

Restructuring, hybridization, and complexity in language evolution*

Salikoko S. Mufwene

1. Preliminaries

1.1 What this essay covers

My primary aim in this chapter is to be provocative, hoping to arouse further discussion on concepts and positions that deserve more attention than they have received either in the present volume or in much of the literature on the emergence and the general architecture of creoles. Much of this has to do with whether or not creoles have simpler grammatical systems than the languages they have emerged from. This may be termed, for convenience sake, as the “complexity” question, to which we have been redirected forcefully by DeGraff (2001a, 2001b) and Dahl (2004), in response to McWhorter (2001a), and, more recently, by McWhorter (2008), among other references. It is difficult to address the question without also bringing up that of “creole exceptionalism” (DeGraff 2003, 2005; see also Mufwene 2001, 2008). The latter is also connected to another question arising from McWhorter (1998), viz. whether creoles’ structural properties (questionably identified by some as “creole features”), distinguish them typologically from other languages whose origins are putatively not contact-based.

In order to address these questions, one must first answer the following others: (1) How do features mix during the recombinations that yield new language varieties out of the languages in contact? (2) If naturalistic language “acquisition” is individual-based and every learner aims at communicating (successfully) with the extant speakers of the target language, how do new communal norms emerge? The first may be termed the “hybridization” question (thanks to Aboh 2006, this volume) and the second the “normalization” question, having to do with the emergence of communal

* I am very grateful to the editors for inviting me to write this postscript and challenging me to reflect globally on the central themes of this book. I am also deeply indebted to Michel DeGraff and Enoch Aboh for precious feedback on, respectively, the original and last drafts of this essay. I assume alone full responsibility for the remaining shortcomings.

norms (Mufwene 2008).¹ It is in the latter context that one would like to consider the role of the “invisible hand” (Keller 1994; Mufwene 2001, 2008; cf. also Ansaldo, this volume; Kouwenberg, this volume). As presented here, these questions indirectly explain the title of this essay. The first position assigned to *restructuring* in the subtitle indicates what my discussion will start with.

1.2 Conceptual clarifications

This book includes quite legitimately essays on three Asian contact-based varieties, Solomon Islands Pijin (SIP), Sri Lanka Malay (SLM), and Mindanao Chabacano, which I personally would not call “creoles,” especially not the former two, because they are not true to the colonial history in which the term *creole* was used in reference to either people or language varieties in layman’s language (Mufwene 1997a). I restrict my usage of the term *creole* typically to vernaculars that evolved out of language shift by non-European majority populations enslaved in exogenous European plantation settlement colonies (as defined by Chaudenson 1979ff.) in favor of the relevant colonial European language, albeit an emergent koine in itself.²

I will reluctantly include in this category a few other varieties that have also been recognized as “creoles” by linguists but whose origins may be considered atypical based on the above stipulation. They are spoken in endogenous settlement colonies such as Macao and Korlai (India), where the Portuguese traders mixed with the local populations, and where the latter not only Christianized but also shifted to the European language as their vernacular and concurrently evolved into a kind of mixed ethnic group both genetically and culturally. Being distinct from the traditional indigenous population, the new groups have been likened to Creole populations of the New World and the Indian Ocean, and their indigenized varieties of the European vernacular (see below) have also been identified as “creoles.” This practice by linguists to liberally name all such new nonstandard vernaculars associated with settlement colonization “creoles” muddles the epistemic usefulness of CREOLE as a historic concept (in reference to populations, see also Stewart 2007). At best, the practice highlights the significance of the factor of RACE (socially construed) in the identification of such vernaculars (Mufwene 2001, 2008).

Nonetheless, the inclusion in this volume of chapters on SLM, and SIP, and the like shows how much creoles share with other “contact language varieties” both in the restructuring processes and the ecological factors that determined their emergence. On the other hand, as argued in Mufwene (2001, 2005, 2008), one must wonder

1. I owe the term *normalization* itself to Chaudenson (1979ff.). In Mufwene (2005, 2008), I just problematize its significance in the divergence process that has produced creoles.

2. Krio, which some creolists may claim to be an endogenous variety, is certainly a transplanted creole whose origins lie in the New World, especially Jamaica, although it has inevitably evolved into a separate language variety in its new, Sierra Leone ecology.

what modern language does not have its origins in the contact of populations and of languages. The account of the dispersal of *Homo Sapiens* proposed by, e.g., Cavalli-Sforza (2001) suggests that modern human populations have been colonizing each other at least since the advent of agriculture, and quite likely since before then. Thus, regardless of whether a language is characterized as “creole” or otherwise, what we learn about the contact setting of its emergence should help us develop a better understanding of language evolution, including the process of speciation. Indeed, this book contributes substantially to this subject matter, especially regarding how restructuring works. I return to this below, as promised above.

I use the term *evolution* because, along with DeGraff (2003, 2005), I do not subscribe to the position that creoles have developed in any exceptional way. Indeed, as observed above, I have argued that contact of dialects and/or languages, or of any lects for that matter, has been a catalyst in the evolution of all languages in human history, certainly since the dispersal of *Homo Sapiens* out of Africa (Mufwene 2008, ~~mess-a~~). Because the present book focuses on language varieties whose origins lie in population contacts associated with European colonization since the 15th century, my comments apply to all of them, naturally subject to peculiarities that are specific to local ecologies of contact and/or language practice.

As explained in Mufwene (2001), the notion of LANGUAGE EVOLUTION applies, among other things, as much to structural changes traditionally dealt with in historical linguistics (viz., Unit/Rule X → Unit/Rule Y in Environment Z) as to the speciation of languages into new dialects or languages, for instance, the diversification of Vulgar Latin into the Romance languages. Accordingly, we need not fuss over the political or social ideological issue of whether the language varieties discussed in this book are separate languages, as usually claimed by creolists, or whether they are new, colonial dialects of the languages they have evolved from, as assumed by some of their speakers, at least in places like coastal South Carolina, Louisiana, and Jamaica. Note that in the latter polity, even the official political ideology is ambivalent (Irvine 2004), promoting Jamaican Patwa alternately as a dialect of English (albeit a nonstandard one) and as a separate language.³

3. The identification of these varieties as separate languages is much easier in polities such as Surinam, where the acrolect is different from the lexifier, or those such as Sierra Leone, where the creole has been transplanted. In places where the creoles coexist with their lexifiers, creolists should beware of the fact that these vernaculars could have been called nonstandard dialects of their “lexifiers.” The occasional identification of creoles by their speakers as separate languages reflects linguists’ own “miseducation” of the relevant populations, telling them, contrary to their traditional beliefs, that they speak separate languages (Mühlhäusler 1985; Mufwene 1988). As racist as local European settlers were in disowning these varieties as “bastard” or “adulterated” (witness the continuation of the practice among the Bekés of Martinique and White Creoles of Louisiana), at least they did not deny the genetic connection of the language varieties to their “lexifiers.” Not even Adam (1883) and Gonzales (1922), among others, in their racially derisive accounts of the emergence of Creole in Guyana and coastal

Since linguists have to date not come up with any sound structural criteria for distinguishing DIALECT from LANGUAGE, at least not evolutionarily, I will completely ignore claims that deny creoles any genetic connection to their lexifiers. As a matter of fact, along with Posner (1985, 1996) and (Trask 1996), I think they are legitimate offspring of their lexifiers on a par with other new colonial varieties that have evolved from the same European languages (Mufwene 2001, 2005, 2008; DeGraff 2009.) Thus, they should also count as Indo-European language varieties (Mufwene 2007). Although this position may be dismissed now as a confused minority's ideology (influenced particularly by Francophone creolists, according to Bickerton 2004; Siegel 2008), what matters, among other things, is how speciation and the restructuring processes that produced these vernaculars as specific byproducts of European colonial history have proceeded.

In connection to this, it is also useful to remember that Hall's (1962) "life-cycle," which is embraced by those who assume that creoles have pidgin ancestors, predicts that (incipient) pidgins, or "restricted pidgins" according to Siegel (2008), rarely survive. After the contact settings that produced them have changed, they either die or evolve into expanded pidgins, such as Tok Pisin and Cameroon Pidgin English, which some claim to have "creolized" (e.g., Holm 1988), simply because their communicative functions have vernacularized and their structures are as complex as those of creoles. To wit, compare, for instance, Féral's (1989) description of the grammar of Cameroon Pidgin English with Bailey's (1966) description of Jamaican Creole's morphosyntax. They are equally complex, in the sense advocated below.

Treated as evolutionary transitions, true pidgins (different from expanded pidgins) may as well be kept out of the picture in discussions that address the question of whether creoles have simpler structures than the languages they have evolved from. This is precisely what I will do here, although for two different reasons: (1) I maintain, as in Mufwene (2005, 2008), that both creoles and pidgins evolved by basilectalization-cum-divergence from closer approximations of their lexifiers (see, for instance, the evidence provided, perhaps unwittingly, by Christine Jourdan in this volume); and (2) the structural simplicity of true pidgins (each relative to its particular lexifier) is a consequence of the settings of sporadic inter-ethnolinguistic contacts in which they emerged and of the reduced communicative functions they had to serve. They may also reflect the extent of structural differences among the languages in contact, although this takes us to the question of whether the emergent variety should not be considered a koiné in this particular case. (See the relevant discussion in Mufwene 1997a.) Regardless of our respective positions on the role of pidgins in the emergence of creoles, we may as well focus on the end points and address the following question: How do creole and non-creole vernaculars (as varieties used for communication in

South Carolina went that far. As argued in Mufwene (2001, 2005, 2008) and DeGraff (2003, 2005, 2009), the emergence of creoles and their genetic kinship to their lexifiers is not affected by how linguists account for the restructuring and speciation processes (viz., by invoking the bioprogram, substrate influence, etc.)

day-to-day interactions with the individuals one lives with) compare with each other regarding structural or systemic complexity, as explained below?

2. Restructuring and hybridization

2.1 What does RESTRUCTURED LANGUAGE (VARIETY) mean?

RESTRUCTURING appears to be a notion that creolistics has appropriated uniquely under the bias of an ideology reluctant to consider an alternative interpretation of the emergence of creoles (in the historic sense discussed above), viz., what we continue to learn about the evolution of creoles under the corresponding contact conditions is prompting us to reopen the books about many things we have taken for granted about the putative uniparental evolution of non-creole languages. The latest example of this reluctance may be seen in, e.g., Siegel (2008), which, although enlightening on the debate about the emergence of creoles, continues to refer to these vernaculars as “restructured” varieties. By this, he appears to mean nothing more than ‘having fundamentally changed systems compared to their lexifiers’.

Unfortunately, he ignores the relevant discussion of the process in Mufwene (2001). By the criterion of ‘fundamental systemic change’ (about which I say more in Part 3), modern Romance languages can also be referred to as “restructured” varieties, in relation to Latin, from which they are now very different. Although one may want to invoke the by now classic argument that it took over 1,000 years for these European languages to become mutually unintelligible with their lexifier, it should be pointed out that the same lack-of-mutual-intelligibility argument could have been applied 200 years or so after the Romans had abandoned their western Empire, even before Old Romance varieties had emerged already as distinct from Vulgar Latin. Polomé (1983) observes that even in the third and fourth centuries (before the collapse of the Empire), there were distinguished members of the elite class in the provinces who did not speak good Latin. According to him, Latin was then spoken almost exclusively in the city, and by the local elite and merchants only. We just do not know whether two centuries or so after they had left their western Empire the Romans did not complain about poor, or lack of, mutual intelligibility with the vernacular Latin varieties spoken in the former provinces. (See also, e.g., Adams 2007 for a lot of invaluable information about regional variation during the early Roman Empire.)

