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Nathalie Glaudert

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The Theory of Markedness and Intra-/Inter-Systemic Complexities in Languages: Application to Reunion and Mauritian Creoles[1]

Introduction

The object of this paper is to demonstrate that most of the structural characteristics or features of creole languages—as compared to the languages they originate from—can be accounted for without appealing to external factors or substratum theories. I shall argue that the classical theory of markedness sheds light on the linguistic changes that took place during the process of creolization.

I shall limit my investigation to the field of Indian Ocean creoles—more precisely Reunion and Mauritian Creoles—and to the question of phonemic systems, bearing in mind that the same results could be obtained at morphosyntactic level.

Indian Ocean Creoles

Reunion and Mauritius are two islands located in the southwest of the Indian Ocean, east of Madagascar. Together with Rodrigues, they make up the Mascarene Islands.

Concerning the linguistic situations of the two islands, we can observe that a form of regional French and a creole, namely Reunion Creole, are spoken in Reunion. In Mauritius, although English is the official language, it is mastered only by approximately eight per cent of the population, and the most commonly used languages are Mauritian Creole and French.

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[1] An earlier version of this paper was presented at the 5th International Contrastive Linguistics Conference in Louvain, Belgium, July 9–12, 2008.

The origins of both Reunion and Mauritian Creoles can be traced back to the French colonization of the islands, which took place in the 17th and 18th centuries, and thus to the background of a plantation society and of its accompanying system of slavery. Reunion and Mauritius were two uninhabited islands when they were colonized and the servile groups came mainly from Madagascar but also from the East African coast.

Two competing theories of creolization

Studies concerning creolization oppose several theoretical frameworks. I shall mention only two of them, which may be regarded as particularly important. The first is advocated by linguists (such as Holm 1989) who underline the supposed structural specificity of creoles in what I shall call, by convention, a "pidgin-creole theory." Opposed to that, Chaudenson[2] argues that the specificity of creoles lies in their genesis—more precisely in the socio-historical context from which they originate—rather than at any structural level proper.

According to advocates of the "pidgin-creole theory" (see above), a creole is supposed to be the nativization of a preliminary pidgin. They describe pidgins as hybrid languages, which are presumably simple and rudimentary, resulting from contacts between linguistically and socially heterogeneous groups. In such a view, when a pidgin becomes the mother tongue of a new generation of speakers, it is transformed and becomes more complex, and it is the output of this restructuring process which is regarded as a creole:

> A creole has a jargon or pidgin in its ancestry; it is spoken natively by an entire speech community, often one whose ancestors were displaced geographically . . . . The children of the New World were usually exposed more to this pidgin—and found it more useful—than to their parents' native languages. . . . Although it appears that the children were given highly variable and possibly chaotic and incomplete

[2] See Chaudenson : 1974, 1981, 2003.

> linguistic input, they were somehow able to organize it into the creole that was their native language. (Holm 1989: 6)

In this theory, the interference of a substratum is generally acknowledged: it is hypothesized that, from the pidginization process, the language of the dominated groups plays the role of a substratum, which is consequently supposed to leave traces in the creole.

Chaudenson (2003) is highly critical of this view. He claims that the creolization process in the Indian Ocean is not the result of a preliminary pidginization step, but of two "approximate" acquisitions of French in parallel to two successive waves of immigrant populations:

> The French-based creoles, originating from colonization dating back to the 17th and 18th centuries, resulted, in the socio-historical context of a proslavery plantation system supplied by linguistically heterogeneous immigrant populations, from the appropriation of approximate varieties of a form of French which had already been koineised during the previous phase of colonial settlement. (Chaudenson 2003 : 204, my translation)[3]

Moreover, Chaudenson makes a fundamental distinction between endogenous and exogenous creoles. In his conception, an endogenous creole has its origins in a colonial settlement where the servile populations are native. Such a context may favour the underlying influence of a substratum, as the colonized groups maintain their original languages. In contrast with an endogenous creole, an exogenous creole originates in a colonial settlement where the servile populations are immigrants. In this case, the hypothesis of a substratum is certainly less valid, as the servile groups are linguistically heterogeneous, and the only common language that they are liable to use is the dominating European language of the colonizers.

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[3] « Les créoles français, nés de la colonisation des XVIIème et XVIIIème siècles, résultent, dans le contexte socio-historique de la plantation esclavagiste alimentée en main-d'oeuvre par des populations immigrées linguistiquement hétérogènes, de l'appropriation non guidée de variétés approximatives d'un français, déjà koïnèisé durant la phase antérieure de société d'habitation ».

