluperfect.

(60) Dynamic verb
    Mari   kò   ɖà   wɔ́.   FONGBE
    Mary ANT prepare dough
    'Mary had prepared dough.'

Sentences containing *kò* and a resultative verb are ambiguous; they may be interpreted as

past or as pluperfect, depending on the context.

(61) Resultative verb
    Mari   kò   mɔ̀   àjótɔ́ ɔ́.   FONGBE
    Mary ANT catch-sight-of thief DET
    'Mary caught sight of the thief.'
    'Mary had caught sight of the thief.'

Sentences containing *kò* and a stative verb may also have either a past or a pluperfect

interpretation.

(62) Stative verb
    Mari   kò   tùn   Jan.   FONGBE
    Mary ANT know John
    'Mary knew John.'
    'Mary had known John.'

The above examples show that *kò* always situates an event at a time that is past with respect

to the moment of speech. In some cases, the time of the event coincides with the reference

point (*i.e.*, past), in other cases, the time of the event is itself prior to the reference point

(*i.e.*, pluperfect). The fact that a sentence containing *kò* may be assigned different past

readings (*i.e.*, simple past or pluperfect), which relate to the reference point in different

ways, depending on the context, suggests that *kò* encodes relative tense, rather than

absolute tense.

    Fongbe has three mood markers: *ná*, *ná-wá*, and *ní*. Fongbe distinguishes between

definite and indefinite future. The marker *ná* is used to convey the speaker's attitude that the

event referred to by the clause will definitely take place in the near future. In contrast, the

marker *ná-wá* is used to convey the speaker's attitude that the event referred to by the

clause may eventually take place, at an undetermined point in the future (*cf.* Anonymous,

1983: v, 3). The semantic contrast between these two irrealis markers is illustrated in (63)

and (64).

(63) É   ná   kù.   FONGBE
     He   DEF-FUT   die
     'He will die.' (Anonymous, 1983: v, 3)

(64) É   ná-wá   kù.   FONGBE
     He   IND-FUT die
     'He will eventually die.' (Anonymous, 1983: v, 3)

The marker *ná-wá* is morphologically complex. It is formed by the combination of

the definite future marker *ná* and *wá,* which, in isolation, means 'to come/to go'. Nothing

can intervene between these two morphemes when they are used together as a marker of

indefinite future. In (65), where *nɔ* 'usually' is inserted between *ná* and *wá,* the clause is

grammatical but *ná* and *wá* are interpreted as independent words (*cf.* interpretation a). In

this case, the clause cannot be assigned an indefinite or potential future interpretation

(*cf.* interpretation b).

(65)   Sìká   ná   nɔ   wá   ɖà   wɔ.   FONGBE
          Cica   DEF-FUT usually   come   prepare dough
     a.   'Cica will usually come to prepare dough.'
     b. # 'Cica will usually eventually prepare dough.'

The definite future marker may occur with verbs of all aspectual classes, as shown

in (66).

(66) a.   Dynamic verb
          Mari   ná   ɖà   wɔ.   FONGBE
          Mary   DEF-FUT prepare dough
          'Mary will prepare dough.'
     b.   Resultative verb
          Mari   ná   mɔ   Jan.   FONGBE
          Mary   DEF-FUT catch-sight of John
          'Mary will catch sight of John.'
     c.   Stative verb
          Mari   ná   tùn   Jan.   FONGBE
          Mary   DEF-FUT know   John
          'Mary will know John.'

Likewise, the indefinite future marker may occur with verbs of all aspectual classes as

shown in (67).

(67) a.   Dynamic verb
          Mari   ná-wá   ɖà   wɔ.   FONGBE
          Mary   IND-FUT prepare dough
          'Mary will eventually prepare dough.'

    b.   Resultative verb

Mari	ná-wá	mɔ̀	Jan.	FONGBE
Mary	IND-FUT	see	John	

        'Mary will eventually catch sight of John.'

    c.   Stative verb

Mari	ná-wá	tùn	Kɔkú.	FONGBE
Mary	IND-FUT	know	John	

        'Mary will eventually know Koku.'

Ná and *ná-wá* may also trigger an interpretation of the clause where the reference point is future with respect to an event, which is itself future with respect to the moment of speech (*i.e.*, future perfect). This is shown in (68), where *ná* has scope over *kò* 'already', forcing a future perfect interpretation of the clause (see also Anonymous, 1983: v, 5 for similar data).

(68)	Mari	ná	kò	ɖà	wɔ̌.	FONGBE
	Mary	DEF-FUT	already	prepare	dough	

        'Mary will have already prepared dough.'

In (69), the sentence containing *ná* or *ná-wá* is interpreted as future perfect without any other linguistic signal.

(69)	Mě	é	ná / ná-wá		ɖó	àdigbán	ɔ́	FONGBE
	person	he	DEF-FUT / IND-FUT	say	lie	DET		
	yě		ná / ná-wá		xwé.			
	they		DEF-FUT / IND-FUT	beat				

        'The person who will have lied, they will beat.'

Using *ná* or *ná-wá* is the only way to express the future perfect in this language. These data show that, like *kò*, *ná* and *ná-wá* express not absolute tense, but relative tense.

The mood marker *ní* may be used to express a wish (exhortative), as in (70a), an obligation, as in (70b), or an order (injunctive), as in (70c). I will refer to *ní* as the subjunctive marker, in order to capture its range of possible meanings.

(70)	a.	Mǎwǔ	ní	cɔ́	wè.	FONGBE
		God	SUB	protect	you	

        'May God protect you.' (Anonymous, 1983: v, 4)

	b.	Mari	ní	ɖà	wɔ̌.	FONGBE
		Mary	SUB	prepare	dough	

        'Mary must prepare dough.'

	c.	Mì	ní	ɖù.		FONGBE
		you (pl)	SUB	eat		

        'Eat' (=(74) in Avolonto, 1992: 55)
        [Lit.: 'You must eat.']

Ní occurs in matrix clauses, as in (70), and in embedded clauses, as in (71).

(71) N' jló   ɖɔ   Mari ní ɖà   wɔ̌.   FONGBE
      I   want say Mary SUB prepare dough
      'I want Mary to prepare dough.'

Avolonto (1992) argues that *ní* is part of the TMA system of Fongbe, on the following grounds. The properties of *ní* contrast in a systematic way with those of modal verbs such as *sìxú* 'may'. For example, like all the other TMA markers, and in contrast with modal verbs, *ní* does not allow for deletion of its VP complement. This is shown by the contrast in grammaticality between (72a) and (72b).

(72) a. É   sìxú.   FONGBE
          3rd may
          '(S)he may.'
      b. * É   ní   FONGBE
          3rd SUB
          [Lit.: '(S)he may/should/must.']

This shows that, unlike modal verbs, *ní* is not a verb. Second, *ní* and the other irrealis markers are mutually exclusive (*cf.* (73)), which suggests that these markers are part of the same paradigm.

(73) a. * Kɔ̀kú ná ní / ní ná   dó   gbàɖé   FONGBE
          Koku DEF-FUT/SUB DEF-FUT plant corn (Avolonto,
          1992: 52)
      b. * Kɔ̀kú ná-wá ní / ní ná-wá   dó   gbàɖé   FONGBE
          Koku IND-FUT/SUB IND-FUT plant corn

Finally, as will be shown below, like the other TMA markers, *ní* may combine with other markers of the system to form complex tenses.

In Fongbe, the imperfective aspect is rendered by a periphrastic expression involving the locative preposition *ɖò* 'at'[10] and the postposition *wè*, which has no clear independent meaning.[11] *ɖò* 'at' selects a complement headed by the postposition *wè*; this postposition selects a nominalized VP. In Fongbe nominalizations, the object precedes the nominalized verb. The construction is illustrated in (74).[12]

(74) Kɔ̀kú [ɖò [[àsɔ́n   ɖù]   wè.]]   FONGBE
      Koku at   crab   eating POST
      'Koku is eating crab.'
      [Lit.: 'Koku (is) at crab-eating.']

Note that it is the combination of ɖò 'at' and wὲ which triggers the progressive

interpretation of the clause. As can be seen in (74), Fongbe has a locative expression of

progressive meaning, which is rendered by 'be in a state of x' rather than by 'be in the

process of x' (see Welmers, 1973, for a discussion of similar data in a wide range of West

African languages). A sentence containing the complex progressive marker can only be

interpreted as progressive in the context of a dynamic verb (cf. (74)). In the context of a

stative verb, such as 'be sick' (but not 'know'[13]), a sentence containing the complex

progressive marker is assigned a habitual interpretation, as shown in (75).

(75) Sìká   ɖò   àzɔ̀n-jὲ   wὲ.   FONGBE
      Cica   at   sick   POST
      'Cica is habitually sick.'

This should not come as a surprise, given Comrie's (1976: 103) observation that languages

that have the locative expression of progressive meaning may extend the same form to

habitual meaning. This suggests that the form ɖò…wὲ is best glossed as imperfective,

which subsumes both its progressive and its habitual meaning. Finally, the imperfective

form is used in Fongbe in contexts where we find a gerund in English, as shown in (76).

(76) N'   mɔ̀n   Sìká   ɖò   wɔ̌   ɖà   wὲ.   FONGBE
      I   see   Cica   at   dough prepare POST
      'I saw Cica preparing dough.'

Anonymous (1983: v, 7) describes the form of the prospective as follows: "the

future marker nǎ can be used in a progressive construction to express an action which is

about to take place".[14]

(77) Ùn   ɖò   nǔ   nǎ   ɖù   wὲ.   FONGBE
      I   at   something DEF-FUT eat   POST
      'I am about to eat.' (Anonymous, 1983: v, 7)

The periphrastic expression of the prospective in Fongbe is ambiguous between

mood and aspect. When interpreted from the point of view that an event is about to take

place in the near future, the periphrastic expression of the prospective is more like a mood.

