Conversion relations and the morphological complexity of three French-based creoles

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Introduction

Creoles have been claimed to be morphologically 'simpler' than non-creoles.

Introduction
Inflectional morphology

1. Very little/simple inflectional morphology (McWhorter, 2001)

2. Less inflectional morphology (making fewer distinctions) than the lexifier (Siegel, 2004; Plag, 2006; Holm, 2007)

3. Loss of most of the lexifier inflections, preservation of some and/or development of other (Becker and Veenstra, 2003; Kihm, 2003; Siegel, 2004)

Introduction
Derivational morphology

The semantic transparency hypothesis

Regular and semantically transparent morphology (Seuren and Wekker, 1986)

- Tendency in pidgins and creoles to ease language learning

Semantically transparent derivational morphology (McWhorter, 1998, 2001)

- Creoles don't have a large number of derivational affixes

- Words are semantically transparent

Introduction

Several problems with this line of argumentation (Plag, 2000; Degraff, 2001; Luís, 2008; Henri, 2010; Bonami et al., 2011)

1. Complexity of a creole should not be measured on the basis of comparisons with the lexifier
2. Complexity can be either be enumerative or integrative
   - Not all languages are amenable to morphemic segmentation

Introduction
Goal of this talk

- We examine V → N conversion relations in three French-based creoles

- The stems of the verb and noun which participate in V → N conversion are not necessarily the same from verb to verb.

  - Moreover, the forms that do participate in any given case are not always predictable.

Outline

Morphological complexity
What is linguistic complexity?

The complexity of a linguistic phenomenon may be seen

- in psycholinguistic terms (as the extent of the difficulties that it poses for a language's learners and users);

- in more absolute terms (as an independently measurable property of the language system itself).

Morphological complexity
What is linguistic complexity?

Linguistic complexity is logically of at least two types (Ackerman and Malouf, 2013):

- a linguistic phenomenon's enumerative complexity depends on how many categories (of whatever type) it employs;

- its integrative complexity, by contrast, depends on the idiosyncrasy of the interactions among those categories.

Morphological complexity
What is linguistic complexity?

A language's morphology can exhibit complexity in a variety of ways, e.g.

- the morphotactics of individual word forms (enumerative complexity is a function of degree of synthesis and degree of fusion) (Schlegel, 1808; Humboldt, 1836; Sapir, 1921; Greenberg, 1960)

- the structure of whole inflectional paradigms (integrative complexity is a function of the unpredictability of a paradigm's word forms) (Moscoso del Prado Martin et al., 2004; Ackerman et al., 2009; Milin et al., 2009; Stump and Finkel, 2013)

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Morphological complexity
What is linguistic complexity?

- Here, we are concerned with the integrative complexity of morphological conversion: L1 → L2.
- This sort of complexity manifests itself in two different dimensions.
- The first dimension of conversion complexity is that of predictability: which stems of L1 and L2 are involved in the conversion relation?

Predictability of stems involved in conversion relation	Degree of complexity	Participants in conversion relation
predictable	0	Sole stem of source lexeme L1 is converted to sole stem of derived lexeme L2
	1	Either the source lexeme L1 or the derived lexeme L2 or both have more than one stem, only one of which participates in the conversion relation
unpredictable	2	

Figure 1. A conversion relation's degree of complexity by the criterion of predictability

Morphological complexity
What is linguistic complexity?

The second dimension of conversion complexity is that of stem restrictedness:
Where x is the particular member of a lexeme L's stem set that participates in
a relation of conversion, how restricted a role does x play in the morphology of
L?

Complexity	Role of the conversion stem x in L's morphology
low	Unrestricted, since x is L's sole stem
↑	x is used in the inflection of L
↓	x is used only in the definition of stems for derivatives of L;
high	i.e. x is "hidden" ($=$ absent from L's inflection paradigm)

Figure 2. A conversion relation's degree of complexity by the criterion of stem
restrictedness

Outline

1. Morphological complexity

2. Approaches to derivation and conversion

3. Conversion in French-based creoles
   - Mauritian
   - Guadeloupean
   - Haitian

Approaches to derivation and conversion

- Inflectional allomorphies can be accounted for by means of stem spaces
- Based on Aronoff (1994), Bonami and Boyé (2002) suggest that each lexeme has a list of indexed morphomic stems

