Smith, N. (2007), Contact phonology, in Pennington M.C. (ed.) Phonology in context, Palgrave Advances in linguistics, New York, Palgrave macmillan, 76-108.

4

contact phonology

norval smith

introduction

The subject of *contact phonology* is a complex one. Superficially, it can be fairly simply stated as the subdiscipline of phonology that is concerned with the phonological phenomena resulting from language or dialect contact. Contact phonology is an aspect of phonology in context that is related to bilingualism and multilingualism, and to the history and development of languages and dialects. The study of contact phonology can deepen one's understanding of these areas of language while also providing theoretical perspectives on language change and the nature of phonological systems. Contact phonology is of particular interest in the current era of widespread bilingualism and adoption of English as a second language which is impacting the phonologies of many of the world's languages. However, this contact with English is only one in a long series of interactions of the phonologies of the languages of the world in the current day as well as in human history.

Phonological effects induced by contact of one language with another are a very pervasive phenomenon. Yet contact phonology has traditionally not been part of the study of phonology nor studied as a subject unto itself. This chapter represents one of the first attempts to present a unified overview of this topic.

There are two important aspects to contact phonology. The first concerns the precise nature of the linguistic contact, and the second concerns the type of phonological phenomenon that can be transferred. In this chapter, I will ignore the various types of language/dialect contact that do not result in any kind of phonological interactive effects on either of the two languages/dialects in a contact situation. The types of

linguistic contact that are of interest here can be roughly divided into five types of situation:

- loanword phonology;
- areal influence;
- dialect mixing;
- language mixing;
- "simplification" due to pidginization/creolization.

Loanword phonology or *loan phonology* is concerned with the phonological strategies which make their presence felt when speakers incorporate lexical items from one language into another on a relatively large scale and in a relatively short period of time. Large-scale lexical borrowing usually takes place in situations of cultural dominance leading to adoption by the people of the dominated culture of many aspects of the ways of life and language of those of the dominating culture. Such situations may also be associated with political dominance, but are not necessarily so. Examples of situations in which large numbers of lexical items have been borrowed from one language into another are the following:

Greek > Latin	During the long period of Greek cultural influence on the Roman Empire, starting from about the second century B.C.
French > English	From the Norman Conquest in 1066 until English replaced French as the official language in 1362. At first Anglo-Norman, a form of Norman French, was the most influential; but at the end of the twelfth century Parisian French became the court language. The dominance here was in the first instance political, and secondarily cultural.
Danish > North Frisian	During the period of Danish political control of South Schleswig, up to 1864. North Frisian dialects were (and still are) spoken on the coast and islands; Danish dialects were spoken in their hinterland to the east.

Any borrowing of a word from one language to another will involve *loanword phonology* if the two languages have different phonologies. If the number of loanwords is great, this can cause lasting changes in the phonological system of the borrowing language.

Areal influence arises when a number of languages are used by people in stable and intimate contact situations in a restricted geographical area over a long period of time. Widespread intimate social contacts between speakers typically results in widespread bilingualism. The effects of such bilingualism may include increasing convergence between the phonological systems of the languages involved, eventually leading in some cases to virtual identity of the phonologies of the languages.

Dialect mixing refers to various types of mixtures. The simplest refers to the *mixing* of two local dialects, such as the dialects of two neighboring villages. This may be a local effect related to a larger scale shift, such as the *spreading* of a phonological change to new areas. Or a change in dialect may be caused by the physical *migration* of a large number of speakers of relatively uniform origin, such as the various migrations to London of speakers of East and Central Midland (Anglian) dialects which significantly altered the original Southern English (Saxon) nature of London English. A third type is *koiné* formation, where a new *standard variety* not in itself identifiable with any single dialect evolves out of a mixture of major dialects. A fourth type, related to this in that it can be described as a *regional koiné*, is due to the wearing down of local dialect features under the influence of modern communications. This is the formation of the *regiolect*, a sort of lowest common denominator of the local dialects used for regional communication and usually associated with a strong sense of regional identity. A fifth type of mixing is caused by the influence of a *standard language* on local dialects. The intense bidialectalism that often arises in cases of dialects in contact may also give rise to *hyperdialectalisms*, or pseudo-dialect forms, based on (sub-) regular phonological relationships existing across the dialects which are in contact. In dialect mixing, more than one of these situations may be involved simultaneously.