When interpreted from the point of view that an event has not yet begun at the time of the

moment of speech, it is more like an aspectual marker. In (57), the prospective periphrastic

expression appears to be in a paradigmatic relationship with the imperfective marker, because they are in complementary distribution. As will be shown below, the periphrastic expression of the prospective is not in complementary distribution with all of the mood markers.

Finally, the form *nɔ̀*, as it occurs in (78), is analyzed in the literature on Fongbe as a habitual marker (Segurola, 1963; Anonymous, 1983; Avolonto, 1992).

(78) Lili nɔ̀ ɖù gbàɖé.   FONGBE
     Lili HAB eat corn
     'Lili habitually eats corn.' (=(29) in Avolonto, 1992: 25)

The Fongbe dictionary compiled by Segurola (1963: 409) provides two lexical entries for *nɔ̀*. One is defined as habitual (*cf.* (78)). The other lexical entry lists *nɔ̀* as a verb meaning 'to live'. Segurola comments that the habitual marker *nɔ̀* is probably historically derived from the homophonous verb *nɔ̀* 'to live'. In Anonymous (1983) and in Rassinoux (1987), there are examples of cooccurrence of these two homophonous lexemes within a single clause.

(79) Fité à nɔ̀ nɔ̀?   FONGBE
     Where you HAB live
     'Where do you live?' (Rassinoux, 1987:173)

The fact that there can be two occurrences of *nɔ̀* within the same clause constitutes an argument supporting the claim that *nɔ̀* is the phonological representation of two separate entries in the Fongbe lexicon. Without further discussion, I will thus assume that *nɔ̀* has a double status: it is both a verb and a marker of habitual aspect.

In its function as a habitual aspect marker, *nɔ̀* may occur in a clause containing a dynamic verb, as in (78) above. It may also occur in a clause containing a resultative verb, as in (80).

(80) Lili nɔ̀ mɔ̀ Kɔkú.   FONGBE
     Lili HAB catch-sight-of Koku
     'Lili habitually catches sight of Koku.'

Nɔ̀ cannot occur, however, with stative verbs.

(81)   *   Sìká   nɔ̀   jὲ   àzɔ̀n   FONGBE
          Cica   HAB   fall   sick
          [Lit.: 'Cica is habitually sick.']

As we saw earlier, with stative verbs, Fongbe uses the imperfective form to encode

habituality (cf. (75)). Like other TMA markers, and unlike modal verbs, nɔ̀ does not allow

its VP complement to be deleted(cf. (83g)). Like other TMA markers, nɔ̀ may combine with

other markers of the system (cf. section 3.2).

To the best of my knowledge, the inventory in (57) exhauts the inventory of the

preverbal markers of Fongbe.[15]

These markers form a coherent system. First, they all occur between the subject and

the verb. Second, the pre-verbal markers occurring in the same column are mutually

exclusive. Third, while modal verbs do allow for deletion of their VP complement, as in

(82), the preverbal markers do not, as shown by the ungrammaticality of the truncated

sentences in (83).

(82)   Mari   sìxú   ɖà   wɔ̃   à?   É   sìxú.   FONGBE
      Mary   may   prepare   dough   Q   3rd   may
      'May Mary prepare dough? She may.'

(83)   a.   Mari   kò   ɖà   wɔ̃   à?   *É   kò   FONGBE
          Mary   ANT   prepare   dough   Q   3rd   ANT
          'Has Mary prepared dough? She did.'
      b.   Mari   ná   ɖà   wɔ̃   à?   *É   ná   FONGBE
          Mary   DEF-FUT   prepare   dough   Q   3rd   DEF-FUT
          'Will Mary prepare dough? She will.'
      c.   É   ná-wá   yì   à?   *É   ná-wá   FONGBE
          3rd   IND-FUT   go   Q   3rd   IND-FUT
          'Will she eventually go? She will.'
      d.   Mari   ní   ɖà   wɔ̃   à?   *É   ní   FONGBE
          Mary   SUB   prepare   dough   Q   3rd   SUB
          'Must Mary prepare dough? She must.'
      e.   Mari   ɖò   àsɔ́n 5   ɖù   wὲ   à?   *É   ɖò/ɖέὲ   FONGBE
          Mary   at   crab   DET   eating   PART   Q   3rd   at
          'Is Mary eating crab? She is.'
      f.   Mari   ɖò   nǔ   ná   ɖù   wὲ   à?   *É   ɖò/ɖέὲ   FONGBE
          Mary   at   thing   DEF-FUT   eat   PART   Q   3rd   at
          'Is Mary about to eat? She is.'
      g.   Mari   nɔ̀   ɖà   wɔ̃   à?   *É   nɔ̀   FONGBE
          Mary   HAB   prepare   dough   Q   3rd   HAB
          'Does Mary habitually prepare dough? She does.'

Fourth, the preverbal markers in (57) have no meaning except as part of the TMA system.

Finally, the TMA markers may combine to form complex tenses.

3.2. The complex tenses of Fongbe

This section identifies the possible combinations of the Fongbe TMA markers. The definite future *ná* may combine with the imperfective aspect, yielding a future progressive interpretation.

```
(84)   Ù    ná      ɖò   tìntón       wè.                    FONGBE
       I    DEF-FUT  at   going-out    POST
       'I will be going out.'  (Anonymous, 1983: v, 7)
```

In Fongbe, the definite future marker may cooccur with the prospective, yielding a future prospective interpretation.

```
(85)   Ùn   ná      ɖò     nǔ     ná       ɖù   wè.        FONGBE
       I    DEF-FUT  be-at  thing  DEF-FUT  eat  PART
       'I will be about to eat.'
```

The combination of the definite future marker with the marker of anteriority yields a (definite) conditional interpretation.

```
(86)   Dynamic verb
       Mari   kò    ná       ɖà       wɔ́.16             FONGBE
       Mary   ANT   DEF-FUT  prepare  dough
       'Mary would prepare dough.'
       'Mary would have prepared dough.'
```

```
(87)   Resultative verb
       Mari   kò    ná       mɔ̀             Jan.       FONGBE
       Mary   ANT   DEF-FUT  catch-sight-of  John
       'Mary would catch sight of John.'
       'Mary would have caught sight of John.'
```

```
(88)   Stative verb
       Mari   kò    ná       tùn    Kɔkú.              FONGBE
       Mary   ANT   DEF-FUT  know   Koku
       'Mary would know Koku.'
       'Mary would have known Koku.'
```

The indefinite future marker *ná-wá* may also combine with the marker of anteriority, yielding an (indefinite) conditional interpretation.

(89) Dynamic verb
Mari   kò   ná-wá   ɖà   wɔ.   FONGBE
Mary   ANT   IND-FUT prepare dough
'Mary might prepare dough.'
'Mary might have prepared dough.'

(90) Resultative verb
Mari   kò   ná-wá   mɔ   Jan.   FONGBE
Mary   ANT   IND-FUT catch-sight-of John
'Mary might catch sight of John.'
'Mary might have caught sight of John.'

(91) Stative verb
Mari   kò   ná-wá   tùn   Kɔkú.   FONGBE
Mary   ANT   IND-FUT know   Koku
'Mary might know Koku.'
'Mary might have known Koku.'

The indefinite or potential future marker *ná-wá* may occur with the imperfective marker, yielding an indefinite future progressive.

(92) Ùn   ná-wá   ɖò   wɔ   ɖà   wè.   FONGBE
     I   IND-FUT be-at dough prepare PART
     'I will eventually be preparing dough.'

Since indefinite future describes a situation that may eventually happen in the far future, and since the prospective aspect describes a situation that is about to take place in the very near future, *ná-wá* is not expected to cooccur with the prospective. This is borne out by the data, as shown by the ungrammaticality of (93).

(93) * Ùn   ná-wá   ɖò   nŭ   ná   ɖù   wè   FONGBE
        I   IND-FUT be-at thing FUT eat   PART
        [Lit.: 'I will eventually be about to eat.']

The subjunctive marker *ní* may combine with the imperfective aspectual marker.

(94) Sìká   ní   ɖò   wɔ   ɖà   wè.   FONGBE
     Cica   SUB   be-at dough prepare PART
     'Cica must be preparing dough.'

It may not combine, however, with the prospective aspect. This incompatibility follows from the fact that *ní* is exclusively deontic.

(95) * Kɔkú   ní   ɖò   nŭ   ná   ɖù   wè   FONGBE
        Koku   SUB   be-at thing DEF-FUT eat   PART
        [Lit.: 'Koku must be about to eat.']

The marker *ní* may combine with the marker of anteriority *kò*. For some speakers, but not all, *kò* can precede *ní*, as shown in (96).

(96) Sìká kò nɪ́ ɖà wɔ̌.   FONGBE
     Cica ANT SUB prepare dough
     'Cica must have prepared dough.'

For all speakers, *nɪ́* may precede *kò*, as shown in (97).

(97) Kɔ̀kú kò jló nú Sɪ́ka nɪ́ kò ɖà wɔ̌.   FONGBE
     Koku ANT want COMP Cica SUB ANT prepare dough
     'Koku had wanted Cica to have prepared dough.'

In addition to combining with the irrealis markers (*cf.* (86)-(88) and (89)-(91)), the marker of anteriority *kò* may combine with the aspectual markers: the imperfective, as in (98), and the prospective, as in (99).

(98) Sìká kò ɖò wɔ̌ ɖà wὲ.   FONGBE
     Cica ANT be-at dough prepare POST
     'Cica was preparing dough.'