#	FORMER 'form'	FINIR 'finish'	DÉFENDRE 'defence'
1	fɔʁm	finis	defɑ̃d
2	fɔʁm	finis	defɑ̃d
3	fɔʁm	fini	defɑ̃
4	fɔʁm	finis	defɑ̃d
5	fɔʁm	fini	defɑ̃
6	fɔʁm	finis	defɑ̃d
7	fɔʁm	finis	defɑ̃d
8	fɔʁm	finis	defɑ̃d
9	fɔʁme	fini	defɑ̃d
10	fɔʁm	fini	defɑ̃d
11	fɔʁma	fini	defɑ̃di
12	fɔʁm	fini	defɑ̃dy
13	fɔʁmat	finit	defɑ̃s

Table 1. Fr. stem spaces

- Stem slots are linked to one another by implicative rules
  e.g. by default St2 = St1; St3 = St2. . .

- Each slot is used to build a part of the paradigm
  e.g. St1 is used to form present 1 & 2PL forms and all imperfect forms:
  fɔʁmɔ̃ 'we form', finise 'you finish', fɔʁmɛ 'I was forming' . . .

- Stem 13 is an additional stem only used in derivation
  e.g. defɑ̃sœʁ 'defender'

Approaches to derivation and conversion
Definition of conversion

Conversion is a lexeme formation process characterized by two main properties:

- The phonological identity of the two lexemes

  (1) Engl. GLUE > TO GLUE (*vs.* HOSPITAL > HOSPITALIZE)
      TO WALK > WALK (*vs.* TO PRESENT > PRESENTATION)

  Fr. COLLE > COLLER (*vs.* HÔPITAL > HOSPITALISER)
      MARCHER > MARCHE (*vs.* PRÉSENTER > PRÉSENTATION)

- A change of category from the base lexeme to the derivative

  (2) $GLUE_N$ > $GLUE_V$ (*vs.* $KING_N$ > $KINGDOM_N$)
      $WALK_V$ > $WALK_N$ (*vs.* $GLUE_V$ > $UNGLUE_V$)

Approaches to derivation and conversion
Conversion in French

- According to Manova and Dressler (2005) V → N conversion may involve either root, stem or word-form identity.

- French only allows stem-based conversion

- V → N conversion can select 3 different verb stems (Tribout, 2012)

  ▶ Stem 3
    (3) a. MARCHE 'walk' (< MARCHER 'to walk')
        b. SAUT 'jump' (< SAUTER 'to jump')

  ▶ Stem 12
    (4) a. ENTRÉE 'entrance' (< ENTRER 'to enter')
        b. SORTIE 'exit' (< SORTIR 'to exit')

  ▶ Stem 13
    (5) a. RÉSULTAT 'result' (< RÉSULTER 'to result')
        b. DÉFENSE 'defense' (< DÉFENDRE 'to defend')

Approaches to derivation and conversion
Conversion in French

- Stem selection is not determined by phonological or grammatical criteria.

- Stem selection has no effect on the semantics of the converted noun: action, result, agent or location nouns may each derive from any of the three candidate stems. That is, stem selection is unpredictable.

- As regards complexity:
  - ▶ the role of allomorphy in V → N conversion in French exhibits the highest degree of complexity, that of unpredictability
  - ▶ the role played by verb stems in a conversion relation may evince the highest degree of complexity, that of a maximally restricted, "hidden" stem.

Outline

The Mauritian conjugation system
Verb inflection

The Mauritian verbal paradigm : 2 cells

- It distinguishes morphologically between long and short forms (Becker and Veenstra, 2003; Henri, 2010)

LF	bʁije	bʁije	vãde	amãde	kõsiste	ʁeste	fini	vini
SF	bʁij	bʁije	van	amãd	kõsiste	ʁes	fini	vin
TRANS.	'glow'	'mix'	'sell'	'amend'	'consist'	'stay'	'finish'	'come'

Table 2. Verb alternations in Mauritian

The Mauritian conjugation system
Verb inflection

The Mauritian verbal paradigm : 2 cells

- ▶ Morphological alternation (contra Corne, 1982): the alternation is not phonologically predictable (Henri, 2010; Bonami et al., 2011)

Figure 3. Unpredictability in Mauritian

The Mauritian conjugation system
Verb inflection

- The alternation codes syntactic, morphological and/or information-structure oppositions (Henri, 2010)
  - The SF is triggered by the presence of a canonical nonclausal complement

(6) a. *Pol inn tom dan enn move sime*.
   Paul PRF fall.SF PREP IND bad path
   Lit. 'Paul fell into the wrong path.'

   b. *Pol inn tom malerezma dan enn move sime*.
   Paul PRF fall.SF unfortunately PREP IND bad path
   Lit. 'Paul fell, unfortunately, into the wrong path.'