On the other hand, as we should know by now, at least those of us who have paid careful attention to the nonstandard lexifiers of creoles, the mutual intelligibility argument depends on which specific creole and which particular lect one discusses and how the comparison is made. Gullah, whose phonology is closer to North American English varieties than its Caribbean creole counterparts, can be understood to some extent by speakers of nonstandard varieties of American Southern English, insofar as 100% perfect mutual intelligibility cannot be guaranteed even between two native

speakers of the same language variety. As pointed out in Mufwene (2001), one must factor in the hearer's familiarity with the speaker's lect.

Familiarity with a particular variety will permit partial understanding even of a foreign language, whereas lack thereof may impede satisfactory understanding of an alleged dialect of one's own language. Many readers will remember the classic example of Cockney English in London about which even people who have never heard it spoken repeat the myth that it is unintelligible to other English speakers. East End London, with which the variety is associated, is not a politically isolated, self-contained socio-economic community. As stigmatized as it is, Cockney has survived because its speakers can communicate with other people in London. Likewise, many Americans complain they do not understand Amish or Appalachian English. In any event, despite these claims, no linguist to my knowledge has characterized Cockney or either of these varieties as a "creole" or as a separate language. Yet Old Amish and Appalachian Englishes are also outcomes of language shift, therefore language contact, under colonial conditions, just like creoles.⁴ We should ask ourselves whether we have fully emancipated ourselves from the 19th-century ideology that treated creoles as aberrations or historic anomalies simply because they are spoken primarily by populations that are not (fully) of European descent. No linguist to my knowledge has ever articulated the threshold past which a "contact-based" vernacular becomes a creole (Mufwene 2003).

Efforts to operationalize the notion of CREOLE by invoking linguistic-structural features have failed to a point where even McWhorter (1998, 2008) had to resort to prototypical categorization to disputably support the usefulness of his criteria, viz., lack of "contrastive tones" in the grammar or the lexicon, lack of inflections, and lack of "non-compositional derivational" morphology. Putatively, we could thus speak of languages that are more or less creole, while we cannot speak of languages that are more or less Germanic, more or less left-branching, or more or less serializing.

We should obviously consider the more neutral definition of RESTRUCTURING that literally means 'replacement of one structure or system by another', which makes it a truism to characterize a new language variety as a "restructured" one. As explained in Mufwene (2001, 2008), the restructuring that produced the vernaculars socially disenfranchised as "creoles" is the result of accumulations of ever-divergent feature recombinations during "language acquisition" and of practice by populations segregated socially or geographically from those whose languages were being appropriated. The new speakers wound up developing their own separate norms, thanks to what

4. Those who may want to argue that these varieties are not associated with plantations, nor with slave or contract laborers, should remember that there are "creole" varieties, such as Papiamentu and Cape Verdian Crioulo (Mufwene 2008), that are not associated with plantations. This is likewise the case for Guinea Bissau Creole discussed by Marlyse Baptista in this volume. There is also Hawaiian English Creole, which is not associated with slavery, just as there are the "creoles" of Macao and Korlai (noted in section 1.1.), which are not associated with contract laborers.

Chaudenson (1979ff.) has characterized as “autonomization” and “normalization” of the new language variety. I return to the normalization question below.⁵

2.2 Llectal and language contact breeds hybridity

In this particular context, it is useful to consider the notion of “HYBRIDITY” invoked by Aboh (2006, this volume), which should not too hastily be confused with Whinnom’s (1971) invocation of “primary,” “secondary,” and “tertiary hybridization” to explain the cross-generational stages of mixing, spread, and entrenchment of elements from different languages within a population. Related to Mufwene’s (2001ff.) notion of FEATURE RECOMBINATION, Aboh’s notion of HYBRIDITY sheds light on how osmosis makes it possible for features originating in the lexifier and the substrate languages to mix into a new system. It is also consistent with Meillet’s (1921, 1929/1951) and Hagège’s (1993) position that “language acquisition” is a reconstruction process. See also DeGraff (2003ff.).⁶

System-(re)construction is a process that applies as much to L1 as to L2 “acquisition.” We are somewhat driven to our wits’ end when we address the reconstruction process at the level of communal language varieties, on which diachronic linguistics focuses. This is also where genetic creolistics belongs. All this conjures up what has often been derided as the “Cafeteria Principle.” One of its major shortcomings as attributed to substratist explanations is that it does not account in a principled way for how contributions from different languages could be integrated into a new linguistic system. Assuming uniparental language genesis as the normal way languages evolve, universalists such as Bickerton (1981, 1984, 1999) saw no alternative but the bioprogram and the agency of children to account for the emergence of creoles. However, as argued in Mufwene (1996a, 2001, 2005, 2008), in support of Hjelmslev (1938), mixedness is real in the genesis and evolution of all modern languages, and the challenge for believers in the “Cafeteria Principle” like myself is to explain the principles that guide selection from the available menus, that is from within the linguistic feature pool of the contact setting. The competition-and-selection alternative (Mufwene 1996a-ff) was proposed to address this issue.

5. As is evident from Baptista’s, Hagemeyer’s, and Kouwenberg’s chapters in particular, a certain amount of reanalysis is involved in the feature recombination process. As I argue below, this does not necessarily entail loss of complexity.

6. Mufwene (2008, Section 7.2) actually also speaks of “Hybridism in the normal and natural development of creoles,” arguing that this is to be found in the formation of any idiolect, under the polyploid influence of the learner’s/speaker’s community of practice. Charitably, I can now note that Adam (1983) may not have been completely off the mark in submitting his “hybridologie linguistique” to account for the divergence of French creoles from their lexifier; it is rather his particular characterization of the process as a peculiarity of “inferior races” that made his exceptionalist hypothesis infamous.

With the “hybridity” idea (I would prefer “hybridization,” focusing on the process itself), Aboh (2006, 2007, this volume) leads us, on the model of Lewontin (1970) in evolutionary biology, to address the question of what the “units of selection” are in the first place. Whereas Mufwene (2001ff.) argues that selection applies to linguistic features (units or combinatorial rules), Aboh (2006, this volume) shows that the units of selection can be smaller details often masked by the partial congruence (see especially Corne 1999; Chaudenson 2001; Mufwene 2001) that obtains between different languages. He is quite clear on this when he shows that while the Saramaccan Determiner exhibits semantic properties more akin to those of Gungbe than those of English, its morphosyntactic properties are those of the latter, the lexifier. There is indeed no particular reason why the significance of the syntactic properties should be subordinated to that of the semantic properties, although the literature has exploited the features that support divergence to promote exceptionality at the expense of continuity in the emergence of creoles (Corcoran & Mufwene 1999). The case for hybridization is made more forcefully with the analysis of the Saramaccan verb *nyan*, whose basic alternation between transitive and intransitive uses mak more like its counterpart in English than in Gungbe. However, it exhibits influence from Gungbe and genetically and/or typologically related languages in the idiom *nyan X a bak* ‘gossip about X’ (lit. ‘eat behind X’ or ‘bite X’s back’).

Aboh’s approach sheds light on what most of the other chapters contribute to this book. For example, Peter Sloamanson shows that the negative construction in Sri Lanka Malay (SLM) is patterned on Southern Dravidian languages, not on the Java Malay that was brought to this polity. However, although this particular morphosyntactic pattern is areal, the constraints on its application are largely determined by Muslim Tamil. The question we should endeavor to answer is why.

Another interesting example comes from Silvia Kouwenberg’s chapter, which shows that fewer of the building blocks for the grammar of Berbice Dutch (BD) originate in Eastern Ijo (EI) than had been assumed in earlier work. This is very informative, especially because BD is one of the rare New World creoles to exhibit incontrovertible contributions from a substrate language comparable to those attested in Melanesian expanded pidgins. What she shows is that where EI elements have been selected into BD’s grammar, they do not replicate faithfully the patterns of the donor language, owing largely also to the fact that they must have been reanalyzed by those who were not native speakers of EI.⁷ Noteworthy here, among a number of things, is the fact that a

7. This actually opens up another interesting fold in the chapter, as it appears that, contrary to Kouwenberg’s position and in the absence of archival textual evidence from the early 18th century, BD could have evolved gradually by basilectalization, later rather than earlier in the history of the colony, probably without an antecedent pidgin either, and, admittedly, in a non-uniform way from one part of the Berbice colony to another. According to Kouwenberg herself, the first one hundred years of the Dutch colonization consisted of homesteads (specializing in the cultivation of coffee, cotton, and cacao) rather than the large sugarcane plantations that would become its trademark since the late 18th century. Since a lot of the slaves also originated

certain amount of reanalysis definitely took place as the different materials were being integrated into the emergent grammar, also dividing the labor among them.

This explanation is undoubtedly going beyond my own position that what the new morphemes recruited to play particular grammatical functions can do and how they can do it is determined not only by their current meanings but also by their lexical categories. For example, it is more likely for speakers to exapt a preposition, which can be used predicatively, to function as a modal predicate rather than to do the same with a noun.⁸ My showpiece in Mufwene (1989a, 1996b, 2008) was the bifurcated evolution of the preposition *for* as a complementizer (in a way not significantly divergent from the *for-to* complementizer in nonstandard English) but also as an OBLIGATION modal in the resultant creoles, unlike in the lexifier. Coincidentally, Aboh (this volume) uses this same example to explain the subtle ways in which, the internal mechanisms of the emergent grammars of Surinamese creoles could have innovated this particular phenomenon, although the significance of Fon-Gbe influence in favoring this evolution (by partial congruence) cannot be completely ruled out.

As the same bifurcated evolution has also been attested in French creoles, with *pu*'s functions as a preposition, an IRREALIS complementizer, and OBLIGATION modal (Corne 1980, 1999), it is an open question whether or not one may also invoke universals of emergent grammars. One must of course also ask why not all languages have developed it.⁹ We must definitely ask ourselves the following question: How do

in the Nigerian interior (as Chaudenson 1992ff. generally observes against invocations of the West African coast as the origin of slaves), outside the EI-speaking area, the picture about the agents of restructuring is admittedly more complex than the literature has suggested to date. Kouwenberg is apparently justified in concluding that "EI speakers were not the primary agents in the formation of BD, even though their language was the primary source of functional material." Like elsewhere, every speaker had their role to play and that is where the action of the "invisible hand" has to be explored.