(99) Sìká kò ɖò wɔ̌ ná ɖà wὲ.   FONGBE
     Cica ANT be-at dough DEF-FUT prepare POST
     'Cica was about to prepare dough.'

The habitual marker *nɔ̀* may combine with almost all of the other markers of the system. It may combine with the definite future marker, and the indefinite future marker.

(100) Sìká ná nɔ̀ ɖà wɔ̌.   FONGBE
      Cica DEF-FUT HAB prepare dough
      'Cica will habitually prepare dough.' (=(34) in Avolonto, 1992: 27)

(101) Sìká ná-wá nɔ̀ ɖà wɔ̌.   FONGBE
      Cica IND-FUT HAB prepare dough
      'Cica will eventually habitually prepare dough.'

It may combine with the subjunctive marker *nɪ́*.

(102) Sìká nɪ́ nɔ̀ ɖà wɔ̌.   FONGBE
      Cica SUB HAB prepare dough
      'Cica must habitually prepare dough.'

It may combine with the imperfective, and the prospective.

(103) Sìká nɔ̀ ɖò wɔ̌ ɖà wὲ.   FONGBE
      Cica HAB at dough prepare POST
      'Cica is habitually preparing dough.'

(104) Sìká nɔ̀ ɖò wɔ̌ ná ɖà wὲ.   FONGBE
      Cica HAB at dough DEF-FUT prepare POST
      'Cica is habitually about to prepare dough.'

The habitual marker may also cooccur with *kò*. In this case, however, *kò* is assigned its adverbial reading 'already'. As can be seen from the fact that the (b) interpretation is impossible, *kò* cannot be interpreted as a marker of anteriority in this context.

(105) Sìká   kò   nɔ̀   ɖà   wɔ̃.   FONGBE
Cica   already   HAB   prepare   dough

  a. 'Cica already has the habit of preparing dough.' (=(45b) in
     Avolonto, 1992: 37)
  b. # 'Cica has had the habit of preparing dough'

On the basis of this fact, I conclude that *nɔ̀* does not combine with the marker of anteriority

kò.

Finally, it is possible to combine markers from all three paradigms. The

combination of the three markers in (106) yields a definite conditional progressive

interpretation of the clause.

(106) Mari   kò   ná   ɖò   wɔ̃   ɖà   wè.   FONGBE
Mary   ANT   DEF-FUT   at   dough   prepare   POST
'Mary would be preparing dough.'

The combination of the three markers in (107) yields a definite conditional prospective

interpretation of the clause.

(107) Mari   kò   ná   ɖò   wɔ̃   ná   ɖà   wè.   FONGBE
Mary   ANT   DEF-FUT   at   dough   FUT   prepare   POST
'Mary would be about to prepare dough.'

The combination of the three markers in (108) yields a definite conditional prospective

interpretation.

(108) Mari   kò   ná-wá   ɖò   wɔ̃   ɖà   wè.   FONGBE
Mary   ANT   IND-FUT   at   dough   prepare   POST
'Mary might eventually be preparing dough.'

(109) illustrates the series *kò*, *ní* and *ɖò...wè*.

(109) Sìká   kò   ní   ɖò   wɔ̃   ɖà   wè.   FONGBE
Cica   ANT   SUB   at   dough   prepare   POST
'Cica had to have been preparing dough.'

The data presented in this section exhaust the possibilities for combining the TMA

markers of the Fongbe TMA system.

3.3. Bare sentences

In Fongbe there are bare sentences, which do not contain any TMA marker. The

temporal interpretation of a bare sentence is computed from the various components of the

clause that participate in establishing its aspectual properties: the aspectual class of the verb

(*cf.* Avolonto, 1992), and the specificity of the arguments of the verb. In Fongbe, a noun

phrase is specific if it has the determiner ɔ́ (see Lefebvre, 1992b). A bare sentence

containing a dynamic verb with a specific object is interpreted as present perfect, as shown

in (110).

(110) Mari ɖà wɔ̌ ɔ́.   FONGBE
     Mary prepare dough DET
     'Mary has prepared the dough.'

A sentence containing a dynamic verb with a non-specific object is interpreted as past, as

shown in (111).

(111) Mari ɖà wɔ̌.   FONGBE
     Mary prepare dough
     'Mary prepared dough.'

The specificity of the subject plays a role in the temporal interpretation of a clause that has

no object. Consider the following examples.

(112) a. Jǐ-nǔ-kún ɔ́ ná.   FONGBE
          harvest DET give
          'The harvest has brought us money.'
          [Lit.: 'The harvest has given.']
     b. Jǐ-nǔ-kún ná.   FONGBE
          harvest give
          'Harvest (generally) brings us money.'
          [Lit.: 'The harvest generally gives.']

In (112a), the subject is specific and the clause is assigned a present perfect interpretation.

In (112b), the subject is generic and the clause is assigned a general present interpretation.

A bare sentence containing a resultative verb is ambiguous between a present and a

present perfect interpretation.

(113)   Mari mɔ̀ àjótɔ́ (ɔ́).   FONGBE
         Mary catch-sight-of thief DET
     a. 'Mary catches sight of the thief.'
     b. 'Mary has caught sight of the thief.'

Finally, a bare sentence containing a stative verb is always interpreted as present

(see also Avolonto, 1992: 7).

(114) Mari tùn Jan.   FONGBE
     Mary know John
     'Mary knows John.'

The tense interpretation of a bare sentence thus ranges from simple past, to general present, through present perfect, depending on the various components that define the aspectual properties of the clause.

3.4. The expression of tense as relative tense in Fongbe

The data presented in this section show that the perverbal markers of Fongbe do not encode absolute tense, but relative tense. The markers of the TMA system situate the time of the event with respect to a reference point, rather than with respect to the moment of speech. The fact that the Fongbe TMA markers express relative, rather than absolute, tense can be seen even more clearly by considering the temporal interpretations each marker might be assigned in the system for representing tense used earlier for Haitian. The distribution of the Fongbe markers within such a system is shown in Table 3, which also takes into account the aspectual classes of verbs. Again, for convenience, bare sentences are represented as ø. As before, the symbol — indicates the absence of interpretation for a given logical possibility.

Table 3. *The expression of relative tense in Fongbe*

	Dynamic verbs	Resultative verbs	Stative verbs
Pluperfect E_R_S	kò	kò	kò
Simple past E, R_S	∅	kò	kò
Present perfect E_S, R	∅	∅	—
Present S, R, E	∅	∅	∅
Definite future S,R_E	ná	ná	ná
Indefinite future S_R, E	ná-wá	ná-wá	ná-wá
Future perfect S_E_R	ná+adv ná-wá	ná+adv ná-wá	ná+adv ná-wá

As can be seen in Table 3, no preverbal marker of Fongbe corresponds to only one absolute tense. This supports the claim that the TMA markers express relative tense, not absolute tense.

3.5. Summary

The data reported on in this section show that the following are salient features of the Fongbe TMA system. Fongbe has bare verbs. Tense, mood, and aspect are encoded by means of markers occurring between the subject and the verb. Complex tenses are formed by the combination of these markers. Fongbe also has bare sentences. Regardless of whether a sentence contains an overt preverbal marker, it always receives a relative, rather than an absolute, temporal interpretation. With these data in hand, we can now turn to the comparison of the TMA system of Haitian with that of Fongbe.

4. The TMA system of Haitian compared with that of Fongbe

This section presents an extensive comparison of the properties of the TMA system of Haitian with those of the TMA system of Fongbe, one of the substratum languages of Haitian. While the phonological representations of the lexical entries involved in the two systems are obviously quite distinct, the semantic properties of the TMA system of Haitian parallel in a systematic way those of the Fongbe TMA system. This supports the claim, made earlier, that the semantics of the TMA system of Haitian comes from the substratum languages.

4.1. Bare verbs

In both Haitian and Fongbe, the verb of a tensed clause is invariant. As the numerous examples presented above, in both of these languages, the verb always occurs in its bare form; there are no subject/verb agreement markers for person or number, and no affixes encoding tense, mood, or aspect. In both Haitian and Fongbe, relative tense, mood and aspect are all encoded by markers occurring between the subject and the verb.

4.2. The inventory of TMA markers

The inventory of TMA markers in both languages is quite parallel. This is shown in (115) which combines the data in (3), for Haitian, and in (57), for Fongbe.

(115) ANTERIOR   IRREALIS   NON-COMPLETE

• Past/ Past perfect		• Definite future		• Habitual		• Imperfective	
H	F	H	F	H	F	H	F
te	kò	ap	ná	—	nò	ap	ɖò...wè

		• Indefinite future				• Prospective	
		H	F			H	F
		a-va	ná-wá			apr-ale	ɖò...ná...wè

		• Subjunctive	
		H	F
		pou	ní

Both languages have a marker which encodes anteriority. Both lexically distinguish between definite and indefinite future mood markers, and both have a subjunctive marker. Both lexically encode imperfective and prospective aspects. As can be seen in (115), there is a one to one correspondance between the preverbal markers in the two languages (with the exception that Fongbe has a preverbal marker encoding habitual, and Haitian does not). Moreover, when we compare the detailed properties of the pairs of markers in (115), we find quite interesting parallels.

4.3. The detailed properties of pairs of markers

This section compares the properties of related markers in Haitian and Fongbe. Additional data pertaining to the interpretation of the TMA markers in the context of negation will be presented in the course of the comparison. These facts are revealing of the semantics of the lexical items involved.

Te **and** *kò*

In both languages, a sentence containing a marker of anteriority is interpreted as past or as pluperfect, depending on the aspectual class of the verb. Sentences containing a marker of anteriority and a dynamic verb are always interpreted as pluperfect, as shown in (116).