The Mauritian conjugation system
Verb inflection

They encode focus: object, verb, verum (Henri, 2010)

(7) a. *Pol koz bokou*
   Paul speak.SF a_lot
   'Paul speaks a lot.'

   b. *Pol koze bokou*
   Paul speak.LF a_lot
   'Paul speaks a lot.'

(8) *Pol* MANZE *poul?*
   Paul eat.SF chicken
   'Paul DOES eat chicken.'

The Mauritian conjugation system
Verb inflection

They are used in lexeme formation processes like reduplication (Henri, 2012) and conversion

	Simple Verb		Reduplicated verb		
	LF	SF	LF	SF	
'to eat'	*manze*	*manz*	*manz-manze*	*manz-manz*	'to nibble'
'to ask'	*demande*	*demann*	*demann-demande*	*demann-demann*	'to ask sporadically'
'to shiver'	*tranble*	*tranm*	*tranm-tranble*	*tranm-tranm*[1]	'to shiver sporadically'

Table 3. Reduplications in Mauritian

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[1] This form never appears in syntax since it is an intransitive verb.

The Mauritian conjugation system
Verb inflection

	Distribution	SF	LF
	Syntax		
No focus	V with canonical phrasal complements (NPs,APs,ADVPs,VPs,PPs)	yes	no
	V with no complements	no	yes
	V with clausal complements	no	yes
	Extracted complements	no	yes
Verb focus **Object focus** **Verum focus**	V with adjuncts	no	yes
	V with "applicativized" adjuncts	yes	no
	In Counter-Oriented moves with selected arguments	dispreferred	yes
	Morphology		
	reduplicant	yes	no
	base	yes	yes

Table 4. Constraints on verb form alternation

Mauritian
Conversion relations

- In Mauritian, V → N conversion seems to involve word-form identity.

- V → N conversion may select either a verb's LF or its SF

	Verb		Noun
	LF	SF	
'to peep'	*louke*	*louk*	*louke* 'peep'
'to stroll'	*chake*		*chake* 'stroll, outing'
		chak	*chak* 'long time, distance'
'to dance'	*danse*		*danse* 'dancing, ball'
		dans	*(la)dans* 'dance'

Table 5. V → N Conversions in Mauritian

- Derived nouns are innovated in Mauritian: *danse* (dãse), *louke* and *chak, chake* do not exist in French

Mauritian
Conversion relations

- Same kinds of meanings (action, agent, result, location) whether the nouns arise from a verb's LF or SF.

- Form selection is not predictable.

- As regards complexity, V $\rightarrow$ N conversions in Mauritian are comparable to those of French:
  - the role of allomorphy in V $\rightarrow$ N conversion in Mauritian exhibits the highest degree of complexity, that of unpredictability

Outline

1. Morphological complexity

2. Approaches to derivation and conversion

3. Conversion in French-based creoles
   - Mauritian
   - Guadeloupean
   - Haitian

Guadeloupean
Verb inflection

- Guadeloupean verbs are not invariant: We identified 34 alternating forms in Ludwig et al. (2002) and Tourneux and Barbotin (1990).
  - ▸ The alternation encodes a passive/active distinction (fɛ / fɛt)
  - ▸ External sandhi; pronominal sensitivity (ban / ba, bay)

LF	save	mãnʒe	kɛ̃be	mete	gade	gade	pran	fɛt	pini	vini
SF	sav	mãnʒe	kɛn	mɛt	gɛ	gade	pri	fɛ	pini	vin
TRANS.	'know'	'eat'	'hold'	'put'	'look'	'keep'	'take'	'do'	'punish'	'come'

Table 6. Verb alternation in Guadeloupean

- Dictionaries are not necessarily exhaustive

- The alternation codes an aspectual distinction: The LF expresses the imperfective while the SF expresses the perfective.
- Non-compositionality involved in the combination of verb with TAM markers