8. To my knowledge, most creoles, and many languages, which allow copula-less predicate phrases not headed by a verb still insert a copula when the semantic head of the predicate phrase is a noun. This makes it difficult to recruit a noun that denotes OBLIGATION or POSSIBILITY to grammaticize into modal marker. As becomes evident in the main text, even Haitian Creole, which is exceptional regarding this typological observation (DeGraff 1997), allows *pu* to function modally but not any noun that could convey the OBLIGATION meaning predicatively. More relevant to the discussion of complexity in Section 3, using a noun predicatively without a copula in Haitian Creole is only an alternative to using it with a copula, but the copula-less option appears to be ruled out when the predicate noun is delimited by an ante-posed or post-posed determiner, as in *Nuriel *(se) yon bèl gason/Nuriel *(se) bèl gason an* 'Nuriel is a handsome boy'. In contrast, there are no constraints on using adjectives predicatively, as predicate adjectives are still used without a copula even when they are modified by an intensifier. The grammar of predication in Haitian Creole is thus more complex than it may appear at first glance.

9. To be sure, one must turn here to typology and see whether languages with isolating morphosyntax have a tendency to grammaticize some prepositions in the same way. Especially

the different units and rules influence each other and define each other's functions in the emergent system, independent of the legacy from the lexifier and influence from the substrate languages? I return to this question tangentially in the discussion of complexity below in relation to the option of conceiving of grammars dynamically as emergent patterns.

2.3 The ecology influences the evolutionary trajectory of a language

With den Besten's chapter, one can also better appreciate the significance of the influence of the external ecology on the restructuring process. It does not seem possible to understand adequately the development of demonstratives in Afrikaans without factoring in the fact that Dutch in South Africa came in contact not only with non-European languages but also with French (brought in by the Huguenots), German, and English.¹⁰ The evolution of a tripartite PROXIMAL/MEDIAL/DISTAL demonstrative system in Afrikaans, from a bipartite PROXIMAL/DISTAL distinction in Dutch, is a curious phenomenon. It is compounded by the fact that demonstratives have become bimorphemic (e.g. *hierdie*) in a way similar to *ce N ci/là* in French and *this N here* and *that N there* in some nonstandard English dialects (as in *this boy here* and *that boy there*). Interestingly, Jamaican Creole has such two-word alternatives to conceivably single-word, equally bimorphemic markers, viz. *disya N* 'this' (< *dis* 'this' + *ya* 'here') and *dade/daya N* 'that' (< *da(t)* 'that' + *de* 'there'/*ya* 'here'), as in *dis-ya/da-de bway* 'this/that boy', although such constructions are marked as "archaic" in Cassidy & Le Page's (1981) *Dictionary of Jamaican English*. In any case, the Afrikaans phenomenon illustrates restructuring in the direction of semantic and morphological complexification, compared to Dutch.

noteworthy in the case of English and French creoles is the fact that some nonstandard dialects of their lexifiers have/had time reference expressions such as COPULA + *pour* V_{INF} and COPULA + *after* V-*ing* which differ from the creole constructions essentially in that the lexifiers require a copula before a predicative preposition whereas the creoles do not. Otherwise, the semantics of the AUXILIARY use of the preposition shows various degrees of similarity in all the relevant languages. This is akin to standard English use of COPULA + *going to* V_{INF} for FUTURE where Jamaican Creole and Gullah use *gwain* + V without a copula. Obviously, as pointed out by Chaudenson (1992ff), the legacy of the lexifier is far from being negligible in the evolution of these constructions in creoles.

10. It is unclear to me whether Portuguese must be completely ruled out of the picture. The Cape of Good Hope was originally a Portuguese colony and the Portuguese traded for especially ivory and slaves on the southeastern coast of Africa. Did the Portuguese stop trading in the Cape areas after the Dutch claimed it as their colony? After all, the traditional claim that the English and their slaves all left Surinam after it had become a Dutch colony has proved to be disputable if not false. Political events have not always been coextensive with economic acts in colonial history.

As will become obvious in Section 3, evolution by morphosyntactic complexification is neither unique to Afrikaans nor rare in creoles in general. This is precisely also part of what emerges from Peter Slomanson's chapter, in which the morphosyntax of SLM in the domain of time reference in negative constructions appears to be more complex than in Java Malay, owing to the influence of the Dravidian languages that the latter lexifier came in contact with. Some years ago, Kapanga (1991) argued that Shaba Swahili, the "contact variety," has a richer tense-aspect system than ethnic Swahili, spoken in coastal Tanzania, does. The reason he gives for this is the influence of the central Bantu languages that Swahili came in contact with; they make more morphological distinctions in the domain of TENSE-ASPECT. It is also common knowledge that Melanesian English pidgins (the expanded varieties) have complexified their pronominal systems relative to their lexifier both in morphosyntax and semantics. This provides food for thought regarding the claim that pidgins and creoles evolve uniformly in the direction of simplification, an issue to which I return especially in Section 3.5.

2.4 Hybridization and feature recombination

Overall, hybridization and feature recombination boil down to the same thing. Given the fact that human languages share a lot of features already (which is why we can speak of Language, in the singular, as applicable indiscriminately to mankind), the following questions are relevant: How much of what distinguishes a new language variety from its LEXIFIER (a concept to which I return in a moment) comes from the lexifier itself as it was spoken in a contact setting? How much comes from elsewhere, including the substrate languages and exaptive innovations from the emergent variety itself?

Discussing the regularization of the transitive marker in Solomon Islands Pijin (SIP), Christine Jourdan refers to the latter as "system-internal innovation[s]." Traditionally principles related to markedness, or ranking in Optimality Theory (Fill 2004), have been invoked to account for such developments. Our explanations remain nonetheless incomplete and I hope that research in this direction will make some progress. What seems obvious from the chapters in this book is that simplistic and exclusive accounts assuming only the bioprogram, relexification of some substrate language(s), or universals of second language acquisition will not do. Regardless of whether or not the approach is called the complementary hypothesis (see Mufwene 2001, Section 2.2.1), what the studies in this volume show is the need for more eclectic accounts.

What the studies also show is that it is a mistake to assume that the languages identified for convenience sake as *lexifiers* have bequeathed only their vocabularies to the new vernaculars with their morphosyntactic principles originating elsewhere (Thomason & Kaufman 1988; Thomason 2001). (See especially Chaudenson 2003 for an apt discussion of the topic.) Enoch Aboh in particular shows that even in the case of creoles that would be the prime candidates for relexification or for prevalent substrate influence (viz., Sranan, Saramaccan, and Haitian Creole) grammatical continu-

ities from the lexifier are not only undeniable but very significant.¹¹ They corroborate DeGraff's (2001a, 2001b, 2009) conclusion that French itself played a central role in determining Haitian Creole's grammar. What we should also remember is an observation made earlier by Whinnom (1971), viz., that no modern language has preserved intact the legacy of its earlier stages and is immune from the effects of contact with other languages.

One can actually develop similar arguments based on Christine Jourdan's and Peter Slobin's chapters, which both show that the structural features selected from the substrate languages into the emergent varieties are adapted by regularization to the new systems. Boretzky (1993) had already argued in this direction, remarking that substrate influence in creoles need not be expected to replicate faithfully the patterns of the donor languages.

2.5 Both creoles and pidgins have evolved by gradual basilectalization

It is also informative to note in Christine Jourdan's chapter that earlier SIP appears to have been structurally closer to English than today's SIP is, which suggests that even pidgins have evolved by basilectalization, diverging further and further away from their lexifiers as they were increasingly being learned and practiced as L2 varieties by wider and wider proportions of the indigenous populations speaking them also among themselves (Mufwene 2005, 2008). The systemic "complexification" (see below) that Jourdan discusses need not be associated with nativization; it more generally reflects the vernacularization of SIP, responding to the greater communicative needs of its speakers.

AGE and IDEOLOGY appear to be secondary and incidental factors in the ecology of the evolution of SIP, compared to the factor that appears to be more significant in this case: the deterministic role of the substrate languages which are related typologically and to some extent genetically (Keesing 1988). As noted in Mufwene (2001), little is invented *ex nihilo* in the structural systems of creoles and pidgins. They reflect recycling-cum-exaptation of materials (including structural patterns) from languages previously spoken by some of the speakers, underscoring the significance of Aboh's (2006, this volume) implicit invitation that we endeavor to (better) understand how the selection and recombination of features into an emergent system proceed.

2.6 "Creolization" and "pidginization" as indigenization

Even if we argue that creoles represent extreme cases of restructuring and hybridization, the fact remains that they are new varieties of European languages appropriated

11. This should not be surprising. After all, the lexifier was the target language in the contact setting, as heterogeneous as it undoubtedly was, *pace* Baker (1990, 1997).

by non-European populations at times when the European colonists were typically demographic minorities segregated socially from the populations of new speakers. These are the conditions which favored the process that Chaudenson (1979ff.) identifies as “autonomization,” i.e., independence and divergence from the metropolitan norm. The literature on the emergence of non-creole English varieties typically spoken in former exploitation colonies ~~has~~ used the term *indigenization* for the same process, a term that incidentally has resonance with one of the ways that Hall (1966) characterizes nativization as a factor that distinguishes creoles from their putative pidgin ancestors. According to Hall, the European vernacular then became indigen-ous to the contact setting.

In Mufwene (in press), I argue that INDIGENIZATION is the adaptation of a language to the new ecology of its users as it is influenced by the previous communicative habits of some of its speakers and meets new communicative needs of theirs. Every transplanted language appropriated as a vernacular indigenizes in its new ecology. If we assume, for convenience sake, that the lexifiers were the same (viz., Dutch, English, French, Portuguese, Spanish, to restrict ourselves just to colonial languages from Western Europe), then what we must also explain is whether creoles are more divergent from the nonstandard colonial European koinés from which they have evolved than their non-creole counterparts, how, and why. The “why” has to do with peculiarities of social interactions and language “transmission,” notwithstanding the specific languages that the lexifiers came in contact with and the demographic strengths of their speakers during the critical stages of their formation. This is in fact what makes the inclusion in this volume of chapters on non-creole languages, at least by my definition, so relevant to addressing this question.

2.7 “Off target?”

Aboh (2007) brings up another important question, whether in the first place the populations that produced creoles really intended to “acquire” the lexifier or just com-
municate (my emphasis). Baker (1997) had already addressed this question, answering it incorrectly in arguing that the relevant populations created “means of interethnic communication” and did not care to learn the relevant European languages. As pointed out in Mufwene (2000), this is an answer that makes sense only ideologically but is neither consistent with how plantation settlement colonies of the New World and Indian Ocean evolved nor with the pressure felt by the initial slave populations, the first Creole slaves, and, later, the rapidly growing majority Bozal populations of the plantation phase to use the dominant colonial language as a vernacular.¹² Shifting to the European language reflects less the oppression under the conditions of slavery

12. As explained in Mufwene (2004, 2005, 2008), for the Bozal slaves of especially the plantation phase in the development of the colonies, the pressure to shift to the European colonial vernacular came not so much from the European populations with which they interacted

than the need to be able to communicate successfully in a new setting and using a language that appeared to be the most practical (see below). As a matter of fact the slaves were not alone in doing this, as some Europeans who had not spoken the dominant European colonial language also shifted to the latter, especially among the indentured servants (Mufwene, in ).

While I agree with Aboh that overall people anywhere are more interested in establishing communication than inventing a new language, I must also underscore the fact that people everywhere also adopt ad hoc solutions when they have no common language. Typically, by the principle of least effort, they identify one that is dominant politically, socio-economically, or demographically, a variety that they recognize as (potentially) useful, and they target it. Indeed, they do not spend time trying to create or invent a new one. No natural language has ever emerged by deliberate invention, and everywhere around the world, the artificial standard varieties fabricated by academies or other institutions have failed to displace the more natural nonstandard ones. The case of Israeli Hebrew remains a notable exception, but even this often cited example of planned language creation appears to have benefited from an important share of natural evolution.