(116) Dynamic verbs
    Mari   te   prepare   pat.   HAITIAN
    Mari   kò   ɖà   wɔ̃.   FONGBE
    Mary ANT prepare   dough
    'Mary had prepared dough.'

Sentences containing a marker of anteriority and a resultative verb are ambiguous between a past and a pluperfect interpretation.

(117) Resultative verbs
    Mari   te   wè   volè a.   HAITIAN
    Mari   kò   mɔ̃   àjɔ̃tɔ̃ ɔ̃.   FONGBE
    Mary ANT catch sight of thief DET
    'Mary caught sight of the thief.'
    'Mary had caught sight of the thief.'

Finally, sentences containing a marker of anteriority and a stative verb have a past or a pluperfect interpretation.

(118) Stative verbs
    Mari   te   kònnèn Jan.   HAITIAN
    Mari   kò   tùn   Jan.   FONGBE
    Mary ANT know   John
    'Mary knew John.'
    'Mary had known John.'

Thus, the semantics of Haitian *te* and that of Fongbe *kò* are parallel.

Ap and *ná*

The definite future markers *ap* and *ná*, respectively, situate with respect to the moment of speech an event that is expected to definitely take place in the near future. The event may coincide with the point of reference, yielding a simple future interpretation with verbs of all aspectual classes, as shown in (119)-(121).

(119) Dynamic verbs
    Mari   ap   prepare pat.   HAITIAN
    Mari   ná   ɖà   wɔ̃.   FONGBE
    Mary DEF-FUT prepare dough
    'Mary will prepare dough.'

(120) Resultative verbs
    Mari   ap   wè   Jan.   HAITIAN
    Mari   ná   mɔ̃   Jan.   FONGBE
    Mary DEF-FUT see   John
    'Mary will see John.'

(121) Stative verbs

Mari	ap	kònnèn	Jan.	HAITIAN
Mari	ná	tùn	Jan.	FONGBE
Mary	DEF-FUT	know	John	

'Mary will know John.'

Or the event may precede the point of reference, yielding a future perfect interpretation, as in (122).

(122)

Mari	ap	deja	prepare	pat.	HAITIAN
Mari	ná	kò	dǎ	wɔ̌.	FONGBE
Mary	DEF-FUT	already	prepare	dough	

'Mary will have prepared dough.'

Interestingly enough, in both languages, the interpretation of a clause containing both the marker of anteriority and the definite future marker is conditional; this holds for all three aspectual classes of verbs. An example containing a dynamic verb is given in (123).

(123)

Mari	te	ap	prepare	pat.	HAITIAN
Mari	kò	ná	dà	wɔ̌.	FONGBE
Mary	ANT	DEF-FUT	prepare	dough	

'Mary would prepare dough.'
'Mary would have prepared dough.'

These facts show that the definite future markers in Haitian and Fongbe have similar morphological and semantic properties.

A-va and *ná-wá*

In both languages, the marker of indefinite future situates with respect to the moment of speech an event that might eventually take place at an undetermined future time. The event may coincide with the point of reference, yielding a simple indefinite future interpretation with verbs of all aspectual classes, as shown in (124).

(124) a. Dynamic verbs

Mari	a-va	prepare	pat.	HAITIAN
Mari	ná-wá	dà	wɔ̌.	FONGBE
Mary	IND-FUT	prepare	dough	

'Mary will eventually prepare dough.'

b. Resultative verbs

Mari	a-va	wè	Jan.	HAITIAN
Mari	ná-wá	mɔ̀	Jan.	FONGBE
Mary	IND-FUT	catch-sight of	John	

'Mary will eventually catch sight of John.'

c. Stative verbs
 Mari a-va kònnen Jan.   HAITIAN
 Mari ná-wá tùn Jan.   FONGBE
 Mary IND-FUT know John
 'Mary will eventually know John.'

The event may precede the point of reference, yielding an indefinite future perfect

interpretation, as in (125).

(125) Moun ki a-va manti   a yo a-va bat. HAITIAN
   Mɛ̌ ɛ́ ná-wá ɖó-àdigbán ɔ́ yɛ̌ ná-wá xwé. FONGBE
   Person who IND-FUT lie   DET they IND-FUT beat
   'The person who will have lied, they will beat.'

In both languages, the combination of the indefinite future marker with the marker

of anteriority yields an indefinite conditional interpretation. This interpretation holds for all

three aspectual classes of verbs. An example is given in (126), for a sentence containing a

dynamic verb.

(126) Mari t' a-va prepare pat.   HAITIAN
   Mari kò ná-wá ɖà   wɔ̃.   FONGBE
   Mary ANT IND-FUT prepare dough
   'Mary might prepare dough.'
   'Mary might have prepared dough.'

While in both languages the definite future marker is compatible with negation, as

shown in (127), the indefinite future marker is not, as shown by the ungrammaticality of

the sentences in (128).[17]

(127) Jan pa ap prepare pat.   HAITIAN
   Jan má ná ɖà   wɔ̃.   FONGBE
   John NEG DEF-FUT prepare dough
   'John will not prepare dough.'

(128) * Jan pa a-va prepare pat   HAITIAN
   * Jan má ná-wá ɖà   wɔ̃   FONGBE
   John NEG IND-FUT prepare dough
   [Lit.: 'John will not eventually prepare dough.']

Whatever the formal account of this incompatibility is, the fact that it exists in these two

languages, but not in others (such as French, as we saw earlier) is revealing of the shared

semantic properties of the lexical items involved.

Another interesting fact about the markers of indefinite future has to do with their

morphological composition. *Ná-wá* has internal structure, and so does *a-va*. I hypothesize

that *a-va* is actually /ap-va/, a combination of the future marker *ap* (=*ná* 'DEF-FUT') and the morpheme *va* (= *wá* 'to go'). As we saw earlier, the phonological representation of Haitian *va* is homophonous with the form *va* of the French verb *aller* 'to go', used to form the periphrastic future. As is the case for *ná-wá* (cf. (65)), the two morphemes forming the indefinite future in Haitian, *ap-* and *va*, cannot be dissociated. Moreover, in Haitian, the morpheme *va* is not used in isolation, as is shown by the ungrammaticality of (129b). The lexical form of the verb 'to go' is *ale*, as in (129c).

(129) a. Jan   a-va   ale.   HAITIAN
         John   IND-FUT   go
         'John will perhaps/eventually go.'
      b. * Jan   ap   va   HAITIAN
         John   FUT   go
      c. Jan   ap   ale.   HAITIAN
         John   FUT   go
         'John will go.'

The comparison of the properties of *a-va* in Haitian and *ná-wá* in Fongbe shows that the semantic, syntactic, and morphological properties of these markers are quite parallel.

Pou and *ní*

Pou and *ní* have been identified as the subjunctive preverbal markers of Haitian and Fongbe, respectively. They share the same range of meanings (namely, 'may', 'should', and 'must') as shown in (130).

(130) a. Dye   pou   proteje   u.   HAITIAN
         Mǎwù   ní   cɔ́   wè.   FONGBE
         God   SUB   protect   you
         'May God protect you.'
      b. Mari   pou   prepare   pat.   HAITIAN
         Mari   ní   ɖà   wɔ́.   FONGBE
         Mary   SUB   prepare   dough
         'Mary should prepare dough.'
      c. Ti-moun yo pou ale nan mache   kunyèa. HAITIAN
         Ví   lê   ní wá àxí   mè dì.   FONGBE
         child   PL   SUB go into market into now
         'The child must go to the market at once.'

In addition to occurring in matrix clauses, both markers occur in embedded clauses.

(131) Yo   di   u   pou   plante mayi.   HAITIAN
      Yĕ   ɖɔ̀   à   nǐ   ɖó   gbàɖé.   FONGBE
      They say   you   SUB   sow   corn
      'They told you to sow corn.' (=(40) in Lefebvre 1993a: 38)

Both are mutually exclusive with the other mood markers (cf. (16) and (73)).

Both *pou* and *nǐ* may occur in the context of negation. In this case, the subjunctive marker can either precede or follow the marker of negation. The position of the marker of negation in relation to the subjunctive marker determines the scope of negation, as is shown in the translation of the sentences in (132).[18]

(132) a.   Mari pou   pa   prepare pat.   HAITIAN
           Mari nǐ   má   ɖà   wɔ̄.[19]   FONGBE
           Mary SUB   NEG   prepare dough
           'Mary should not prepare dough.'
      b.   Mari pa   pou   prepare pat.   HAITIAN
           Mari má   nǐ   ɖà   wɔ̄.   FONGBE
           Mary NEG   SUB   prepare dough
           'Mary does not have to prepare dough.'

The data presented above show that the semantics and the distribution of Haitian *pou* are quite parallel to that of Fongbe *nǐ*.

Ap and ɖò...wɛ̀

In Haitian, the imperfective aspect is expressed by *ap*, as in (133).

(133) Mari ap   manje krab.   HAITIAN
      Mary IMP   eat   crab
      'Mary is (at) eating crab.'

Recall that, in Fongbe, the imperfective aspect is expressed by the combination of the locative preposition *ɖò* 'at' and the postposition *wɛ̀* that it selects.

(134) Kɔ̀kú [ɖò [[àsɔ́n ɖù]   wɛ̀.]]   FONGBE
      Koku   at   crab   eating POST
      'Koku is eating crab.'
      [Lit.: 'Koku (is) at crab-eating.']

These data show that *ap* and *ɖò* differ in selectional properties. While Haitian *ap* selects a VP, as shown in (133), Fongbe *ɖò* selects a postpositional phrase, which in turn selects a nominalized VP, as shown in (134). In spite of the selectional difference between them, these two forms share semantic properties.