(9) a. *An ka vin.*
1SG PROG come.SF
'I'm coming.' (perfective progressive)

  b. *An ka vini.*
1SG PROG come.LF
'I'm coming.' (prospective imperfective)

(10) a.
    An ken ni ba'w.
    1SG hold.SF 3SG prep'3SG
    'I hold it for you.' (present perfective)

  b. *An kenbé y ba'w.*
    1SG hold.LF 3SG come.LF
    'I held it for you.' (past imperfective)

Guadeloupean
Verb inflection

- This distinction is also available with syncretic LF and SF

(11)

> *An mangé kribich.*
> 1SG eat.SF crawfish
> 'I have eaten/ate crawfish.' (present perfect, past imperfective)

- Certainly more uses of the LF and SF that need investigation (Serial verb constructions, syntactic reduplication, etc.)

- Among alternating verbs, most V → N conversions select the verb's LF, but the SF is sometimes possible, with the same kind of meaning (action)

	Verb		Noun
	LF	SF	
'to come'	*vini*	*vin*	*vini* 'arrival'
'to look'	*gadé*	*gè*	*gadé* 'look'
'to win'	*gangné*		*gangné* 'victory'
		gangn	*(la)gangn* 'win'

Table 7. V → N conversions in Guadeloupean

- Such nouns are innovated in Guadeloupean: *gadé* and *gangné* do not exist in French

Guadeloupean
Suffixal derivation

- Apart from conversion, *-aj* and *-asyon* suffixations form action nouns[2]

  (12) CHOMÉ 'to have fun' > CHOMAJ 'party'
       BOKANTÉ 'to exchange' > BOKANTAJ 'exchange'
       LYANNÉ 'to unite' > LYANNAJ 'union'

  (13) PWOFITÉ 'to take advantage' > PWOFITASYON 'benefit'
       ANMERDÉ 'to annoy' > ANMERDASYON 'annoyance'
       POURSUIV 'to follow' > POURSUIVASYON 'pursuit/chase'

- When the base verb ends with a vowel, it is missing before the suffixes *-aj* and *-asyon*

☞ according to (Villoing and Deglas, 2016) the final vowel of the verb is deleted before a suffix beginning with a vowel in order to avoid a hiatus.

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[2]data come from (Villoing and Deglas, 2016)

Guadeloupean
Suffixal derivation

- However, the verb's final vowel (*i* or *é*) is also deleted before the suffix *-man* that forms action nouns

  (14) ANRICHI 'to enrich' > ANRICHMAN 'increase in wealth'
       COULÉ 'to flow' > COULMAN 'flow'
       VOLÉ 'to fly' > VOLMAN 'flying'

- Here there is no hiatus to be avoided

- Nouns such as ANRICHMAN, COULMAN and VOLMAN do not exist in French and are innovated in Guadeloupean

☞ Verbs must have a short stem that is used to derive deverbal nouns.

Guadeloupean
Suffixal derivation

- Postulating a short stem for every verb allows us to
  - account for all V → N derivations without sandhi rule
  - offer a unified analysis for both N → V and V → N conversions
  - account for the fact that a number of verbs show form alternation

- As regards complexity, Guadeloupean is equivalent to French:
  - the role of allomorphy in V → N conversion in Guadeloupean exhibits the highest degree of complexity, that of unpredictability
  - the role played by verb stems in derivation may evince the highest degree of complexity, that of a "hidden" stem.

Outline

1. Morphological complexity

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   - Haitian

Haitian
Function of verb forms

- About a dozen verbs in Valdman et al. (2007) exhibit an alternation between long and short forms.
  - Dictionaries are not necessarily exhaustive

Verb	SF	LF
ALÉ 'to go'	*al*	*alé*
GADÉ 'to look'	*gad*	*gadé*
SÒTI 'to go out'	*sòt*	*sòti*
VINI 'to come'	*vin*	*vini*
GENYEN 'to eat'	*gen*	*genyen*
FÈT 'to do/make'	*fé*	*fèt*
BAY 'to give'	*ba(n)*	*bay*

Table 8. Verb alternations in Haitian

Haitian
Function of verb forms

- The alternation is in some ways similar in function to the corresponding alternations in Mauritian and Guadeloupean (passive, sandhi).
- The short form appears before a nonpronominal object

(15) a.
  Mari gen kouraj.
  Marie have.SF courage
  'Marie has courage.' (Degraff, 2007)

b. *Jan ban m/mwen lajan an.*
  John give.SF 1SG money 1SG
  'John gave me money.'