Contrary to Baker, we need not be concerned about whether the divergence of the emergent language variety from the target language is tantamount to failing to “acquire” it. In the first place, not even native speakers replicate the language of their social environment (indeed, their target language) perfectly; this is precisely the condition of language “transmission” that validates the notion of IDIOLECT as an individual speaker’s “system” that enables him/her to communicate with other users of the communal language (a variable construct) but is identical with no other idiolectal system. In other words, even *native* speakers’ idiolects, which have been claimed to reflect “perfect acquisition,” show structural differences among themselves, producing intra-communal variation.

The segregated conditions of language practice of the plantation phase naturally fostered divergence, with the varieties spoken by the slaves reflecting selective deterministic influence of some of their substrate languages. In this respect we must of course face the challenge of the Cafeteria Principle, as we must figure out and articulate the particular deterministic factors that bear on the setting-specific recombinations-cum-hybridizations that produced particular creoles. Recall that they are not only structurally similar to, but also different from, each other in various ways. Interestingly, Mintz (1989) underscores this family-resemblance aspect of Caribbean creole cultures taken together, displaying both similarities and differences among themselves.

minimally as from the Creole slaves who spoke it as their mother tongue and served as models in the acculturation process.

2.8 Against the discontinuity hypothesis

Important evidence in support of the hypothesis that the slaves targeted one particular language lies in the overwhelming prevalence of the vocabulary that the lexifiers have generally bequeathed to the new vernaculars. This fact argues strongly against the assumption of break in the transmission of the lexifier. Along with Bolinger (1973), I submit that syntax is a consequence of regularities in the way words are used in sentences. It is with words that we typically start learning a language, especially when we already speak one, and we pay attention to how speakers of the target language use them, although the learners' perceptions and interpretations of the patterns are not always accurate. Where more than one target was available in the population, such as in Surinam, the competition between the targets is also reflected in the mixed core vocabulary of the emergent vernacular, as in the case of Saramaccan, which has not only a substantial proportion of words of Portuguese origin in its vocabulary but also some grammatical markers from the same language, alongside the dominant lexical and grammatical selections from English.¹³ The significance of the vocabulary of Eastern Ijo in Berbice Dutch may likewise be associated with the time when the Eastern Ijos appear to have constituted either the demographic majority or a substantial proportion within the slave population. It is in settings where koinés developed that the issue of target language becomes a moot one. What most chapters in this volume contribute in support of my hypothesis is the realization that even the grammars of the new vernaculars maintain a substantial legacy from their lexifiers.

I like directing attention to seemingly simple facts such as some differences between, for instance, English and French creoles regarding the position of the DETERMINER and ADJECTIVE and regarding PIED-PIPING and PREPOSITION STRANDING. They reflect patterns observable in the lexifiers rather than in the dominant substrate languages, even when there are similarities that are attributable (partly) to substrate influence in patterns such as the restructuring of the NP or DP regarding INDIVIDUATION, or PREDICATION WITHOUT A COPULA (see Holm & Patrick 2007). Our assessments have generally been biased by partial analyses that have overlooked many structural features that creoles naturally share with their lexifiers, especially when these are not congruent with those of the relevant substrate languages. Creolists may have exaggerated the significance of the respects in which creoles differ from their lexifiers, compared to those in which they remain similar, bearing in mind that the lexifiers are nonstandard European colonial koinés of the 17th and 18th centuries about which we still need more information. In some cases, the consequence of the practice has been an exaggerated statement of differences between some creoles and their lexifiers, as pointed out by Corcoran & Mufwene (1999). This is precisely why many chapters in this volume are so invaluable.

13. As Bunting (in press) also shows, we must equally be prepared to acknowledge the influence of Dutch in the grammar of Sranan.

As is obvious from Christine Jourdan's discussion of prepositional verbs in SIP, for instance, even a variety where substrate influence has been so incontrovertible still leaves room for an important legacy from the lexifier. Note, incidentally, that the order of major constituents in SIP is the same as in the lexifier and different from that of substrate languages (Keesing 1988). Unfortunately space and time limitations prevent me from elaborating on this interesting topic. I will simply conclude this part of my discussion with the wish that Aboh's hybridization hypothesis will receive the positive response it deserves. I also hope more detailed studies will complement some of the chapters in this volume, showing various ways in which elements from both the lexifier and the substrate languages can contribute selectively to the grammar of the emergent language variety even in those cases where the lexifier contributes the lion's share. In connection to this, note Tjerk Hagemeijer's chapter in particular, which shows that competition and selection apply even among the substrate languages (see also Mufwene 2001, 2005, 2008). He demonstrates in this case how both Bantu and Edoid languages have influenced the structures of Gulf of Guinea creoles in different ways.

3. Complexity in creoles' systems

3.1 A striking omission

Glaringly omitted from almost all the chapters in this book are discussions of COMPLEXITY. This is both surprising and disappointing because the title of the book is *Complex processes in new languages*. The authors were invited to contribute variously, certainly in complementary ways, to the subject matter, and it is normal to expect them to have reflected on what complexity means. Although all the contributors are creolists and presumably aware of the special issue of *Linguistic Typology*, vol. 5, # 2&3 (2001) devoted to the topic of whether creoles are the world's simplest languages, there are almost no references to this publication or to Dahl's (2004) book-length and more general discussion of complexity in language. In the former publication, John McWhorter's lead article, which articulated the focus of the double issue, received various responses. The most elaborate and informative of these is a lengthy, 99-page rebuttal by Michel DeGraff in which various interpretations of COMPLEXITY are adduced to bear on his fundamental counter-thesis that Haitian Creole, then considered to be a prototypic one according to McWhorter (1998), has a morphosyntax that is largely selected from that of French, its lexifier.¹⁴ Although Haitian Creole has also

14. DeGraff's position is in fact partly corroborated by Tonjes Veenstra's chapter, about Mauritian Creole, which also shows the extent to which other formative pressures have modified some of the features selected from the lexifier, such as the variable position of the negator *pa*, which precedes the verb when time reference is to PAST but follows when it is to HABIT.

been richly innovative, most of its derivational morphemes – including much of their morphosyntax and semantics, not all of which is transparent – have been selected from the lexifier. As noted above, this is contrary to the usual claim that while the vocabulary of creoles is predominantly from their lexifiers, their grammars originate elsewhere. The extensive discussion is also a forceful rebuttal of a stronger claim in McWhorter (2001b) that creoles' grammars had been created *ex nihilo* after the alleged pulverization of their lexifiers' systems. This is a thesis germane to the break-in-transmission hypothesis disputed in Mufwene (2001, 2005, 2008).

One would thus expect creolists invited to contribute thoughts on these issues to clarify, like Siegel (2008), what conceptions of COMPLEXITY they find the most adequate or relevant to their discussions. In this volume, ~~only attempt to address this question is by Anthony Grant, who~~ associates “complexity” with “the addition of features which were not previously present [in the lexifier] and of exceptions with previously exceptionless rules.” He also attributes complexity to “the concomitant addition of variation between structures of similar meanings where there was none before.” More concretely, Grant argues that Zamboangueno (Zam) owes the “complexification” of its verbal, pronominal, and phonemic system to the Philippine languages that Spanish came in contact with. Unfortunately, he says very little about the grammar of the relevant Spanish that was spoken in the Philippines when the islands were colonized by the Spaniards.¹⁵

I must also note that we are in an era when a particular emergentist perspective on self-organization is growing, when a discipline of complexity theory is already established and has been embraced in various research areas, including the social sciences, and when quantitative, or variationist, sociolinguistics has shown that grammatical features fluctuate a lot in usage. We may want to ask whether there is any particular reason to expect grammatical systems either at the idiolectal or at the communal level to be static, or whether it is high time we developed a dynamical conception of them and treated them as agent-driven complex adaptive systems (Holland 2005).

3.2 Grammars as emergent systems

If the reader agrees with most of everything discussed in the previous sections, especially with the thesis that creoles' systems emerged gradually and spontaneously, i.e., as unplanned phenomena, while speakers just focused on communicating in the target language, then it is not far-fetched to conceive of grammars as emergent systems (à la Hopper 1987). They are therefore collective outcomes of adaptations constantly being made independently by individual speakers as they exapt some extant structures

15. Grant also provides no clear demonstration of how this evolution took place, although one may surmise that the mechanisms involved cannot be that different from the feature-recombination analysis adopted by Enoch Aboh for Sranan, Saramaccan, and Haitian and by Umberto Ansaldo for SLM.

to new communicative needs (just what Holland 2005 advocates). At the communal level, grammars reflect the action of the “invisible hand” (to which I return below).

This position does not of course mean that nothing is continuous and stable in the architecture of a language, nor that everything is chaotic and there are no cross-dialectal similarities in how the various idiolects are structured, nor even that speakers constantly resort to *ex nihilo* innovations in producing their utterances. It simply means that speakers do not always find ready-made structures or constructions to express their thoughts or feelings; they are creatively exaptive. One can observe the power of analogy in the way they extend some extant structures to convey new meanings, bearing in mind that not all innovations are successful, are repeated, and spread within a population. Rather, consistent with the non-linguistic literature on complexity cited below, it is as if both idiolectal and communal systems were in constant search for new equilibria, as speakers attempt to meet new communicative needs and/or adjust their extant communicative systems to those of their interlocutors in order to communicate more successfully.

However, as explained in Mufwene (2001, 2008), what one speaker gives up may be what another finds useful in another situation. Synchronically, one has no real sense of how this flux of give-and-takes settles at the communal level. This is of course in the domain of the “invisible hand,” which produces inter-dialectal interactive complexity, which in turn influences the choices that speakers make when they communicate, bearing in mind that not all aspects of one’s system are concurrently affected. For instance, the basic constituent order in the sentence or within particular phrases may not change but the actual uses of particular constructions can be atypical and innovative. Evidently, this behavior, which has been characterized as “chaotic” (i.e., as in constant search for new equilibria) is not unique to creoles but may be more conspicuous in places where variation has mistakenly been associated with “decreolization” qua debasilectalization.

The idea here is that in reality speakers, who in naturalistic multilingual settings do not wait until they have received classes in a specific language, do not plan to invent a language they will speak thereafter, *pace* Baker (1997). Least of all, slaves in the New World and the Indian Ocean, where our epistemic prototypes of creole vernaculars evolved, did not plan at the outset of their captive conditions in the colonies or at any other time to develop exclusive or secret language vernaculars unintelligible to their masters,¹⁶ although the literature on African American English (see, e.g., Morgan 1993) shows that some counter-languages did indeed evolve later on,

16. As a matter of fact, it is thanks to what their “masters” (e.g., Charles Baissac, Lucien Adam, Sam Matthews, and Ambrose Gonzales) wrote, reflecting their typically stereotypical understanding of the emergent vernaculars, that we now can develop a less speculative perspective on how they evolved. The writers are among those who produced the first texts that we can now consider archival, giving us an idea of features of the earlier stages of some creoles, although it is debatable whether the materials are faithful representations of how the emergent vernaculars were spoken (Corcoran & Mufwene 1999).

albeit as parasitic systems based on the regular vernaculars that creolistics has traditionally focused on. Rather, like migrant workers in Germany and France in the 20th century, they attempted to communicate in the economically dominant language, just like many European indentured servants also did for that matter, with the difference that the socially mixed living conditions of the slaves did not allow most of them to continue using their African languages as their vernaculars.