Language mixing refers to new languages that arise under conditions of bilingualism from the apparent mixture of two separate languages. The study of such languages is very recent – even more recent than the study of pidgins and creoles. Like pidgins and creoles, mixed languages were not regarded as being "proper" languages fit for scientific study. There appear to be various types (Smith, 2001), some of which are claimed to involve two separate phonological systems.

"*Simplification*" due to *pidginization* and/or *creolization* is a multiply tendentious topic as far as creolization is concerned. Inasmuch as creole languages are in no way simple, just different, as compared to other languages, the use of the word *simplification* is often interpreted by linguists and non-linguists alike as imputing an inferior status to these languages. However, as we are only talking about phonology here we are on safer ground. In a recent article (Smith, forthcoming), I have argued that there is no real subdiscipline of *creole phonology* as such. The phonological effects observed in creole languages in relation to the various other languages that were involved in their creation are not a direct result of the creolization process itself, but simply normal contact effects.

With respect to the type of phonological phenomena involved, there appears to be little that cannot be affected by language/dialect contact. In the following sections, many types of contact phenomena will be illustrated with a focus on the effects on the phonological systems of the languages concerned.

loanword phonology

Loanword phonology effects vary with the number of words borrowed, and the distance between the two phonological systems concerned. Borrowing a few words from another language will not change the phonology of the borrowing language; rather, the phonology of the borrowed words will itself be adapted to fit the phonological patterns of the receiving language. If many words are borrowed, the forms of the words borrowed will likely be subject to regular *nativization processes*. This is especially likely if many speakers of the borrowing language are familiar to some degree with the donor language, without necessarily being fluent speakers of the language. It may then also be the case that the phonology of the borrowing language will be changed to some degree, depending on the number of words involved, the phonological characteristics of the two languages, and the respective status enjoyed by each of them.

english /æ/ > dutch /ɛ/

A good example, illustrating both the adaptation of borrowed words to the phonology of the importing language and phonological change induced by borrowing is Dutch, which at present has a markedly open-ended capacity for borrowing English words. The phoneme /æ/, used in both American and Southern British Standard English has no close phonetic equivalent in Dutch. Although it is functionally a low vowel in both English systems it has quite different allophones from either of the two phonologically low vowels in Dutch.

Both languages have vowel systems which are characterized by a fundamental opposition between tense and lax vowels. For the most general types of standard language in both English-speaking countries, England and America, /æ/ is a lax front vowel, pronounced between open

and half-open positions. The most prestigious pronunciation of the low lax vowel in Standard Dutch, usually represented "phonetically" as an open back vowel [ɑ], is in fact closer in its phonetic value to a half-open back vowel [ʌ]. Clearly this vowel is not articulatorily or perceptually close to English /æ/. The Dutch tense low vowel /a:/, which has as its most prestigious pronunciation something approaching a cardinal low front unrounded vowel, would seem to have a more suitable quality for representing English /æ/ but is not used as a loan-equivalent. The fact that it is not a lax vowel is presumably the reason for this.

Dutch listeners are first of all confronted with English /æ/, produced not far below the roughly half-open lax mid front position of Dutch vowel /ɛ/. Secondly, they are confronted with the fact that there is another English vowel in the same area, /ɛ/, with its usual allophone in Southern English halfway between half-open and half-close positions. These two straddle the Dutch /ɛ/ phonetically, and apparently Dutch speakers cannot distinguish either of them easily from the Dutch vowel. Dutch speakers certainly have no clear insight into the place of /æ/ in the English vowel system.

English /æ/ is then borrowed into Dutch as /ɛ/, which is also used as the equivalent of English /ɛ/ itself. In other words English loans with /æ/ and /ɛ/ fall together in Dutch as /ɛ/ – e.g., the English word *access* is represented in Dutch as /ɛksɛs/. A well-known Dutch internet server is called *XS4all*, which is imagined to represent the English words *access for all*, rather than *excess for all*, which is certainly what it sounds like! Other examples of this substitution are:

(1)	*act*	ɛkt
	shag (tobacco)	ʃɛk
	that's it (= 'that's that')	dɛtsɪt

Since /ɛ/ is an existing phoneme of Dutch, no change in the Dutch phonology is implied by this substitution strategy. In the spoken English of most Dutch speakers of English as a second language, the same replacement of /æ/ by /ɛ/ also occurs, meaning that in their English phonology a contrast is lost.