Haitian
Function of verb forms

- By contrast, the long form appears sentence-finally, before an adjunct, or in object-extraction contexts.

(16) a.
   Tonton Bouki ap   ale.
   uncle   Bouki PROG go.LF
   'Uncle Bouki is leaving.'

   b. *Konbyen   dan   tonton Bouki genyen?*
   how_much tooth uncle   Bouki have.LF
   'How many teeth does Bouki have?

- More uses of the alternation in Haitian (*cf.* Guadeloupean)

Haitian
Conversion relations

- V $\rightarrow$ N conversion is evidently productive in Haitian, since a number of converted nouns have no counterpart in French:

  MONTE 'to go up' $\rightarrow$ MONTE 'the action/result of going up'

  KURI 'to run' $\rightarrow$ KURI 'the action/result of running'

  MANTI 'to lie' $\rightarrow$ MANTI 'the action/result of lying' (Lefebvre 1998)

Haitian
Conversion relations

- Because very few verbs in Haitian exhibit an overt inflectional alternation between long and short forms, there are few cases of conversion where one can observe the choice of one alternant over the other.

- V → N conversions mostly involve LF but we do find selection of SF

	Verb		Noun
	LF	SF	
'to come'	*vini*	*vin*	*vini* 'arrival'
'to go'	*ale*	*al*	*ale* 'departure'
'to go out'	*sòti*	*sòt*	*sòti* 'outing'
'to win'	*genyen*		*geny* 'win'
		gen	*gen* 'type of game'

Table 9. V → N conversions in Haitian

Haitian
Conversion relations

- Suffixal derivation of nouns from verbs often involves a vowel-initial suffix; while these might appear to join with a verb's short form, the existence of a sandhi rule eliminating vowel hiatus by means of stem-final vowel truncation would (as in Guadeloupean) allow such derivatives to be based on long forms:

    PARYE 'to bet' > PARY-AY 'a bet'
    DJÒLE 'to chat' > DJÒL-È talker' (Lefebvre 1998)

- But the noun-forming suffix *-man* also joins with what appears to be a verb's short form, deriving nouns that in some cases have no counterpart in French:

    PLEDE 'to argue (a case)' > PLEDMAN 'discussion, quarrel, competition'
    KOZE 'to chat' > KOZMAN 'a chat' (Lefebvre 2004)

- Given that *-man* cannot create vowel hiatus, we must assume that in Haitian, exactly as in Guadeloupean, verbs may have short forms that surface only in the workings of derivational morphology.

Haitian
Conversion relations

- A final parallel between Haitian and Guadeloupean pertains to denominal verbs. Verbs are apparently derived from nouns by means of a suffix *-e*, which sometimes produces verbs having no counterpart in French:

  BETIZ 'obscenity, nonsense' > BETIZ-E 'to joke, to work in vain, to deceive'
  BOURIK 'donkey, work horse' > BOURIK-E 'to work like a dog'
  TÈK 'a hit (in marbles)' > TÈK-E 'to hit a marble' (Lefebvre 1998)

- These can, alternatively, be seen as instances of N → V conversion, whose output is a verb's short form; on this view, the suffixation of *-e* is a stem-formation rule by which a verb's long form may be deduced by default from its short form. Here again, the postulation of short forms affords a more streamlined account of both conversion and affixal derivation.

Haitian
Conversion relations

Thus, conversion relations in Haitian are similar if not identical in complexity to those of French, Mauritian and Guadeloupean:

(i) given the limited incidence of long-short alternations in the morphology of Haitian verb stems, the role of allomorphy in the definition of V $\rightarrow$ N conversion relations in Haitian exhibits complexity of at most degree 1; even so,

(ii) where X is that member of lexeme's stem set participating in a conversion relation, X may have the role of a "hidden" stem.

Conclusions

- There is verb inflection in languages that are said to no exhibit inflectional morphology

  - Mauritian is clearly as complex as its lexifier with regard to predictability

  - Haitian and Guadeloupean are not as simple as claimed

- FBC have developed their own conversion process

  - $V \rightarrow N$ conversions show the same degree of complexity seen in the lexifier

  - $V \rightarrow N$ conversions rely unexpectedly on stem allomorphy involving a "hidden" stem

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