Past the normal interlanguage stages, the slaves generally acquired enough command of local European colonial vernaculars to communicate in them, each generation of learners (locally born children and Bozal slaves) having a more divergent target than the earlier one (as argued by Chaudenson 1979ff. in terms of “approximations of approximations”), although it really depended more on whom one was learning the European language from and what were the learners’ own individual skills at learning a foreign language if they were African-born. As explained in Mufwene (2005, 2008), the divergence that sets creoles apart as different linguistic systems from their lexifiers did not really proceed differently from those that set, say, the Romance languages apart from Vulgar Latin. It is in this perspective of INDIGENIZATION as explained above that one must also invoke emergentism, dealing with the emergence of new structures in the stead of extant ones (see below).

3.3 Complexity emerging from rule interactions

Thus, along with DeGraff (2001, Section 5.3), I submit that it is more informative to assess complexity more interactively than just from the perspective of whether a paradigm in a particular language includes more units than its counterpart in another (and is therefore “richer” – Dahl 2004), whether a grammatical rule specifies more constraints than another (and is therefore harder to learn), or whether a grammatical system has (many) more rules than another even if they are capable of expressing the same meanings or information contents. We cannot ignore the fact that linguistic systems consist of complementary modules, and this is as true of creoles as it is of other languages. From an interactive perspective, the interface of the modules is what generates complexity, in terms of several processes taking place as one produces or processes an utterance, in any language. Since the loads of work assumed by the different modules are not distributed uniformly from one language to another, it is very difficult to develop a constant cross-linguistic measure of the complexity of various languages.

In addition, the communicative capacity or potential of a particular language must be assessed relative to the communicative needs of the population speaking it rather than relative to the needs of another population. Moreover, how a particular population chooses to package different pieces of information and how it adapts to new communicative needs varies from one cognitive domain to another and certainly from one culture to another. As the reader should be reminded of by Bettina Zeisler (this volume), it is too easy to introduce a cultural bias in comparing different languages regarding some abstract measure of complexity. What DeGraff (2001a)

exposes in particular is the Schleicherian bias that sought to celebrate the European populations as linguistically the most evolved, for instance, through the stipulation that languages with fusional morphosyntax represent the most advanced level in the evolution of language(s). As a matter of fact, Schleicher's (1863) perspective turned out to be as embarrassing as Darwin's (1871) discussion of human populations; Darwin ranked some as more, or less, evolved than others (hardly explaining how), although he condemned slavery.¹⁷

3.4 Creoles are not unique structurally

As pointed out by DeGraff (2001a), there are so many "older languages" (McWhorter's terminology) such as Chinese and Vietnamese that have morphosyntactic structures similar to those of creoles. One may also note that while McWhorter (1998, 2008) excludes them from the category of simple languages, because they have developed "contrastive tones" over millennia of evolution, one could also point out the interesting fact that Western European languages are curious in not having evolved "contrastive tones," while a number of them also have morphological structures that are not much more complex than those of Haitian Creole.

The reality is that since the dispersal of *Homo Sapiens* out of Africa 60,000–50,000 years ago, modern human language has diversified along various evolutionary trajectories, ending in a number of alternative morphosyntactic types today that need not be associated with age. Whether a particular language became tonal or adopted a stress system, or became agglutinating or otherwise, among other typological options, need not be correlated with how old a language is. Note, for example, that Papiamentu, which is not older than other Caribbean creoles, is as tonal as most Niger-Congo languages, whereas Swahili, a Bantu language which, on McWhorter's (1998) terms, is much older, is not tonal. Lingala and Kikongo-Kituba developed probably not before the late 19th century out of the contacts of primarily Bantu, tonal languages, but only Lingala is fully tonal. Kituba is typologically mixed in this respect (Mufwene 1989b, 1997b).

What a number of chapters in this book show is that the extent of morphological complexity (in terms of range of distinctions) retained by a "contact language" largely reflects the morphological structures of the target language and the particular languages that it came in contact with. As pointed out by Chaudenson (2001, 2003), the alleged morphosyntactic poverty of creoles is a reflection of that of their lexifiers themselves compounded in some cases with the particular isolating morphosyntax of the substrate languages they came in contact with. One may likewise attribute the absence of "contrastive tones" in creoles to the absence of these in their own lexifiers, especially if it is accurate that they have inherited many important

17. See Mufwene (2008, Ch. 6) for an elaborate discussion of this position which is ably denounced by Gould (1993) and Radick (2002), among others.

structural features from the same languages. These are all evidence that support the position that creoles evolved in settings where the slaves did indeed target particular languages, *pace* Baker (1990, 1997), and they actually learned a great deal under their segregated living conditions in which black Creoles and seasoned slaves were the primary “transmitters” of the colonial language. Evidence in support of this continuity hypothesis may also be found in the conservative nature of their segmental phonetics, as they have maintained various pronunciations that are in fact informative windows into how the European lexifiers were spoken in the colonies, especially in the 17th and 18th centuries, which specify the “unity of time” invoked in Chaudenson’s (1992ff.) historical definition of creoles. Patrick (1999), for example, is a good introduction to this subject matter in Jamaican Creole.

Thus, McWhorter’s (1998) global typological proposal which singles out creoles by arbitrarily denying them the long genetic history they do indeed share with their lexifiers is question-begging. There is no modern language variety that is not young and there isn’t a single evolutionary trajectory that all languages are supposed to have followed. Although the role of probability regarding how different features combine (Gil 2007) cannot be ignored, we must still take very seriously Chaudenson’s (2001ff.) position that the kind of morphological reduction exhibited by creoles is largely an extension, by generalization and regularization, of processes that were already taking place in their nonstandard lexifiers. Indeed, Modern English has a less rich inflectional system than Middle English and certainly much less than Old English. The same is true of modern Romance languages in comparison with earlier stages of their evolution. On the other hand, there are nuances that the modern varieties can express with their periphrastic systems that must have been difficult to encode inflectionally, for instance, *The book may (not) have (not) been being considered for publication at that time.* The construction may be difficult to parse with the two negatives used concurrently but is not nonsensical. There must be healthier ways of discussing variation in complexity that can be more informative about how Language as an exclusive property of mankind works and how it varies typologically. It is to this aspect of discussions of complexity that I now turn, taking advantage of current research in other disciplines.

3.5 Against “bit complexity”

A convenient starting point is heeding DeGraff’s (2001a) rejection of “bit complexity,” which amounts to “richness” of units at any level (Dahl 2004), viz., phonological, morphological, and lexical. A language with a larger phonemic inventory is not necessarily more complex if the sounds do not produce more words than a language with a smaller phonemic inventory. Both may actually exhibit the same extent of complexity, depending on how many different constraints regulate their combinatorics and allophonic variation within their phonemic systems. (For that matter, there are some non-creole languages that have smaller phonemic inventories than creoles but are not considered simple.) How many different words a language can generate depends on other

factors, such as word length, syllabic peak dissimilation, and, more fundamentally, how many concepts the speakers find necessary to express (non)compositionally.

Note also that although creoles have typically been claimed to dispense with consonant clusters, this particular evolutionary process has not been universal either system-internally or from one creole to another. Many of the most common clusters have survived in Gullah (which also happens to have a voiced bilabial fricative, a typologically marked consonant), for instance, in *small*, *try*, *greed*, *blood*, *bottle*, *bunch*, *inside*, *outside*, *vex* [βeks ~ veks], and *simple*. Word length seems to be subject to the same constraints as in English, where polysyllabic words of more than three syllables as attested in Bantu languages (often thanks to derivational sequencing, compounding, and reduplication) are avoided.

On the other hand, a language with a richer derivational and/or inflectional inventory is not necessarily more complex overall than one that can have the same job done by compounding, and/or by the use of a finite set of free grammatical morphemes to modify various paradigms of lexical morphemes, subject to language-specific constraints. Gullah and Guyanese Creole certainly illustrate this well with their explicit grammatical expression of HABITUAL events with /dəz/ ~ /dɔz/ (as in /haw yu dəz kuk ʌm/ 'How do you [usually] cook it?' – Gullah), including in their time reference system a distinction which many dialects of their English lexifier cannot express unequivocally. Recall that, in English, context (provided by the discourse or the situation in or about which the discourse is taking place) determines whether the verbal inflections for the "present tense," including zero marker, refers strictly to the PRESENT, NEAR FUTURE, or a HABIT. Guyanese Creole goes even further in distinguishing periphrastically between two nuances of PROGRESSIVE/DURATIVE delimitations: *mi de taak* 'I am talking' is different from *mi de a taak* 'I am busy talking'. While the translation with *busy* in English captures the meaning, the expression is not grammaticized in the way the combination of grammatical morphemes *de* and *a* is in Guyanese.¹⁸

Many similar examples can be adduced to show that loss or reduction of inflections in creoles did not amount to loss or reduction of systemic complexity, which can also be considered dynamically, from the perspective of how different constituents and rules interact with each other. In this volume, informative examples can be cited from, for instance, Marlyse Baptista's discussion of *ba* as an ANTERIOR marker in Guinea Bissau Creole. If its evolution is interpreted as a case of reanalysis, whereby an inflection was reanalyzed as a free morpheme whose position is VP-final, then one can also see that variation in its position and scope is almost a mirror image of that of

18. This further illustrates one of the points made by DeGraff (2001a: 257) when he argues that "the *terminus ad quem* will be more complex in certain grammatical domains than the *terminus a quo* in other cases (...)" Although the balance of losses and gains in morphosyntactic distinctions made in individual creoles varies from one vernacular to another, they also remain consistent with DeGraff's (2001a: 263) other observation that "there is no reason to expect complexity qua number of distinctions (...) to increase [or decrease] in lockstep across all levels of grammar."

English in constructions such as *I think he did not come* vs. *I do not think he came*. As Baptista points out, there is also a constituent weight constraint among some speakers, which introduces even more complexity, as it determines what can separate *ba* from the head verb.

Thus, while loss or reduction of inflections compared to the Portuguese lexifier may be interpreted as simplification, there is also syntactic variation that introduces systemic complexity, revealing that there is more to a grammatical system than morphological richness. What goes on here is certainly more than morphological simplicity being matched by complex semantic interpretation rules, although this is certainly the case in the temporal interpretation of predicates, as has been extensively demonstrated in the literature on time reference in creoles.

The same is true of the process of lexical-category shift or zero derivation (traditionally dealt with in creolistics as “multifunctionality”) which converts verb particles into autonomous transitive verbs in SIP, as discussed by Christine Jourdan (this volume). Note that in *Mami bae insaetim kaletu* (Mother FUTURE take-inside laundry) ‘Mother will take [the] laundry inside’ the prepositional predicate *insaet* ‘inside’ is regularly transitivized with the suffix *im*, like any regular verbal predicate. The transitivizing suffix licences the presence of the object NP to the right of the predicate.