First, as has been argued independently for Haitian and for Fongbe, these markers are locative expressions, and as such, their meaning is best rendered as 'be in a state of doing x' rather than as 'be in the process of doing x'. Second, in addition to being interpreted as progressive, *ap* and *ḍò...wè* may be interpreted as habitual.

(135) a. Mari ap   joure   toutan.   HAITIAN
          Mary IMP   swear   all-the-time
          'Mary swears all the time.'
      b. Sìká ḍò   àzɔ̀n-jὲ wὲ.   FONGBE
          Cica at · sick-fall POST
          'Cica is habitually/generally sick.'

As discussed previously, it is this fact that has led me to characterize these markers as imperfective, a term which subsumes both of their interpretations. Third, both *ap* and *ḍò...wè* occur in contexts where we would find a gerund in English. This is shown in (136).

(136) a. M' ap   jwὲnn Mari ap   prepare pat.   HAITIAN
          I   DEF-FUT   find   Mary IMP   prepare dough
          'I will find Mary preparing dough.'
      b. N' ná   mɔ̀ Sìká ḍò wɔ̌   ḍà   wὲ.   FONGBE
          I   DEF-FUT see Cica at dough prepare POST
          'I will see Cica preparing dough.'

Finally, in both languages the imperfective marker can occur within a negative sentence. In this case, the clause may be assigned two interpretations: a negative progressive interpretration (also noted in Spears 1990: 121 ex. (4d) for Haitian), and a negative future interpretation.

(137) a.   Mari pa   ap   manje crab.   HAITIAN
              Mary NEG   IMP   eat   crab
          a. 'Mary is not eating crab.'
          b. 'Mary will not eat crab.'
      b.   Kɔ̀kú má   ḍò   àsɔ́n ḍù   wὲ.   FONGBE
              Koku NEG be-at crab eat POST
          a. 'Koku is not eating crab.'
          b. 'Koku will not eat crab.'

It could be argued that these interpretive facts are not surprising for Haitian, since the future and the imperfective markers are homophonous. It is remarkable, however, that these two interpretations also obtain for Fongbe, since in this language, the future marker and the imperfective marker are phonologically quite distinct (*e.g. ná* and *ḍò... wὲ*, respectively).

The imperfective marker can nevertheless be assigned two interpretations in the context of negation (*cf.* (137b)).

So, in spite of the fact that *ap* and *ɖò…wè* show different selectional properties, they are strikingly parallel semantically.

Apr-al and *ɖò…ná…wè*

In Haitian, the prospective aspect is rendered by *apr-al* (and its allomorphs). *Apr-al* is morphologically complex. It is made up of the morpheme *apr-*, an allomorph of the imperfective marker, and a full or reduced form of the verb *ale* 'to go'. In Fongbe, the prospective aspect is rendered by a syntactic construction involving the imperfective aspect and the definite future marker. While the Haitian form of the prospective selects a VP, the Fongbe prospective involves a nominalized VP, as shown in (138) and (139), respectively.

(138) Mari   pral   manje.   HAITIAN
      Mary   PROSP   eat
      'Mary is about to eat.'

(139) Ùn   ɖò   [[nŭ   ná   ɖù]   wè].   FONGBE
      I   at   something   DEF-FUT   eat   POST
      'I am about to eat.'   (Anonymous, 1983: v, 7)

Thus, the prospective aspect in the two languages shows different selectional properties. In spite of these differences, the semantic properties of the prospective aspect in Haitian and in Fongbe are remarkably parallel.

In addition to sharing a common meaning (that of specifying that an event is about to take place) these two markers combine with other markers of the TMA system to form complex tenses. For example, in both languages, the prospective may occur with the future marker, as in (140).

(140) a.   Mari   ap   apral   manje.   HAITIAN
           Mary   DEF-FUT   PROSP   eat
           'Mary will be about to eat.'
      b.   Ùn   ná   ɖò   nŭ   ná   ɖù   wè.   FONGBE
           I   DEF-FUT at   thing   DEF-FUT   eat   POST
           'I will be about to eat.'

It may also occur with the marker of anteriority, as in (141).

(141) a.   Mari   t'   pral   prepare pat.   HAITIAN
            Mary ANT PROSP prepare dough
            'Mary was about to prepare dough.'

       b.   Sìká kò ɖò wɔ́   ná   ɖà   wὲ.   FONGBE
            Cica ANT at   dough DEF-FUT prepare POST
            'Cica was about to prepare dough.'

The data in (140) and (141) are similar to data in English (compare the example sentences with their English translations).

Interestingly, the prospective excludes combinations which are possible in other languages, such as English or French. For example, in both Haitian and Fongbe, the prospective may not combine with the indefinite future marker, as shown by the ungrammaticality of (142).

(142) a. * M a-va   pral   manje   HAITIAN
            I   IND-FUT PROSP eat
            [Lit.: 'I will eventually be about to eat.']

       b. * Ùn ná-wá   ɖò   nŭ   ná   ɖù wὲ   FONGBE
            I   IND-FUT at   thing FUT eat POST
            [Lit.: 'I will eventually be about to eat.']

This is due to the semantics of these markers; the indefinite future marker describes a situation that may eventually take place (in the far future) and the prospective aspect describes a situation that is about to take place in the very near future. The indefinite future marker is therefore incompatible with the prospective aspect in these languages.

Similarly, in both languages, the prospective and the subjunctive are mutually incompatible, as shown in (143). Note that the English and French translations of these sentences are perfectly grammatical.

(143) a. * Mari pou pral   manje   HAITIAN
            Mary SUB PROSP eat
            [Lit.: 'Mary must be about to eat.']
            [Lit.: 'Marie doit être sur le point de manger.']

       b. * Kɔ̀kú ní ɖò   nŭ   ná   ɖù wὲ   FONGBE
            Koku SUB at   thing DEF-FUT eat POST
            [Lit.: 'Koku must be about to eat.']
            [Lit.: 'Koku doit être sur le point de manger.']

This follows from the fact that in Haitian and Fongbe *pou* and *ní* are exclusively deontic, whereas in English and French *must* and *devoir* may have an epistemic interpretation.

Facts involving the interpretation of the prospective markers in the context of negation are even more striking. Both languages preclude a prospective interpretation. In both languages, a future interpretation of the clause obtains.

(144) a.   Mari   pa   pral   manje.   HAITIAN
         Mary   NEG   PROSP   eat
         'Mary will not eat.'
    #   'Mary is not about to eat'

     b.   Kɔkú   má   ɖò   nǔ   ná   ɖù   wὲ.   FONGBE
         Koku   NEG   at   thing   DEF-FUT   eat   POST
         'Koku will not eat.'
    #   'Koku is not about to eat'

Again, these interpretive facts are revealing of the semantic properties of these markers. As was mentioned earlier, in both languages, the prospective is ambiguous between a mood and an aspectual interpretation. When interpreted from the point of view that an event is about to take place in the near future, the prospective markers are more like mood markers. When interpreted from the point of view that an event has not yet begun, the prospective markers are more like aspectual markers. The data in (144) show that the negative marker triggers a mood interpretation of the prospective markers in both Haitian and Fongbe.

In spite of the fact that the form of the Haitian prospective marker differs from the Fongbe prospective marker in its morphological composition and its syntactic properties, the semantics of these forms appears to be quite parallel.

This detailed comparison of the markers forming the TMA systems of Haitian and Fongbe shows that the semantic properties of pairs of morphemes are extremely parallel.

4.4. Complex tenses

In both Haitian and Fongbe, complex tenses are formed by the combination of the tense, mood, and aspect markers. The possible combinations of markers corresponding to complex tenses are schematically represented in Table 4 for the two languages. The left column identifies the combinations of markers, with their meanings. The numbers in the right columns correspond to the example sentences provided in the text. The data

summarized in Table 4 exhaust the list of possible combinations in the two languages, with

the exception of the combinations involving *nɔ* in Fongbe. Since there is no lexical item in

Haitian corresponding to the Fongbe habitual marker *nɔ*, the complex tenses involving *nɔ*

have not been represented in Table 4.

Table 4. *Complex tenses in Haitian and in Fongbe*

Combinations of marker	Haitian	Fongbe
(a) DEF-FUT + IMP 'near future progressive'	(27)	(84)
(b) DEF-FUT + PROSP 'near future prospective' .	(28)	(85)
(c) IND-FUT + IMP 'far future progressive'	(35)	(92)
(d) SUB + IMP 'obligation in the progressive'	(37)	(94)
(e) ANT + DEF-FUT 'definite conditional'	(29), (30), (31)	(86), (87), (88)
(f) ANT + IND-FUT 'indefinite conditional'	(32), (33), (34)	(89), (90), (91)
(g) ANT + SUB 'past obligation'	(39)	(96)
(h) SUB + ANT 'obligation in the present of having done x in the past'	(40)	(97)
(i) ANT + IMP 'past progressive'	(41)	(98)
(j) ANT + PROSP 'past prospective'	(42)	(99)
(k) ANT + DEF-FUT + IMP 'definite conditional progressive'	(43)	(106)
(l) ANT + DEF-FUT + PROSP 'definite contional prospective'	(44)	(107)
(m) ANT + IND-FUT + IMP 'indefinite conditional progressive'	(45)	(108)
(n) ANT + SUB + IMP 'past subjunctive non-complete'	(46)	(109)

Due to limitations of space, I indicate only the 'obligation' reading of the
subjunctive; the other readings ('may' and 'should') are also possible in complex
tenses.

As can be seen in Table 4, there is a one-to-one correspondance between the complex tenses of Haitian and those of Fongbe.