english /g/ > dutch /k/

The English lax "voiced" velar stop phoneme /g/ does not occur in the native Dutch vocabulary. This represented a gap in the Dutch stop consonant system:

(2)	voiceless	p	t	k
	voiced	b	d	-

Up until about 25 years ago, /g/ used to be replaced by /k/ in borrowed words, as in:

(3)	*goal*	ko:l
	game	ke:m
	gang	kɛŋ

Nowadays, the tendency is to accept /g/ into the Dutch consonant inventory as the voiced counterpart of /k/, giving the stop system:

(4)	p	t	k
	b	d	g

The above three words will now more often be realized as:

(5)	*goal*	go:l
	game	ge:m
	gang	gɛŋ

The scale of borrowing from English into Dutch, although fairly unbridled at present, will not have a major influence on the Dutch consonant system, as the languages are similar in their consonant inventories to a large extent. Apart from /g/, the only clearly new consonants are /tʃ/ and /dʒ/, and then only for some speakers. While /ʃ/ appears in English loanwords, this is familiar in Dutch as the result of the combination of /s+j/ in Dutch morphophonological processes, in addition to a number of other Frisian, French, and German loanwords.

spanish vowels > ecuadorean quechua

The situation is quite different in many languages of Latin America, where up to 40% of the vocabulary may be of Spanish origin. This massive importation of Spanish words has altered the phonology of many of these languages. The various forms of Quechua spoken in Ecuador (Stark and Muysken, 1997) provide numerous examples of Spanish loanwords and therefore the operation of loanword phonology.

One of the major differences between Spanish and Quechua concerns the vowel system. Spanish has a five-vowel system, and Quechua a three-vowel-system:

(6)

Spanish		*Quechua*	
i	u	i	u
e	o		
a		a	

The vowels in Spanish loans are completely "nativized" by monolingual Quechua speakers, such that original Spanish mid vowels are changed into the corresponding high vowels:

(7)

Spanish	*Quechua*	*gloss*
celoso	siluzu	'jealous'
compadre	cumpadri	'pal'
convencer	cumbinsi-na	'be convinced'

spanish initial consonant clusters > ecuadorean quechua

Quechua also does not allow complex syllable onsets (initial consonant clusters) natively. The only clusters allowed are medial ones where the two consonants belong to different syllables. Many borrowed words involve initial clusters, such as a liquid (/Cl-/ or /Cr-/ clusters). /Cr-/ clusters are virtually never altered in borrowed words. Whether the greater frequency of these clusters in Spanish is responsible for this is unclear. /Cl-/ clusters, however, are altered. Particularly in the province of Tungurahua, the initial consonant has been dropped in various dialects. This is also the case generally with the undoubtedly old loan *plato* ('plate'), which appears in most Ecuadorean dialects as /latu/. Here are some additional examples in which the initial consonant of a Spanish loan has been dropped before /l/:

(8)

Spanish	*Tungurahua Quechua*	*gloss*
claro	laru	'clear'
flauta	lauta	'flute'
floripondio	luripundiu	'Datura'
planta	lanta	'plant'

english initial consonants > hawaiian

If the consonant system and rules of combination (the *phonotactics*) of a language differ greatly from those of the loaning language, this can cause the loanwords to undergo massive changes. Such effects can be seen in nineteenth-century English loans into Hawaiian. Hawaiian only has the following consonants:

(9)

labial	*coronal*	*velar*	*glottal*
p		k	ʔ
			h
m	n		
	l		
w	j		

First, this system has no voiced (lax) obstruents. Any such obstruents present in borrowed English lexical items have to be replaced in Hawaiian by voiceless (tense) obstruents – either front (bilabial) /p/ or back (velar) /k/. The lack of any non-front, non-back (*coronal*) obstruents has further effects. All English coronal obstruents (/t,d,s,z,tʃ,dʒ/) are replaced by the nearest possible obstruent, which is /k/. Additionally, no consonant clusters or final (*coda*) consonants are allowed in Hawaiian. This combination of prohibitions results in largescale phonological changes in loanwords from English (Elbert and Pukui, 1979). The following examples illustrate the substitution of /k/ for many other sounds and changes in syllable structure to avoid consonants in clusters and in final position:

(10)