The historical contexts in which Reunion and Mauritius were colonized draw the limits of the pidgin-creole theory since, in these very cases, no pidginization is likely to have preceded the creolization process. As a result, Holm (1989), for example, far from giving up his theoretical postulates, suggests that Reunionese would in fact be a "semi-creole" resulting from a "partial creolization".

Obviously, Chaudenson's theoretical model proves to be more adequate in accounting for creolization in the Indian Ocean. His thesis provides reliable data concerning the lexicon of Reunion Creole, in which, for instance, the contribution of Malagasy represents no more than 4.3%, that of Indo-Portuguese languages 3.2%, and that of African languages 0.3% (Chaudenson 1974). These data confirm that Reunion and Mauritian Creoles are not only two French-based creoles but also almost exclusively of French origin. Therefore, we have every reason to think that Reunion and Mauritian Creoles are two exogenous contact languages resulting from a particular socio-historical situation (the contacts between masters and slaves) which permits us to call them "creoles". This particular situation is characterized by the appropriation of 17th and 18th centuries' dialectal French by the servile populations.

Phonemic systems

I shall now proceed to compare the phonological systems (i) of standard French, (ii) of the variety of French spoken in Reunion; (iii) of Reunion Creole; and (iv) of Mauritian Creole. In Reunion Creole, two phonological systems co-exist and, following Watbled (2009), I shall call them "variety A" and "variety B" respectively.

Moreover, following a tradition dating back to Jakobson, I propose a feature system based on binary values. The description is thus simplified and the degree of complexity can be more easily assessed. In addition, rules and processes are expressible in a straightforward way. As far as the vowel systems are concerned, the binary features I shall use are:

[±front] and [±back] for tongue position;[4]
[±high], [±low], [±open] for tongue height;[5]
[±rounded] for lip gesture.

In the tables below, I present oral vowels only:

Table 1: Standard French

VOWELS	-nasal			
	+front -back		-front -back -rounded	-front +back
	-rounded	+rounded		
+high -low -open	i	y		u +rounded
-high -low -open	e	ø		o +rounded
-high -low +open	ε	œ		ɔ +rounded
-high +low +open			a	α -rounded

[4] Front vowels are [+front; -back], central vowels are [-front; -back] and back vowels are [-front; +back]. The use of two features accounts for three degrees of tongue position.

[5] In the same logic, the use of three features accounts for four degrees of vowel height.

Table 2: Reunion French = variety A of Reunion Creole

VOWELS	-nasal			
	+front -back		-front -back -rounded	-front +back +rounded
	-rounded	+rounded		
+high -low	i	y		u
-high -low	e ([e], [ɛ])	ø ([ø], [œ])		o ([o], [ɔ])
-high +low			a	

Table 3 : Variety B of Reunion Creole = Mauritian Creole

VOWELS	-nasal		
	+front -back -rounded	-front -back -rounded	-front +back +rounded
+high -low	i		u
-high -low	e ([e], [ɛ])		o ([o], [ɔ])
-high +low		a	

Table 1 shows that the French oral vowel system includes eleven phonemes, three of which are front rounded vowels: /y/, /ø/ and /œ/ ([+front; +rounded]).

In table 2, we can observe that in Reunion French and in what I call variety A of Reunion Creole, the vowel system is limited to seven

units. Among the front rounded vowels, /y/ and /ø/ have been retained (but [e] and [ɛ], [ø] and [œ], and [o] and [ɔ] are now allophones of single phonemes /e/, /ø/, and /o/, respectively. The midhigh allophones [e], [ø], [o] and the midlow allophones [ɛ], [œ], [ɔ], appear in free and checked syllables respectively).

Table 3 shows that in variety B of Reunion Creole and in Mauritian Creole, the vowel system has retained only five phonemes, which, incidentally, is close to the fundamental vowel triangle /i/, /u/ and /a/ (Jakobson 1973). It may be observed that the three front rounded French vowels do not appear in this system and that, as in table 2, [e] and [ɛ], and [o] and [ɔ] are allophones of single phonemes /e/ and /o/ respectively.

Concerning consonants, it is only necessary to limit the investigation to the four sibilant or sulcal consonants (see Martinet 1970: 51, for example): two hissing alveolar sibilants /s/ and /z/, and two hushing palatoalveolar sibilants /š/ and /ž/ in standard French.

The binary features I use account for the various places of articulation of consonants:

[±labial]: [+labial] means that the lips are involved in the primary articulation;

[±coronal]: [+coronal] for apical and laminal consonants;

[±domal]: this term is borrowed from Catford (1977: 142).