4.5. The interpretation of bare sentences and the pair — / *nò*

Both Haitian and Fongbe show bare sentences, which have no preverbal markers. When we bring thogether the facts pertaining to the temporal interpretation of bare sentences in Haitian and in Fongbe, we once again find a very close parallel between the interpretive facts in the two languages. There is one exception to this general pattern, which I propose to link to the availability of an overt preverbal marker of habitual aspect in Fongbe (*nò*) and to the absence of a corresponding overt preverbal marker in Haitian.

In both languages, a clause containing a dynamic verb and a specific object is interpreted as present perfect, as shown in (145).

```
(145)  Mari   prepare   pat      la.           HAITIAN
       Mari   ɖà        wɔ       ɔ.            FONGBE
       Mary   prepare   dough    DET
       'Mary has prepared the dough.'
```

A clause containing a dynamic verb and a non-specific object is interpreted as past, as shown in (146).

```
(146)  Mari   prepare   pat.                   HAITIAN
       Mari   ɖà        wɔ.                    FONGBE
       Mary   prepare   dough
       'Mary prepared dough.'
```

Recall from (48) that the Haitian sentence in (146) may also be assigned a general present interpretation (*i.e.*, 'Mary (generally/habitually) prepares dough'). This interpretation does not obtain for the Fongbe sentence in (146). Fongbe speakers have the preverbal habitual marker *nò* to convey this meaning, as shown in (147).

```
(147)  Mari   nò    ɖà        wɔ.              FONGBE
       Mary   HAB   prepare   dough
       'Mary prepares dough.'
       [i.e., she habitually does this, or this is what she does for a living]
```

This difference between the two languages follows from the fact that while Fongbe has an overt preverbal marker to encode habituality, Haitian does not.

The specificity of the subject also plays a role in the temporal interpretation of the clause, as shown in (148).

(148) a. Rekòl   la   rapòtc.   HAITIAN
      Jī-nǔ-kún ɔ́   ná.   FONGBE
      harvest DET give
      'The harvest has brought us money.'

     b. Rekòl   rapòte.   HAITIAN
      Jī-nǔ-kún ná.   FONGBE
      harvest give
      'Harvest (generally) brings us money.'

In both languages, a bare sentence containing a resultative verb is interpreted as present or as present perfect.

(149) Mari wè   vòlè a.   HAITIAN
     Mari mɔ̀   àjótɔ́ ɔ.   FONGBE
     Mary catch-sight-of thief DET
 a. 'Mary catches sight of the thief.'
 b. 'Mary has caught sight of the thief.'

In both languages, a bare sentence containing a stative verb is interpreted as present.

(150) Mari kònnèn Jan.   HAITIAN
     Mari tùn   Jan.   FONGBE
     Mary know John
     'Mary knows John.'

Thus, the temporal interpretation of bare sentences in both Haitian and in Fongbe procedes in a similar fashion. The one exception to this general pattern follows from the fact that there is an overt preverbal marker of habitual aspect in Fongbe, which is lacking in Haitian.

4.6. Relative tense

Both languages express relative tense, rather than absolute tense, as has been argued independently for each language. In both languages, the interpretation of a clause containing a temporal expression is a function of the aspectual properties of the verb. Hence, a given temporal expression may be associated with different absolute tenses, depending on the other contributing elements. Furthermore, when we compare the range of tenses covered by specific markers, we find a striking parallel between the two languages.

This is shown in Table 5, which brings together the Haitian data in Table 2 and the Fongbe

data in Table 3.

Table 5. *The expression of Time in Haitian and in Fongbe*

	Dynamic verbs		Resultative verbs		Stative verbs	
	H	F	H	F	H	F
Pluperfect E_R_S	te	kò	te	kò	te	kò
Simple past E, R_S	∅	∅	te	kò	te	kò
Present perfect E_S, R	∅	∅	∅	∅	—	—
Present S, R, E	∅	∅	∅	∅	∅	∅
Definite future S,R_E	ap	ná	ap	ná	ap	ná
Indefinite future S_R, E	a-va	ná-wá	a-va	ná-wá	a-va	ná-wá
Future perfect S_E_R	{ ap / a-va }	{ ná / ná-wá }	{ ap / a-va }	{ ná / ná-wá }	{ ap / a-va }	{ ná / ná-wá }

4.7. Conclusion

The overall organization of the grammar pertaining to the expression of tense,

mood, and aspect in Haitian and in Fongbe is quite similar. Both languages show bare

verbs and a finite inventory of free morphemes encoding relative tense, mood and aspect.

With one exception (involving the habitual marker), the inventory of TMA markers is the

same in both languages, and they combine to form complex tenses in a similar way.

Furthermore, the semantic and distributional properties of pairs of morphemes are parallel

in the two languages. Both languages show bare sentences, and the tense interpretation of

these sentences is similar. Finally, both languages express relative tense, rather than

absolute tense. These parallels are too striking to be attributed to chance given the fact that

Fongbe has been demonstrated to be in the right place at the right time. These facts argue

for the claim that the semantics of the TMA system of Haitian comes from its substratum languages. How this situation came about is the topic of the next section.

5. The scenario of the genesis of the TMA system of Haitian within the relexification hypothesis

I have argued that the Haitian creole TMA system has the following general properties: the phonological forms of the lexical items involved in the system are derived from French phonetic matrices, but the semantic properties of these forms are derived from those of corresponding lexical entries in the substratum language(s). This division of properties is predicted by the relexification hypothesis. Recall from the introduction that relexification is a process that builds a new lexicon by copying the lexical entries of a lexicon that is already established, and replacing the phonological representations in these copied lexical entries with phonological representations based on phonetic strings found in the superstratum language or with a null form (*cf.* (2)). The properties of the Haitian lexical entries discussed in this paper reflect those of the contributing languages exactly as predicted by the hypothesis. This section sketches the scenario of the formation of the Haitian TMA system from the point of view of the grammar of Fongbe speakers, within the framework of the relexification hypothesis.

5.1. Relexification in creole genesis

According to the scenario of creole genesis developed in Lefebvre & Lumsden (1994), relexification applies in creole genesis in the following way. Adult native speakers of different substratum languages are exposed to the superstratum language but the substratum community has very little direct access to the data of the superstratum language (see also Thomason & Kaufman, 1991). In Lefebvre & Lumsden (1994), it is hypothesized that it is the limited direct access to the superstratum language that makes the process of relexification so important in creole genesis.

As has been pointed out in the introduction, the creators of creole languages do not identify the functional category items of the superstratum language. As we saw throughout this paper, the creators of Haitian did not identify the inflectional morphology of French, which is pertinent to the expression of tense, mood, and aspect in this language. On Lefebvre & Lumsden's (1994) proposal, the speakers assign a phonological form to the function words of the copied lexicon on the basis of the phonetic form of superstratum *lexical* category items. Lexical, as opposed to functional, items are more salient (Mufwene, 1986), and therefore easier to identify. As was shown earlier, the phonological forms of the TMA markers of Haitian are all derived from lexical category items involved in French periphrastic expressions.

On Lefebvre & Lumsden's (1994) proposal, the choice of a specific phonetic string in the superstratum language to relabel a copied lexical entry is determined by semantic and positional clues. On the one hand, there must be some overlap between the semantics of the lexical entry copied from the substratum language and the semantics of a phonetic string in the superstratum language (*cf.* also Muysken, 1981). On the other hand, the phonetic string in the superstratum language must occur within the clause in a position similar to that of the original lexical item.[20] As we will see below, these two constraints on relabelling are met by the Haitian data. When relexifiers do not find an appropriate phonetic string in the superstratum language to relabel a copied lexical entry, they assign it a null phonological form (*cf.* (2)).

In light of this theoretical background, I consider the historical derivation of the lexical entry of each preverbal marker in the TMA system of Haitian. The details of these derivations allow for a discussion of the process of relexification as it applies in creole genesis.

5.2. Creating the lexical entry of the marker of anteriority *te*

The Fongbe speakers had a lexical entry *kò*, the marker of anteriority. They copied this lexical entry, and looked for an appropriate phonetic string in French to relabel it. The French form *été*, as it occurs in (52e), is an appropriate form: it shares some semantics with the original lexical entry, and it occurs between the subject and the verb (see section 2). The relexifiers thus relabelled the lexical entry copied from *kò* as *te*, a reduced form of *été*. This derivation accounts straightforwardly for the fact that the properties of *te* in the Haitian lexicon parallel those of *kò* in the Fongbe lexicon.

5.3. Creating the lexical entry of the subjunctive marker *pou*

Fongbe speakers had a lexical entry *ní*, a subjunctive marker used to convey the meaning may/should/must. They copied this lexical entry, and looked for an appropriate phonetic string of French to relabel it. The French form *pour*, as it occurs in (52b), is an appropriate form: it shares some semantics with the original lexical entry, and it occurs between the subject and the verb. The relexifiers thus relabelled the lexical entry copied from *ní* as *pou*, a reduced form of the French word *pour*. This derivation accounts for the fact that the properties of Haitian *pou* parallel those of Fongbe *ní*.

5.4. Creating the lexical entry of the imperfective marker *ap*

Recall that the Fongbe imperfective aspect involves two lexical entries: the preposition *ɖò* 'at' and the postposition *wè*, which has no clear independent meaning. Recall also that the imperfective aspect in Haitian involves one lexical entry, namely, *ap* (cf. (133)). How can these facts be accounted for within the relexification hypothesis?

I propose the following derivation. I hypothesize that both Fongbe lexical entries were copied by the creators of Haitian. The lexical entry corresponding to *ɖò* was relabelled as *apr>ap*, derived from the phonetic representation of the French preposition *après*

occurring in the French periphrastic progressive, as in *Marie est après manger* 'Mary is eating' (*cf.* (52c)). The French form *après*, occurring in this context, shares some semantics with *ɖò*, and it occurs between the subject and the verb. Thus, it has the appropriate properties to relabel the Fongbe lexical entry *ɖò*. I further assume that no phonetic string was found in French to relabel the copied lexical entry corresponding to the postposition *wè*. Consequently, that copied lexical entry was assigned a null phonological representation. In the early Haitian creole, then, the only visible form of the imperfective was *ap*.