Multifunctionality, which is a common property of languages with isolating morphosyntax, attested also in what McWhorter (2001a) considers languages with older histories, is itself evidence of interactive and therefore systemic complexity. One must pay attention to the morphosyntactic environment to determine the lexical category of a categorially ambiguous item, where languages relying on particular inflections make the process more transparent and apparently simpler to process context-independently. Thus, out of discourse or other pragmatic context, *I saw her ducks* is not ambiguous, thanks to the PLURAL suffix on *duck*, which shows that it is a noun. Interpreting it as a verb would make the utterance ill-formed. In contrast, *I saw her duck* is ambiguous, as the morphosyntactic environment is not helpful. In this respect, English is no better off than most of the creoles that have evolved from it. Indeed, the creole counterpart of *I saw her ducks* would also include a nominal plural marker, although it is not inflectional. The critical difference is thus typological, not in systemic complexity.

Generally and going beyond the present book, I would be remiss not to underscore DeGraff’s (2001a) warranted denunciation of a Eurocentric bias in the way that (lack of) systemic complexity of creoles has been assessed in the literature since the 19th century. There is no sound evidence that justifies equating the restructuring which produced “creoles” – as a sociohistorical rather than a structural category of vernaculars (Mufwene 2000) – with simplification, although there is evidence of morphological reduction in several cases, for instance, the general loss of tense inflections from verbs and nominal number inflections from nouns. However, as noted above, Chaudenson (1992ff.) and Corne (1999) in particular have pointed out, focusing on French creoles, that this process is largely an extension of a morphological regularization process that had been taking place in “les français populaires” (nonstandard

French), accelerated by partial congruence with the isolating morphosyntax of some of the substrate languages they came in contact with.

Here, one can observe the power of the “hybridity” account of language “acquisition” that Aboh (2006, this volume) is articulating. In the specific case of these particular examples, it appears to me that the functionality of the lexifier’s time reference system could not survive the loss of inflections. The substrate languages’ isolating verbal morphosyntax underlain by *STATIVE/NONSTATIVE* distinction in the articulation of *TENSE* and *ASPECT* oppositions would lead to what the literature has typically interpreted as the “creole TMA system.” As it turns out, this prerequisite semantic distinction is not at all new to French, for example. It underlies an important difference in the *APECTUAL* interpretations of, on the one hand, *je travaille au bureau* ‘I work at [my] desk/in [my] office’, and, on the other, *je pense au problème* ‘I am thinking about the problem’. In the former case, a *NONSTATIVE* verb is interpreted *HABITUALLY*, whereas in the latter, a *STATIVE* verb is interpreted as *CURRENTLY IN PROCESS*. Since loss or reduction of inflections is compensated for by the enhancement of a different factor in the lexifier’s system, interpreting the restructuring process unequivocally as simplification begs the question, especially when one factors in distinctions which a creole may have added to the system that are not attested in the lexifier. Recall that I assume that creoles are unbroken, gradual evolutions from their lexifiers, as I know of no evidence that supports the discontinuity hypothesis.

3.6 Hybridity, “featurization,” and gradual system emergence

It is difficult to make sense of the “hybridity” account without factoring in what Dahl (2004, Ch. 9) explains with “featurization,” which amounts to more and more abstract accounts of language change in which different features are assumed to have evolved separately, although they have influenced each other. It seems to me that a language changes not because its (new) speakers decide to change its structures globally at one time but because at different times different features (at the level now articulated by Aboh) undergo various changes initiated independently by different speakers. As time goes by, some of the changed features spread from the idiolects that initiated them to the communal language and their incremental accumulation produces evolution.

That is, while different components of a language do not evolve concurrently, structural features of the new variety emerge non-linearly out of the particular interactions of the changes. The new grammar emerging out of the communicative activities of speakers influences the ways that features selected from the different languages in contact are integrated, dividing the labor among them. An example of this can be found in Aboh’s demonstration of “hybridity” in the way features from the lexifier and from the substrate languages mix to produce new patterns in a creole. As noted above, he shows in his chapter, that the Determiner system and the verb *nyan* in Saramaccan do not faithfully replicate their counterparts in either group of languages. One may say that the evolution of English into Saramaccan is a function of the ecology-specific ways

in which its features have changed, sometimes concurrently with those of the substrate languages that influenced the restructuring process. Features from the substrate languages are often as much modified as those inherited from the lexifier, as is also obvious from Sylvia Kouwenberg's chapter in this volume. The recombination of features from the different sources in the same subsystem or even in the same lexical entry is part of the feature change itself, making the feature-change process more complex. In addition, the evolution is also a function of how the different feature-changes interact with each other and converge to produce the emergent language variety.

According to some of the literature on complexity outside linguistics (e.g., Heylighen 1996; Byrne 1997; Mikulecky 2001; Taylor 2003; Casti 2008), this is indeed how system complexity emerges out of the interaction of various components, generating features that can hardly be traced intact to one single source. As they generally put it, "the whole is more than the sum of its parts." To quote Mikulecky (2001: 342), "complex (real) systems cannot be successfully reduced to material parts without loss of some significant attributes in the process." Emergence, a diachronic/evolutionary phenomenon, is an important part of complexity. That is, we must also address the question of how (systemic) complexity as a property of self-organization arises, while the emergent system remains in constant flux, in search of some elusive equilibrium. In the case of language, this is owing especially to inter-idiolectal variation and the consequent adaptations speakers make both to new communicative needs and to each other's characteristics (usually identified as "mutual accommodations").

3.7 A dynamical interpretation of complexity

Most practitioners of complexity theory and emergentism underscore the dynamical aspect of these phenomena, as complexity emerges from the various ways different components, parts, or modules interact with each other. Perhaps these considerations provide an explanation for Umberto Ansaldo's observation that "language and grammar are historical entities," i.e., as currently spoken, they are outcomes of particular evolutionary processes, some of them recent and some older. However, as observed in Mufwene (2001, 2005, 2008), every language is being reshaped as it is spoken, never reaching a particular equilibrium in complexity theory terms. Normalization (Chaudenson 1992ff.) as the emergence of stable communal norms is a convenient fiction; Paul (1880/1891) was not so off the mark when he referred to communal norms as some sort of statistical averages among convergent idiolects.

In this respect, one may point out that creoles are not lacking in complexity compared to other language varieties, although they have evolved more toward isolating morphosyntax. However, structure and function must be approached jointly relative to specific ecologies of their emergence and practice. For instance, serial predicate constructions cannot be seen as less complex than subordination just because the former strategy lacks markers that are associated with the latter. They are alternative ways of forming complex sentences in which several predicate phrases overlap,

sharing some of their arguments (Mufwene 1989a). As a matter of fact, serialization relations do not exclusively amount to a coordinate-structure style of sentence expansion; they may involve embedding, such as when one says / \wedge tra^y go/ 'I tried [to] go' as a variant of / \wedge tra^y fə go/ in Gullah (Mufwene 1990). With data from Gbe and Khoisan languages, Aboh (2003, 2009) clearly shows that syntactic relations in serial predicate constructions are much more diverse and complex than they look on the surface. Incidentally, both syntactic strategies involve recursion, an essential factor in the production of structural complexity.

3.8 Creoles as complex adaptive systems

An interesting aspect of creoles as complex adaptive systems, which all human language varieties are for that matter, is that they have not emerged from scratch, *pace* McWhorter's (2001b) claim that they emerged from the pulverization of the target language (and of course the shift from the languages previously spoken by the slaves). As altered as their systems are compared to those of their lexifiers, creoles have also maintained noteworthy fundamental morphosyntactic properties of the nonstandard varieties they have evolved from. Focusing on English creoles alone, note, among many features, the following which make them quite Germanic and in a number of ways unlike the substrate languages often invoked to account for their divergence: the prenominal position of the determiner and adjective in the noun phrase, the basic structure of the relative clause introduced by an invariant complementizer *we*, the stranding of the preposition in questions and relative clauses, the insertion of the verbal object before the particle in constructions such as *pick NP up*, the fronting of the question word to the beginning of the sentence, and the use of Clefting for focus constructions (bracketing the focus constituent with the counterpart of *it's ___ that* in English).

To be sure, there are always a couple of substrate languages that happen to display one or two of such features. For instance, according to Aboh (2005), Gbe languages have something very similar to preposition-stranding and they front the question word to the beginning of the sentence. We can conclude that the congruence of these facts (Corne 1999; Chaudenson 2001; Mufwene 2001ff.) must have favored the English construction patterns in creoles such as Sranan and Saramaccan. However, there are also all those other English creoles where the constructions have prevailed without (strong) reinforcing influence from these particular substrate languages, for instance Gullah and perhaps also Jamaican Creole. Moreover, as part of the competition among various possible substrate influences, we cannot ignore the fact that many of the relevant languages simply just do not exhibit these features. We can thus assert quite confidently that the relevant structures could have evolved in different typological directions in English creoles if the lexifier did not have these features at all. To wit, French creoles generally show no evidence of preposition-stranding in questions and in relative clauses, of a pre-nominal determiner, or, as observed by Frajzyngier (1984), of a comple-

mentizer that has grammaticized from a main verb *SAY*. Yet, Fon-Gbe languages are claimed to have influenced, though they did not exclusively determine, the structures of Haitian Creole to some extent, certainly in the ways argued by Aboh (2006).

Many more of the structures of the lexifier have survived, albeit with modification in some cases, even if one overlooks features that the lexifier shared with many of the languages it came in contact with, including the basic major constituent order in a sentence. However extensive, the restructuring that produced various creoles in different contact ecologies illustrates how complex systems actually change, especially when, as is evident from Christine Jourdan's chapter, the divergence process appears to have been gradual. Sometimes the effects of the alterations remain quite local, as in the case of number delimitation within the noun phrase. In some other cases, however, the changes affect more than one subsystem, such as when prepositions can also be used predicatively and therefore can also evolve to function as *TENSE-ASPECT* or *MOOD* markers or when the serialization of predicates can lead some verbs to evolve *COMPLEMENTIZER* functions. This is precisely how I interpret Silvia Kouwenberg's observation that some of the changes in the structure of Berbice Dutch are motivated system-internally. It is a good illustration of how complexity emerges.

In Berbice Dutch, as in other creoles, one can also notice that substrate influence is not evenly distributed in all modules of grammar. Likewise, Aboh (this volume) argues that substrate influence applied non-uniformly in Saramaccan and Sranan too. According to complexity theory, the different components or modules of a system can adapt independently to new conditions and therefore undergo modifications that are not equally extensive. The challenge is of course the variable role of ecological factors in conditioning the changes.