In Catford's work, the term "domal" refers to "the entire 'domed' part of the roof of the mouth behind the dentalveolar region." In other words, it describes consonants from palatals to uvulars. However, in my analysis, following Watbled's suggestion[6], and for phonological reasons, the feature [+domal] also includes the lamino-palatoalveolar consonants, which may be regarded as prepalatals in the broad sense of the term, in view of their affinities with the glide [j] for example, or of various assimilatory processes in many languages. Furthermore, I limit the application of the feature [+domal] to nonapical consonants.

[6] Personal communication.

The consonantal system of standard French thus includes two hissing sibilants /s/ and /z/, which are [-labial, +coronal, -domal] and two hushing sibilants /š/ and /ž/, which are [-labial; +coronal; +domal]. In Reunion French and in variety A of Reunion Creole, these four sibilants are retained, while variety B of Reunion Creole and Mauritian Creole have lost /š/ and /ž/, which have merged with /s/ and /z/ respectively: /š/ > /s/, /ž/ > /z/.

The theory of markedness

From a more theoretical point of view, I suggest applying the theory of *markedness* to interpretations of phonemic systems. This theory, originally developed in the field of synchronic phonology by Trubetzkoy, Jakobson and the Prague Linguistic Circle in the 1930s, may also be exploited in studies about language evolution.

One of the main advantages of this theory of markedness is that it allows one to measure the complexity of linguistic structures and units through the comparison of paradigms, which are opposed and contrasted. All those who are familiar with the theory know that in a dyadic opposition, the simpler element is termed “unmarked,” and the more complex element, “marked.”

In this paper, I also apply the theory of markedness to diachronic facts, insofar as the creolization processes under study imply the transition from French to creoles, which are supposedly structurally simpler than their original sources.

The study of the creolization process will introduce two types of relative simplicity or complexity: an intra-systemic simplicity/complexity resulting from the intrinsic features of phonemes, and an inter-systemic simplicity/complexity resulting from the comparison between the phonological systems of French and that of the two creoles. The analyses of intra- and inter-systemic complexities will *a priori* enable one to describe and predict the phonological changes, which take place in the creolization processes.

Application to Indian Ocean Creoles

The French vowels /y/, /ø/ and /œ/ are marked because they combine the features [+front] and [+rounded]. This is a case of intra-systemic complexity resulting from a combination of features (and not from the actual presence of such or such a feature). Note that [+rounded] vowels are unmarked if they are [+back], as in the case of /u/, for example. Thus, in the creoles under study, the unmarked equivalents of /y/, /ø/ and /œ/ are the vowels having the same respective degrees of aperture, but the feature combination [+front; -rounded]; that is, /i/, /e/ and /ɛ/. Therefore, both in variety B of Reunion Creole and in Mauritian Creole, we can observe the disappearance of marked phonemes in favour of unmarked phonemes.

As regards consonants, the hushing sibilants, /š/ and /ž/ are traditionally regarded as more complex than the hissing sibilants /s/ and /z/, the reason being that the articulations of /š/ and /ž/ combine the features [+coronal; +domal], which causes inherent complexity, while /s/ and /z/ are alveolar and combine the features [+coronal, -domal]: they are thus less complex and articulated with an optimal groove of the tongue (Catford 1977). The above-mentioned line of reasoning concerning the vowels may also be applied to the consonants: both variety B of Reunion Creole and Mauritian Creole have lost the marked phonemes /š/ and /ž/, which have merged with the same respective unmarked equivalents: /s/ and /z/ (see above).

In order to account for these observations on the phonological systems of Reunion and Mauritian Creoles, two hypotheses are in competition. On the one hand, the theory that acknowledges the underlying interferences of substrata claims that creoles are mixed languages resulting from a blend of a European language and of one or several non-European languages; on the other hand, advocates of the theory of markedness, which focuses on the disappearance of marked phonemes in favour of their unmarked counterparts, simply argue that

creoles result from the optimization of the base language[7]. In the case of Reunion Creole and Mauritian Creole, these processes visibly tend towards simplification[8].

I argue that the theory of markedness stands a better chance of providing a sound explanation of the creolization processes. The examination of the above-mentioned linguistic systems shows that the marked elements of a language form the weak points of its linguistic system, i.e. a category of elements that are likely to disappear and/or merge with their unmarked equivalents[9].

In sum, in Creole studies, the application of Ockham's Razor leads us to favour the theory of markedness. This theory demonstrates that internal factors, i.e. the systemic analyses of creoles, are sufficiently revealing to investigate issues concerning their typology and their structure.