Since there is no phonological form corresponding to Fongbe *wè* in modern Haitian, I hypothesize that the copied lexical entry corresponding to Fongbe *wè* was eventually dropped from the Haitian lexicon. This was accompanied by a modification in the selectional properties of the lexical entry relabelled as *ap*. As we saw previously, in modern Haitian, *ap* selects a VP complement. This contrasts with Fongbe *ɖò*, which selects a postpositional phrase headed by *wè*, which itself selects a nominalized VP complement.

The claim that some forms of the Fongbe TMA system have not been relabelled in the process of relexification is independently supported by the fact that the Fongbe habitual marker *nɔ* has no corresponding lexical entry in Haitain.

5.5. Creating the lexical entry of the definite future marker *ap*

The properties of the definite future marker *ap* and those of the Fongbe definite future marker *ná* were shown to be parallel. As for the other TMA markers, I assume that the creators of Haitian copied the lexical entry of the parallel Fongbe form, in this case, *ná*. This accounts for the fact that the semantic and syntactic properties of the definite future marker of Haitian are quite parallel to those of the corresponding Fongbe marker. However, since there is no periphrastic expression in French corresponding to the Haitian definite future marker *ap*, where does the phonological representation of Haitian *ap* come

from? The French form which is phonetically and semantically closest to the Haitian definite future marker *ap* is the preposition of posteriority *après* 'after' occurring sentence initially. We could hypothesize that the creators of Haitian assigned a label to the copied lexical entry on the basis of this French sentence initial preposition of posteriority and that the full form eventually got reduced to *apr*, and *ap*. In this case, however, *ap* could not have become the phonological representation of the copied lexical entry through the process of relabelling as defined above. Although Fongbe *ná* shares some element of meaning with the French preposition of posteriority *après*, the two lexical items do not occur in the same surface position. *Ná* occurs between the subject and the verb, but *après* occurs in sentence initial position (as in: *Après avoir mangé, nous partirons.* 'After eating, we will leave.'). How, then, did *ap* become the phonological representation of the copied lexical entry corresponding to *ná* in Fongbe? I argue below that *ap* has become the phonological representation of the copied lexical entry through reanalysis of the Haitian preposition of posteriority *apre* (<French *après* 'after'), which occurs in sentence initial position.

Reanalysis is a process by which a particular form which signals one lexical entry becomes the signal of another lexical entry (Lightfoot, 1979). For example, the preposition *of* in English has been reanalyzed as a case marker (Chomsky, 1981). Likewise, the French forms *à* and *de* have a double status as prepositions and as case markers (Kayne, 1981). Lefebvre & Lumsden (1994: 12) propose that in creole genesis reanalysis applies to a lexical entry that has been created through relexification:

> That is, a lexical entry of a substratum language functional category is copied, but it is not assigned a phonological representation by relabelling. In the absence of visible phonological signals for a particular functional category, speakers use periphrastic constructions to clarify information that is not being signalled. Speakers will then copy the phonological form of the key element of the periphrastic construction into the lexical entry of the previously hidden functional category. In this way, reanalysis provides an explicit signal for a creole lexical entry that was generated by relexification but did not acquire a phonological signal in relabelling. The process of reanalysis in creole genesis can be seen in the tense and aspect system of Tok Pisin as documented in some

detail in the work of Sankoff (1991). She points out that "The changes ongoing in the Tok Pisin tense and aspect system are making it more like many of the substrate language" (1991: 73). This observation finds an explanation in the fact that the lexical entry that is assigned a label through reanalysis must have been generated through relexification. The syntactic and semantic properties of this ctegory are taken from a lexical entry of the substratum languages. When reanalysis assigns this lexical entry a phonological signal so that it becomes explicit in the creole expression, the creole is visibly more like the substratum language.

I propose below that the lexical entry of the define future marker was assigned a phonological representation along these lines.

I assume that the creators of Haitian did not find any phonetic string in the superstratum language to relabel the copied lexical entry corresponding to ná. They thus assigned a null phonological form to the copied lexical entry, as we saw in (2). They used the sentence initial preposition of posteriority apre 'after' (from French après 'after') to clarify the information which was not phonologically signalled. An example of the sentence initial adverb apre is provided in (151).

(151) Apre yo   fin   wè-l   yo   rakònte ...   HAITIAN
      After they   finish see-him   they   told
      'After they had seen him, they told ...' (from Hall, 1953: 221)

The creators of the creole then copied the phonological form of this preposition of posteriority into the lexical entry of the previously hidden functional category, the copied lexical entry corresponding to ná in Fongbe. In this way, reanalysis provided a phonological form for a creole lexical entry that was generated by relexification but was not assigned a phonological representation in relabelling. When this lexical entry was assigned a phonological form, the lexical entry of the creole had the properties of the corresponding Fongbe lexical entry. I assume that the full form apre was eventually reduced to apr and ap.

Assuming this scenario to be correct, the question of who initiated this reanalysis remains: was it the creators of the creole, who were adults and who were not native speakers of the creole, or their children, the first generation of Haitian native speakers, or

even subsequent generations of native speakers? There are no available Haitian data enabling us to answer this question. We can take it up, however, from the point of view of contemporary data drawn from a TMA system in formation.

Work by Sankoff & Laberge (1973, 1980), and by Sankoff (1991), on the emergence of the preverbal markers of Tok Pisin is most enlightening. This work shows that the future temporal-aspectual marker *bai* comes from the sentential adverb of posteriority *baimbai*. Sankoff & Laberge (1980: 208, 9) observe that:

> ... change in the status of *bai* was well under way prior to the existence of a large number of native speakers; native speakers appear to be carrying further tendancies which were already present in the language.

There is no reason to believe that the development of Haitian *ap*, described in this section, proceeded differently from that of Tok Pisin *bai*. We can safely hypothesize that the reanalysis of the temporal preposition *apre*, as the signal for the definite future lexical entry, was undertaken by the creators of Haitian; that is, by the adults speakers who were the relexifiers of their own language.

The historical derivations proposed above for the marker of definite future and for the marker of imperfective aspect provide an explanation for the homophony of the phonological signal of the two lexical entries. The Fongbe speakers had two different lexical entries to relexify: *ná* and *ɖò...wè*. The copied lexical entry corresponding to *ɖò* was relexified as *ap*, from the French form *après* occurring in the periphrastic expression of the progressive. The copied lexical entry corresponding to *ná* was assigned the phonological representation *ap* through reanalysis of the Haitian preposition of posteriority *apre*, derived from the French preposition of posteriority *après* 'after'. Historically, then, the Haitian form *ap* made its way into the creole TMA system from two different sources.

5.6. The expresion of indefinite future in Haitian

Fongbe expresses indefinite future with the complex expression *ná-wá*, made up of the definite future marker *ná* and the form *wá*, which in isolation means 'to go'. Similarly, Haitian expresses indefinite future with the complex expression *a-va*. This complex expression is comprized of *a*, which I have hypothesized to be a reduced form of the definite future marker *ap*, and *va*, a form of the French verb *aller* 'to go' used to form the periphrastic future. We saw that the properties of these two complex expressions are quite parallel. Subsequent morphological reduction of *a-va* yielded the numerous variants reported in the literature on Haitian: *va*, *av*, and *a* (see (3)).

5.7. Creating the lexical entry of the prospective marker

We saw that the semantic properties of the Haitian prospective marker *apr-al* are extremely similar to those of the Fongbe expression of the prospective aspect. It is clear from these data that the creators of Haitian used their native grammar in establishing the semantic properties of the prospective aspect marker of Haitian; this should follow from the relexification hypothesis. This particular case, however, is not as straightforward as the others.

Recall that the Fongbe expression of the prospective aspect is a complex syntactic construction in which the definite future marker *ná* is embedded within the complex expression of the progressive, as shown in (77), repeated here as (152) for convenience.

(152) Ùn ɖò nǔ ná ɖù wè.   FONGBE
      I at something DEF-FUT eat POST
      'I am about to eat.' (Anonymous, 1983: v, 7)

In Haitian, the prospective aspect is rendered by a complex form *apr-al*. This complex form is made up of a form of the imperfective marker *apr-* and a reduced form of the verb *ale*, which in isolation means 'to go'. While the first morpheme of the Haitian expression corresponds to the Fongbe form *ɖò*, the second morpheme is *ale* 'to go', instead of *ap*, as we would expect following the Fongbe pattern. The choice of *ale* 'to go' by the creators of

Haitian is probably linked to the fact that verbs meaning 'to go' also participate in a form of the prospective aspect in Fongbe (see note 13). Whatever the account of this particular case is, it is clear that relexification does not provide a complete account of the formation of the form of the prospective in Haitian.

5.8. Conclusion

The derivation of the TMA markers of Haitian proposed in this section strongly supports the claim that the process of relexification has played a central role in the formation of the Haitian TMA system. This hypothesis accounts for the genesis of the lexical entries of all but one (the marker of the prospective aspect) of the Haitian TMA markers.

6. The process of relexification in creolization: predictions and consequences

In this section, I examine the predictions of the hypothesis that relexification plays a central role in creole genesis, and the consequences for a theory of creolization of the findings discussed in this paper.

6.1. Relexification and variation between creoles formed from different substratum language families

The relexification hypothesis predicts that the TMA systems of creoles produced from different substratum language families will exhibit variation that reflects the grammars of the substratum languages that participated in their formation. For example, while the Haitian TMA system is expected to follow the pattern of the TMA system of the West African languages, which participated in its formation, the TMA system of Tok Pisin, outlined in (1), should follow the pattern of the Austronesian languages which participated in its formation. This is, in fact, what we find.