If McWhorter (2001a) is correct, as it indeed seems, that creoles get rid of redundant features that are not so essential for a language to function,¹⁹ and since both the economic histories of the territories where these colonial vernaculars evolved and the archival records suggest that they must have evolved gradually (see in fact Baker 1995), then we must wonder how the restructuring producing the reduction of the redundant features occurred in the first place. In other words, what are the particular cross-subsystemic or intra-systemic interactional pressures that led to the reduction? This seems to me to be a more significant question than the assessment of surface complexity that is not particularly informative about how meaning is expressed in a language. The measure of bit complexity becomes even more elusive as

19. This observation is not an endorsement of McWhorter's strong position. As a matter of fact, I have in mind phenomena such as grammatical gender, Noun + Adjective or Subject + Verb agreement, and the copula, which are not discussed in McWhorter (1998). My statement is simply a recognition of the fact that at the morphosyntactic level some markers have been done away with. One must still bear in mind that, as demonstrated by DeGraff (2001a, 2001b) many derivational morphemes have been retained. Also, as argued above, alternative strategies have been adopted in lieu of inflections (to mark especially nominal *NUMBER* and *TENSE-ASPECT*), and, in some other cases, even new distinctions have been introduced.

there are non-creole languages which, owing apparently to the role of probability (Gil 2007), have been able to satisfy the communicative needs of their speakers without the putative redundant features.

3.9 The work of the “invisible hand”

I will close this part of the chapter with a short discussion of another aspect of complexity, which may appear to be tangential to the above considerations but is nonetheless relevant to understanding how little we still know about normalization in a population. Like language “acquisition,” linguistic performance, which contributes to habit-forming in the emergence of idiolectal characteristics, is individual-based, not community-based. It is also during this practice that individual speakers copy from each other, not necessarily symmetrically, features that they find advantageous for one reason or another. In the process they align themselves with various speakers in ways that eventually produce communal norms, without excluding variation along various social parameters and even some resilient, idiosyncratic inter-idiolectal variation. This is basically where one can also claim that the “invisible hand” (misinvoked in this volume by Umberto Ansaldo and Silvia Kouwenberg) works, as every speaker behaves in ways that serve their individual communicative interests but winds up converging with other community members toward the eventual production of the communal norms (Mufwene 2008; after Smith 1776 and Keller 1994).

Given the ways in which the typically dyadic or triadic patterns of human communication change during our social interactions, it is not clear how the averaging to which Paul (1880/1891) alludes in his characterization of communal norms emerges. This is especially significant because, as pointed out in Mufwene (2008), the literature on naturalistic L2 “acquisition” clearly shows that the learners do not all produce identical sets of deviations. Unfortunately no study of these varieties has pointed to the emergence of some communal norms associated with a migrant workers’ community. The reason appears to lie in the fact that typically the migrant workers do not use their interlingual approximations to communicate among themselves, as they live in segregated neighborhoods, where they can remain ethnolinguistically homogeneous and socialize among themselves in their heritage languages.²⁰ In creolistics, where we have been discussing communal vernaculars that emerged recently rather than individual L2 varieties, I wonder whether we can continue to dodge this emergence question, especially in the usage-based approach adopted by Ansaldo. I have no sugges-

20. *Pace Plag* (2008), neither did the slaves on the plantations that produced creoles communicate among themselves using just interlanguages, as if they all had arrived at the same time in a plantation that had been set up overnight, and no children were born in or imported to these colonies. This is one more hypothesis about the emergence of creoles, disconnected from the history of the gradual peopling of the relevant colonies and the gradual development of plantations, that we could have been spared.

tion to make about how to approach the question at present. However, normalization appears to be the outcome of a very complex process of population-level feature convergence through competition and selection. Some features are (virtually) eliminated from the feature pool while others spread (or “propagate” – Ansaldo, this volume) within the population. Part of what makes the normalization process so mind-boggling is that no speaker communicates with every other speaker in their community, our typically dyadic and triadic patterns of interaction change repeatedly, and the networks in which we operate overlap in ways that typically involve only small subsets of all the relevant speakers. Here too, it appears to me that creoles are evolutionarily not different from other languages. The normalization question boils down to that of how different idiolects trade off features toward convergence without nonetheless losing their individualities. There’s so much complexity involved both in the polyploidic influences that shape idiolects and in the competition-and-selection processes that produce communal norms. In this respect, creoles are not different from other languages, either in how they evolved or in how they function synchronically.

4. Conclusions

The evolution of the structures of creoles and other so-called “contact language varieties” is far from reflecting a simple, straightforward, and (uni-)linear trajectory. As new studies such as in this volume contribute more facts about the sociohistorical ecologies of the emergence of some of these vernaculars in the Caribbean, the Indian Ocean, and elsewhere (notably Norval Smith and Silvia Kouwenberg in the present case), the complexity of the evolutionary scenarios increases more obviously, although it remains difficult to interpret unequivocally. There is no single local or regional history for which the informed reader could not think of alternative interpretations of the same facts. This simply means that an honest debate must go on that may shed better light on the significance of various ecological factors. These have to do chiefly with periodized demographics, patterns of population growth, changing population structures, the identities of the languages in contact, the patterns of typological variation among them, who may have been the most critical agents of restructuring, and how the invisible hand works during the gradual normalization of the emergent language varieties.

Likewise, more detailed structural approaches on specific constructions, as illustrated by the majority of the contributions to this volume, will help us understand how new structures arise, where specific aspects of these complex structures originate, and how they have contributed variously to produce the peculiarities associated with creoles and other “contact language varieties” today. This book is a compelling invitation for more fine-grained investigations of the evolution and structures of these vernaculars, on a par with similar studies on other languages. This is central to the contribution that the study of language contact can make to general linguistics and

toward the better integration of this research area in linguistics. Such scholarship will help us understand how, now as before, a new form of linguistic diversity is replacing what the expansion of some languages at the expense of others is feared to be reducing, lending new meaning to evolution by emergence. Together the chapters also validate Umberto Ansaldo's statement that languages are historical phenomena, displaying complexity in the very sense that most interest students of complexity theory and emergence.

References

- Aboh, Enoch. 2003. Les constructions à objet préposé et les séries verbales dans les langues kwa. In *Typologie des langues d'Afrique et universaux de la grammaire*, Vol. 2: *Benue-Kwa, Soninke, Wolof*, Patrick Sauzet & Anne Zribi-Hertz (eds), 15–40. Paris: L'Harmattan.
- Aboh, Enoch. 2005. The category P: The Kwa paradox. *Linguistic Analysis* 32: 615–645.
- Aboh, Enoch. 2006. The role of the syntax-semantics interface. In *L2 Acquisition and Creole Genesis. Dialogues* [Language Acquisition & Language Disorders 42], Claire Lefebvre, Lydia White & Christine Jourdan (eds), 253–275. Amsterdam: John Benjamins.
- Aboh, Enoch. 2007. Le genèse de la périphérie gauche du saramaka: Un cas d'influence du substrat? In *Grammaires créoles et grammaire comparative*, Karl Gadelli & Anne Zribi-Hertz (eds), 73–97. Paris: Presses Universitaires de Vincennes.
- Aboh, Enoch. 2009. Clause structure and verb series. *Linguistic Inquiry* 40(1).
- Adam, Lucien. 1883. *Les idiomes négro-aryens et malayo-aryens: Essai d'hybridologie linguistique*. Paris: Maisonneuve.
- Adams, J. N. 2007. *The Regional Diversification of Latin 200 BC – AD 600*. Cambridge: CUP.
- Bailey, Beryl Loftman. 1966. *Jamaican Creole Syntax: A Transformational Approach*. Cambridge: CUP.
- Baker, Philip. 1990. Off target? Column. *Journal of Pidgin and Creole Languages* 5: 107–119.
- Baker, Philip. 1995. Some developmental inferences from the historical studies of pidgins and creoles. In *The Early Stages of Creolization* [Creole Language Library 13], Jacques Arends (ed.), 1–24. Amsterdam: John Benjamins.
- Baker, Philip. 1997. Directionality in pidginization and creolization. In *The Structure and Status of Pidgins and Creoles* [Creole Language Library 19], Arthur K. Spears & Donald Winford (eds), 91–109. Amsterdam: John Benjamins.
- Bickerton, Derek. 1981. *Roots of Language*. Ann Arbor MI: Karoma.
- Bickerton, Derek. 1984. The language bioprogram hypothesis. *Behavioral and Brain Sciences* 7: 173–221.
- Bickerton, Derek. 1999. How to acquire language without positive evidence: What acquisitionists can learn from creoles. In *Language Creation and Language Change: Creolization, Diachrony, and Development*, Michel DeGraff (ed.), 49–74. Cambridge MA: The MIT Press.
- Bickerton, Derek. 2004. Reconsidering creole exceptionalism. *Language* 80: 828–833.
- Bolinger, Dwight. 1973. Getting the words in. In *Lexicography in English*, Raven McDavid, Jr. & Audrey Duckert (eds.), 8–13. New York NY: New York Academy of Science.

- Boretzky, Norbert. 1993. The concept of rule, rule borrowing, and substrate influence in creole languages. In *Africanisms in Afro-American Language Varieties*, Salikoko S. Mufwene (ed.), 74–92. Athens GA: University of Georgia Press.
- Bunting, Jacqueline. In press. Give and take: The role of *gi* in the ebb of one Sranan dative alternation. *Journal of Pidgin and Creole Languages*.
- Byrne, David. 1997. Complexity theory and social research. *Social Research Update* 18. <<http://sru.soc.surrey.ac.uk/SRU18.html>>.
- Cassidy, Frederick Gomes & Le Page, R.B. 1981. *Dictionary of Jamaican English*. 2nd edn. Cambridge: CUP.
- Casti, John L. 2008. Complexity. *Encyclopedia Britannica Article*. CD.
- Cavalli-Sforza, Luigi Luca. 2001. *Genes, Peoples, and Languages*. New York NY: North Point Press.
- Chaudenson, Robert. 1979. *Les créoles français*. Paris: Fernand Nathan.
- Chaudenson, Robert. 1992. *Des îles, des hommes, des langues: Vers la créolisation linguistique et culturelle*. Paris: L'Harmattan.
- Chaudenson, Robert. 2001. *Creolization of Language and Culture*. London: Routledge.
- Chaudenson, Robert. 2003. *La créolisation: Théorie et applications, implications*. Paris: L'Harmattan.
- Corcoran, Christine & Mufwene, Salikoko S. 1999. Sam Matthews' Kittitian: What is its evidence of? In *St. Kitts and the Atlantic Creoles: The Texts of Samuel Augustus Matthews in Perspective*, Philip Baker & Adrienne Bruyn (eds), 75–102. London: University of Westminster Press.
- Corne, Chris. 1980. A re-evaluation of the predicate in Ile-de-France Creole. In *Generative Studies in Creole Languages*, Pieter Muysken (ed.), 103–124. Dordrecht: Foris.
- Corne, Chris. 1999. *From French to Creole: The Development of New Vernaculars in the French Colonial World*. London: University of Westminster Press.
- Dahl, Östen. 2004. *The Growth and Maintenance of Linguistic Complexity* [Studies in Language Companion Series 71]. Amsterdam: John Benjamins.
- Darwin, Charles. 1871. *The Descent of Man*. Amherst MA: Prometheus Books.
- Degraff, Michel. 1997. Nominal predication in Haitian and in Irish. In *Proceedings of the 16th West Coast Conference on Formal Linguistics*, Emily Curtis, James Lyle & Gabriel Wexler (eds), 113–128. Stanford CA: CSLI.
- DeGraff, Michel. 2001a. On the origin of creoles: A Cartesian critique of neo-Darwinian linguistics. *Linguistic Typology* 5: 213–310.
- DeGraff, Michel. 2001b. Morphology in creole genesis: Linguistics and ideology. In *Ken Hale: A Life in Language*, Michael Kenstowicz (ed.), 53–121. Cambridge MA: The MIT Press.
- DeGraff, Michel. 2003. Against creole exceptionalism. Discussion note. *Language* 79: 391–410.
- DeGraff, Michel. 2005. Linguists' most dangerous myth: The fallacy of creole exceptionalism. *Language in Society* 34: 533–591.
- DeGraff, Michel. 2009. Language acquisition in creolization (and language change): Some Cartesian-uniformitarian guidelines. *Language and Linguistics Compass* 3. <<http://www3.interscience.wiley.com/journal/122464861/abstract>>.
- Féral, Carole de. 1989. *Pidgin-English du Cameroun*. Paris: Peters/SELAF.
- Fill, Alwin. 2004. Review of Mufwene 2001. *Journal of Pidgin and Creole Languages* 19: 199–203.
- Frajzyngier, Zygmunt. 1984. On the origin of *say* and *se* as complementizers in Black English and English-based creoles. *American Speech* 59: 207–210.