"Negative" substratum and convergence

The validity of the theory of markedness has now been confirmed. However, even if markedness explains how creolization functions, and reveals the underlying causes of the processes at work, we still have to account for the "selection" of some linguistic changes to the exclusion of others. Concerning this point, it is possible to acknowledge a convergence between the theory of markedness and the hypothesis of what we may call, following Watbled (2009), a "negative substratum". Let us hypothesize that, in the context of an exogenous creolization, the underlying influence of the non-European language

[7] In this view, the question is whether appealing to external (non-French) factors is necessary or not.

[8] But let us note that, in some cases, the interaction of various successive processes may entail linguistic evolutions tending towards complication, even within a theoretical framework including markedness principles.

[9] Interestingly enough, the phonological changes described in the two creoles under study only concern phonemes that are considered as "complex" during French language acquisition by children and by some foreign speakers. In these contexts too, these phonemes tend to merge with their unmarked equivalents.

on the European language can be negative, in the sense that, in a creole, the non-European language remains discernable, not through the presence of some of its features, but through the absence of the features which it does not share with the European language. Consequently, the negative substratum induces the reduction of the base language without any transfer of new phonemes:

> [In cases of relative complexity,] the initial language causes the disappearance of a type of articulation. We can think that this negative principle is at work in creolization. We must make a distinction between this case and the introduction of unknown articulatory types in the base language: yet, this cannot be noted in the Indian Ocean creoles.[10] (Watbled 2008, my translation)

Variety B of Reunion Creole and Mauritian Creole have undergone the same process of decreasing complexity. The phonological systems of these creoles actually correspond to subsets of the French phonological system. Moreover, it is interesting to note that these phonological modifications of French are not specific to the creoles under study: for instance, they are also found in the speech of Italian, Spanish, or Arabic learners of French. In other French creoles, these modifications essentially affect the vowels. For instance, in Haitian or West Indian French-based Creoles, the three front rounded French vowels, /y/, /ø/ and /œ/ have disappeared as well. However, as far as French-based creoles are concerned, the disappearance of /š/ and /ž/ is specific to the Indian Ocean. Variety B of Reunion Creole and Mauritian Creole have lost these two phonemes, not only because of their intrinsic complexity, but also because of their relative complexity, probably resulting from the absence of /š/ and /ž/ in the Malagasy consonantal system, Malagasy having certainly been the main servile language during colonization (see above).

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[10] « [Dans les cas de complexité relative,] la langue première est à l'origine de la disparition d'un type d'articulation. On peut penser que ce principe négatif a été à l'œuvre lors de la créolisation. Ce cas est à distinguer nettement de l'introduction de types articulatoires inconnus de la langue de base : or on ne constate rien de tel dans les créoles de l'océan Indien ».

The negative substratum validates and reinforces the hypothesis of internal factors. The convergence between the application of the theory of markedness and the negative substratum actually underscores the general value of the present study. Moreover, the above-mentioned phenomena concerning the creoles follow natural evolution processes, which have also been observed in many other (non-creole) languages.

VIII. Conclusion

As far as creoles or exogenous contact languages are concerned, I have favoured Chaudenson's theory and have taken issue with details of the "pidgin-creole theory" on creolization processes. The details criticized are: (i) the fact that this theory does not take sufficiently into account the actual genesis of creoles, and (ii) that consequently, this theory is automatically liable to resort to external factors in order to account for processes of creolization.

As regards the first critique, I have argued that creoles do not actually present any structural specificity, but only a few recurring tendencies, which are largely due to their initial states. According to Chaudenson's fundamental distinction between endogenous and exogenous creoles, the specificity of creoles is only to be found in the particular socio-historical situations from which they originate. Reunion and Mauritian Creoles are two exogenous creoles and, on that account, substrata are unlikely to have interfered in the construction of their linguistic systems.

As regards the second critique, I have demonstrated that the internal factors, *i.e.* the analyses of the linguistic systems of creoles and of their base language, combined with markedness principles, are sufficiently revealing to deal with the issues concerning the structural characteristics of creole languages. I hope that I have succeeded in, at least, casting doubt on the validity of theories appealing to external factors or regarding their role as crucial or essential.

In this paper, the analyses of the linguistic systems have been carried out alongside the theory of markedness. I have demonstrated

that this theory can account for the linguistic changes that took place during the process of creolization. Markedness can construe and account for the transition from the base language to the creoles without necessarily resorting to external factors. What is more, this theory appeals to universal principles, which could also be applicable in other linguistic evolution processes. It also appears that in the case of Reunion and Mauritius, the transition from the base language to the creoles has tended towards general simplification. The negative substratum I have mentioned may have reinforced the application of markedness principles, favouring the disappearance of the marked phonemes and their merging with their respective unmarked equivalents in the creolization process.

Nathalie Glaudert[11]

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