Sankoff (to appear) argues that the postverbal aspectual markers of Tok Pisin follow the pattern of Austronesian languages. Tok Pisin, as well as its substratum languages, has post-verbal forms meaning 'stay', 'go', and 'come' to indicate continuous aspect. Sankoff (to appear: 19) remarks that

> although these developments might in theory be the result of independent evolution in Tok Pisin, the fact that Tok Pisin developed this pattern in a context where it was surrounded with languages that have such a pattern is too unlikely to be a coincidence.

Furthermore, recent work by Keesing (1988, 1991) on Melanesian Pidgin shows that the properties of the pre and post-verbal markers encoding tense, mood, and aspect in this language follow the details of its substratum languages. These facts follow in a straightforward way from the hypothesis that relexification plays a central role in creole genesis.

6.2. The relexification hypothesis and the agents of creolization

Relexification is a process which builds a new lexicon on the basis of an already well-established lexicon. By definition, then, this mental process is available to speakers who are already in possession of a mature grammar. Therefore, if relexification is the central process involved in creole genesis, as is advocated in Lefebvre & Lumsden (1994), it must be the adult speakers who are the agents of creolization. We have examined this hypothesis in detail, with respect to the genesis of the Haitian TMA system. The fact that this system so closely parallels that of one of its substratum languages, suggests that it was adult speakers, in possession of a mature grammar, who created it. This conclusion, based on linguistic facts, is compatible with Singler's conclusion, based on demographic considerations, discussed in the introduction.

6.3. Relexification and creolization

Under the relexification hypothesis, creolization is the creation of new lexicons which have the following general properties: the semantic and syntactic properties of the new lexical entries are those of the corresponding lexical entries in the substratum languages, resulting from copying; and the phonological representation of these new lexical entries are similar to phonetic strings of the superstratum language, resulting from relabelling. The latter property of the creole lexical entries is the visible signal that creolization involves the creation of a new language. The former property of the creole lexical entries, however, indicates that creolization does not involve the creation of a new grammar. Rather, creolization involves continuity in the semantic and grammatical properties of lexical entries and, therefore, continuity in grammar.

6.4. Transmission and acquisition in the context of creolization

We have argued that it is adults in possession of a mature grammar who create the creole lexicon, through relexification. It is this relexified lexicon that the creators of the creole transmit to their children, and it is this relexified lexicon that the children of the creole community acquire as their native lexicon. The fact that the Haitian TMA system is so similar to the Fongbe TMA system, even after 250 years of separate history, shows that the children exposed to this relexified lexicon did not lack pertinent data on which to form their grammar; they did not have to invent their own TMA system, they simply learned the system to which they were exposed. Similarly, the fact that the Tok Pisin TMA system is so similar to that of its substratum languages shows that the children exposed to this creole in its early stages did not have to invent their own TMA system either; again, they simply learned the system to which they were exposed. The data discussed in this paper involve a coherent subset of the grammatical features of Haitian; the same results obtain when other areas of the grammar are considered. (See, for example, Lefebvre, 1986, 1992b, 1993b, 1994; Brousseau, Filipovish & Lefebvre, 1989; Lumsden, 1994). Consequently, there has

been no break in the transmission of grammar in early creole community. The data discussed in this paper thus provide strong evidence against theories that advocate that creolization involves a break in transmission.

Notes

1)   For a discussion on the allomorphs of the Haitian preverbal markers, see Sylvain, (1936), Hall (1953), Valdman (1970), and Valdman *et al.* (1981).

2)   Damoiseau (1988) suggests that the meaning of the Haitian verb *wè* is best rendered as 'catch sight of' rather than as 'see'.

3)   For a detailed description of these three classes of verbs based on distinguishing syntactic tests, see Dumais (1994).

4)   For various definitions of mood, see Roberts (1954), and Crystal (1991).

5) Whether ø has theoretical status, in the sense of being in a paradigmatic relationship with other markers of the system, is an open question. (See Damoiseau (1988), and Lumsden (in press), for a discussion of this point.)

6) As is pointed out in Grevisse (1975), in French, Aspect may be rendered in several ways: it can be encoded within the tense of the verb, it can be expressed by semi-auxiliaries, by suffixes, by adverbs, or it can be part of the meaning of the verb.

7) "*Être pour* may indicate that an event is about to happen, or that an event is agreed on, or it may express the *nuance* 'to be disposed to' and 'to be destined to'."

8) Brousseau (1994) shows that the creators of Haitian have reinterpreted the French phonetic strings on the basis of their own phonemic system with some adaptation to French.

9) da Cruz & Kinyalolo (1994) have established tests distinguishing between dynamic and stative verbs in Fongbe. The data provided in this section on the interpretation of the tense, mood and aspect markers of Fongbe in relation with the aspectual class of verbs provide evidence for a class of resultative verbs in Fongbe. For example, the temporal interpretation of a clause containing a resultative verb in the context of a bare sentence is different from the temporal interpretation of a clause containing a dynamic or a stative verb in the same context (*cf.* (111)-(114)). This is evidence that resultative verbs constitute an aspectual class of verbs that is distinct from dynamic and stative verbs in the language.

10) Anonymous (1983) treats *ɖò* as a locative copula. On the basis of the distribution and properties of *ɖò* in Fongbe, Lefebvre (1990) argues that *ɖò* is best analysed as a locative preposition.

11) The fact that *wè* has no clear independent meaning in Fongbe is certainly linked to the fact that it occurs in several constructions. The various uses of *wè* are listed in Anonymous

(1983); some of them are discussed in Lefebvre (1992a). For competing analyses of this

lexical item, see Kinyalolo (1992), Ndayiragije (1993) and Law & Lefebvre (to appear).

More research is needed before we can understand the meaning and range of uses of this

lexical entry in Fongbe.

12) For syntactic analyses of the progressive in Fongbe, see Fabb (1992) and Kinyalolo

(1992).

13) 'Be sick' and 'know' are both stative verbs. The first denotes a transitory property of

the individual, whereas the second denotes a permanent property of the individual. This

explains why 'be sick' may occur with an aspectual marker that triggers a non-complete

interpretation of the event, while 'know' may not.

14) In Fongbe, there is another form of the prospective which involves the verbs *jà* or *wá*,

which, in isolation mean 'to go', and the postposition *gbè* 'for' (*cf.* Segurola, 1963: 203).

Hence, *jà/wá...gbè* (literally 'go...for') means 'to be about to, to begin to' (*cf.* Segurola,

1963: 148, 257). The postposition *gbè* 'for' selects a nominalized VP as its complement.

(i)   Pierre   jà / wá   [[nǔ   dù]   gbè].   FONGBE
        Peter   go   thing   eat   for
        'Peter is about to eat.' (Segurola, 1963: 148)
        [Lit.: 'Peter go for thing-eating.']

Unlike the TMA markers, *jà* / *wá* are lexical verbs, which are interpretable outside the

TMA system. For this reason I did not include them in the inventory of the Fongbe TMA

markers. For a preliminary analysis of the two prospective forms in Fongbe, see Kinyalolo

(1992).

15) Traditional grammars of Fongbe also treat the particles *ló*, *bó* and *vè* on a par with the

TMA markers. Avolonto (1992) convincingly argues, however, that these particles are in

fact modifiers and that they must be analyzed as adverbs. Assuming that the analysis in

Avolonto (1992) is correct, these three particles are not considered part of the TMA system of Fongbe.

16) Anonymous (1983) reports that for some speakers the word order *ná kò* is also possible with a conditional interpretation.

17) For an analysis of negation in Haitian, see DeGraff (1992). For an analysis of negation in Fongbe, see da Cruz (1994).

18) For an extensive discussion of the scopal properties of *má* 'not' in Fongbe, see da Cruz (1994).

19) The word order *ní má* is also attested by the Fongbe speakers Anne-Marie Brousseau (pc) worked with. Not all of the speakers I worked with accepted this order.

20) See Kihm (1989), who shows that phonological clues may also play a role in assigning a phonological form to a functional category lexical entry.

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Appendix 1
The growth in the proportion of the population of color in Haiti juxtaposed
with the percentage of speakers of Gbe dialects among the African
population in the French Caribbean and the African slave export population.
(=Table 12 in Singler, to appear)

Year	(1)	(2)	(3)	
1675-79			18,8 %	(D)
1680			14 %	(M)
1680-89			64,6 %	(D)
1681	2,312	34,8 %		
1690			49 %	(R)
1690-99			60,4 %	(D)
1700	9,082	66,7 %		
1700-09			38,9 %	(D)
1700-19			62,8 %	(F)
1710-19			65,8 %	(D)
1713	25,273	81,5 %		
1717	38,809	84,2 %		
1720-29			62,6 %	(F)
1721	43,586	87,8 %		
1730	81,910			
1730-39			50,2 %	(F)
1739	120,592	91,5 %		

(date of Haiti's founding: approximately 1659)

(1) Population of color in Haiti
(2) Population of color in Haiti as a percentage of the total population
(3) Estimated percentage of speakers of Gbe dialects in the African population of the French Caribbean or the slave-export population.

D = Dutch African slave exports to Curaçao
F = French African slave exports to the Caribbean
M = 1680 Martinique census
R = 1690 Remire inventory

List of Glosses

ANT	Anterior
COMP	Complementizer
DEF-FUT	Definite Future
DET	Determiner
HAB	Habitual
IND-FUT	Indefinite future
IMP	Imperfective
NEG	Negative
PART	Particle
PL	Plural
POST	Postposition
PROSP	Prospective
Q	Question marker
SUB	Subjunctive