- Gil, David. 2007. Creoles, complexity and associational semantics. In *Deconstructing Creole* [Typological Studies in Language 73], Umberto Ansaldo, Stephen Matthews & Lisa Lim (eds), 66–108. Amsterdam: John Benjamins.
- Gonzales, Ambrose E. 1922. *The Black Border: Gullah Stories of the Carolina Coast (with a glossary)*. Columbia SC: The State Co.
- Gould, Stephen Jay. 1993. *Eight Little Piggies: Reflections in Natural History*. New York NY: W.W. Norton & Co.
- Hagège, Claude. 1993. *The Language Builder: An Essay on the Human Signature in Linguistic Morphogenesis*. Amsterdam: John Benjamins.
- Hall, Robert A., Jr. 1962. The life-cycle of pidgin languages. *Lingua* 11: 151–156.
- Hall, Robert A., Jr. 1966. *Pidgin and Creole Languages*. Ithaca NY: Cornell University Press.
- Heylighen, Francis. 1996. What is complexity? *Principia Cybernetica Web*, Dec. 9. <<http://pespmc1.vub.ac.be/COMPLEXI.html>>.
- Hjelmslev, Louis. 1938. Etudes sur la notion de parenté linguistique. *Revue des Etudes Indo-Européennes* 1: 271–286.
- Holland, John. 2005. Language acquisition as a complex adaptive system. In *Language Acquisition, Change and Emergence: Essays in Evolutionary Linguistics*, James W. Minett & William S.-Y. Wang (eds.), 411–435. Hong Kong: City University of Hong Kong Press.
- Holm, John. 1988. *Pidgins and Creoles*, Vol. 1: *Theory and Structure*. Cambridge: CUP.
- Holm, John & Patrick, Peter L. 2007. *Comparative Creole Syntax*. London: Battlebrige.
- Hopper, Paul J. 1987. Emergent grammar. In *Proceedings of the Berkeley Linguistics Society*, Jon Aske, Natasha Beery, Laura A. Michaelis & Hana Filip (eds.), 139–157. Berkeley CA: Berkeley Linguistics Society.
- Irvine, Alison. 2004. A good command of the English language: Phonological variation in the Jamaican acrolect. *Journal of Pidgin and Creole Languages* 19: 41–76.
- Kapanga, Mwamba Tshishiku. 1991. Language Variation and Change: A Case Study of Shaba Swahili. PhD dissertation, University of Illinois at Urbana-Champaign.
- Keesing, Roger M. 1988. *Melanesian Pidgin and the Oceanic Substrate*. Stanford CA: Stanford University Press.
- Keller, Rudi. 1994. *On Language Change: The Invisible Hand in Language*. London: Routledge.
- Lewontin, Richard Charles. 1970. The units of selection. *Annual Review of Ecology and Systematics* 1: 1–18.
- McWhorter, John H. 1998. Identifying the creole prototype: Vindicating a typological class. *Language* 74: 788–818.
- McWhorter, John H. 2001a. The world's simplest grammars are creole grammars. *Linguistic Typology* 5: 125–166.
- McWhorter, John H. 2001b. *The Power of Babel: A Natural History of Language*. New York NY: Times Books.
- McWhorter, John H. 2008. Deconstructing creole. Review article. *Journal of Pidgin and Creole Languages* 23: 289–306.
- Meillet, Antoine. 1921. *Linguistique historique et linguistique générale*, Vol. 1. Paris: Champion.
- Meillet, Antoine. 1929. Le développement des langues. In *Continu et discontinu*. Paris: Bloud & Gay. (Reprinted in Meillet 1951: 71–83).
- Meillet, Antoine. 1951. *Linguistique historique et linguistique générale*, Vol. 2. Paris: Klincksieck.

- Mikulecky, Donald C. 2001. The emergence of complexity: Science coming of age or science growing old? *Computers and Chemistry* 25: 341–348. <www.elsevier.com/locate/comchem>.
- Mintz, Sidney W. 1989. *Caribbean Transformations*. New York NY: Columbia University Press.
- Morgan, Marcyliena. 1993. The Africanness of counterlanguage among Afro-Americans. In *Africanisms in Afro-American Language Varieties*, Salikoko S. Mufwene (ed.), 423–435. Athens GA: University of Georgia Press.
- Mufwene, Salikoko S. 1988. Why study pidgins and creoles? *Journal of Pidgin and Creole Languages* 3: 265–276.
- Mufwene, Salikoko S. 1989a. Equivocal structures in some Gullah complex sentences. *American Speech* 64: 304–326.
- Mufwene, Salikoko S. 1989b. La créolisation en bantou: Les cas du kituba, du lingala urbain, et du swahili du Shaba. *Etudes Créoles* 12: 74–106.
- Mufwene, Salikoko S. 1990. Serialization and subordination in Gullah. In *When Verbs Collide: Papers from the 1990 Ohio State Mini-Conference on Serial Verbs* [Working Papers in Linguistics 39], Brian Joseph & Arnold Zwicky (eds), 91–108.
- Mufwene, Salikoko S. 1996a. The Founder Principle in creole genesis. *Diachronica* 13: 83–134.
- Mufwene, Salikoko S. 1996b. Creolization and grammaticization: What creolistics could contribute to research on grammaticization. In *Changing Meanings, Changing Functions*, Philip Baker & Anand Sycia (eds), 5–28. London: University of Westminster Press.
- Mufwene, Salikoko S. 1997a. Jargons, pidgins, creoles, and koinés: What are they? In *The Structure and Status of Pidgins and Creoles* [Creole Language Library 19] Arthur K. Spears & Donald Winford (eds), 35–70. Amsterdam: John Benjamins.
- Mufwene, Salikoko S. 1997b. Kituba. In *Contact Languages: A Wider Perspective* [Creole Language Library 17], Sarah G. Thomason (ed.), 173–208. Amsterdam: John Benjamins.
- Mufwene, Salikoko S. 2000. Creolization is a social, not a structural, process. In *Degrees of Restructuring in Creole Languages* [Creole Language Library 22], Ingrid Neumann-Holzschuh & Edgar Schneider (eds), 65–84. Amsterdam: John Benjamins.
- Mufwene, Salikoko S. 2001. *The Ecology of Language Evolution*. Cambridge: CUP.
- Mufwene, Salikoko S. 2003. Genetic linguistics and genetic creolistics. Short note. *Journal of Pidgin and Creole Languages* 18: 273–288.
- Mufwene, Salikoko S. 2004. Language birth and death. *Annual Review of Anthropology* 33: 201–222.
- Mufwene, Salikoko S. 2005. *Créoles, écologie sociale, évolution linguistique*. Paris: L'Harmattan.
- Mufwene, Salikoko S. 2007. Les créoles: De nouvelles variétés indo-européennes désavouées? In *Actes du colloque "Créolisation linguistique et Sciences Humaines"*, Marie-Paul Ansie (ed.), 59–70. Paris: Presses Universitaires Haïtiano-Antillaises.
- Mufwene, Salikoko S. 2008. *Language Evolution: Contact, Competition and Change*. London: Continuum.
- Mufwene, Salikoko S. 2008. In press-a. 'Protolanguage' and the evolution of linguistic diversity. *Festschrift for William S.-Y. Wang*.
- Mufwene, Salikoko S. In press-b. The indigenization of English in North America. In *World Englishes: Problems, Properties, Prospects. Selected Papers from the 13th IAWC Conference*, Thomas Hoffmann & Lucia Siebers (eds.). Amsterdam: John Benjamins.
- Mühlhäusler, Peter. 1985. The number of pidgin Englishes in the Pacific. *Papers in Pidgin and Creole Linguistics* No. 1 *Pacific Linguistics*, A-72.25–51.

- Patrick, Peter. 1999. *Urban Jamaican Creole: Variation in the Mesolect* [Varieties of English around the World G17]. Amsterdam: John Benjamins.
- Paul, Herman. 1880. *Prinzipien der Sprachgeschichte*. Halle: Niemeyer.
- Paul, Hermann. 1891. *Principles of the History of Language*. Translated from the second edition of the original by H. A. Strong. London: Longmans, Green, and Co.
- Plag, Ingo. 2008. Creoles as interlanguages. Column. *Journal of Pidgin and Creole Languages* 23: 307–328.
- Polomé, Edgar. 1983. The linguistic situation in the western provinces of the Roman Empire. *Principat* 29: 509–553.
- Posner, Rebecca. 1985. Creolization as typological change: Some examples from Romance syntax. *Diachronica* 2: 167–188.
- Posner, Rebecca. 1996. *The Romance Languages*. Cambridge: CUP.
- Radick, G. 2002. Darwin on language and selection. *Selection* 3: 7–16.
- Schleicher, August. 1863. *Die darwinische Theorie und die Sprachwissenschaft: Offenes Send-schreiben an Herrn Dr. Ernst Häckel*. Weimar: Böhlau.
- Siegel, Jeff. 2008. *The Emergence of Pidgin and Creole Languages*. Oxford: OUP.
- Smith, Adam. 1776. *The Wealth of Nations*, Vol. 1. Oxford: Clarendon Press.
- Spears, Arthur K. & Donald Winford (eds). 1997. *The Structure and Status of Pidgins and Creoles* [Creole Language Library 19]. Amsterdam: John Benjamins.
- Stewart, Charles (ed.). 2007. *Creolization: History, Ethnography, Theory*. Walnut Creek CA: Left Coast Press.
- Taylor, Mark C. 2003. *The Moment of Complexity: Emerging Network Culture*. Chicago IL: University of Chicago Press.
- Thomason, Sarah G. 2001. *Language Contact: An Introduction*. Washington DC: Georgetown University Press.
- Thomason, Sarah G. & Kaufman, Terrence. 1988. *Language Contact, Creolization, and Genetic Linguistics*. Berkeley CA: University of California Press.
- Trask, Robert Lawrence. 1996. *Historical Linguistics*. London: Arnold.
- Whinnom, Keith. 1971. Linguistic hybridization and the ‘special case’ of pidgins and creoles. In *Pidginization of Creolization of Languages*, Dell Hymes (ed.), 91–116. Cambridge: CUP.