English spelling	*English phonemic*	*Hawaiian*
gasoline	/gæsəliːn/	kakalina
sergeant	/sɑːdʒənt/	kakiana
stocking	/stɒkɪŋ/	kaakini
ticket	/tɪkɪt/	kikiki
club	/klʌb/	kalapu
corset	/kɔːsɪt/	kaaliki
Christmas	/krɪsməs/	kaliikimaka

areal influence

Much of language change occurs when one dialect influences another within a given language. Linguistic areas are created by similar dynamics between languages as those that apply within one language between dialects. Similar to the way that neighboring dialects influence each other by *bidialectalism*, neighboring languages influence each other by bilingualism.

east tucanoan sibilants > tariana

Aikhenvald (2002) illustrates the operation of areal influence in phonology from East Tucanoan languages on the Tariana language or languages (Arawak family) in the Vaupes area of Amazonia, in the Brazilian-Colombian border region. Aikhenvald describes the custom in this area that one should marry someone from a different language group. Marrying within one's own language group is regarded as incestuous. Many linguistic and cultural features of the inhabitants of this area are shared, and we can therefore speak of a Vaupes linguistic area.

Lexical borrowing is not the route by which phonological influence spread in this area. In fact, Aikhenvald states that there is a strong inhibition against borrowing forms from other languages. Widespread bilingualism among women is the explanation for the resemblances among the phonological systems of these languages in contact, as the wife learns the husband's language after marriage.

Most Tariana languages have been replaced by Tucano (East Tucanoan). Most of the remaining active speakers belong to the Wamiarikune group, with its two dialects of Santa Rosa and Periquitos. These two dialects contrast with respect to the influence of Tucano. Northern Arawakan languages (the family to which the Tariana languages belong) tend to have at least two sibilant consonants, "usually a fricative *s* and an affricate *tʃ*" (Aikhenvald, 2002, p. 37). The Santa Rosa dialect of Wamiarikune Tariana has this property too, as in the following contrasting Santa Rosa words:

(11)	ísa	'smoke'	ítʃa	'hair'
	ísi	'oil, fat'	ítʃi	'howler monkey'

Most East Tucanoan languages, in contrast, have only one fricative sibilant, *s* (though with affricate allophones). The Periquitos dialect shares this East Tucanoan feature, due to widespread bilingualism with East Tucanoan languages. The sibilant distinction present in Santa Rosa has been neutralized in Periquitos to /s/.

east tucanoan nasal harmony > tariana

A second feature of East Tucanoan influence on Tariana described by Aikhenvald (2002) concerns *nasal harmony*. East Tucanoan languages are famed for this feature. Once again, the Periquitos dialect parallels these features to a markedly greater degree than the Santa Rosa dialect. In the Periquitos dialect, the presence in a Tariana word of a nasal consonant or

a nasalized vowel will cause all vowels to become nasalized, while /d/ and /ɾ/ are replaced by /n/ and /y/ by /ɲ/. Examples provided by Aikhenvald include the following:

(12)	-tõnéta	>	tõnẽ́tã	'roll dough'
	kenõwa-na	>	kẽnõwã-nã	'a tree-like plant'
	di-yũ	>	nĩ-ɲ ũ	'he goes up'

western kalasha retroflex vowels

A third case of areal influence concerns phonologically retroflex vowels. Retroflex vowel phonemes are very rare among the languages of the world, but do occur in the western dialects of Kalasha, an Indo-Aryan language belonging to the so-called Dardic subgroup spoken in northwest Pakistan (Heegård & Mørch, 2004). Kalasha possesses four types of vowels – plain, nasalized, retroflexed, and nasalized retroflexed. For no other language has this last type been proven to be a separate set of phonemes, although the neighboring language of Waigali at least possesses these types phonetically. Other languges with a series of distictive retroflex vowels include the Dravidian language Badaga (Emmeneau, 1939), and the Amerindian languages Serrano (Hill, 1967) and Yurok (Robins, 1958). In Kalasha, these types of vowels are only found in the western Rumbur-Bumburet, Birir-Jinjiret and Urtsun dialects. The following table gives examples of these vowels in the western Kalasha dialects of Rumbur and Urtsun, contrasting these with the eastern Kalasha dialect of Kakatak and Kati, which is from the Nuristani language area. These dialect forms are contrasted with their historical Indo-Aryan (IA) source:

(13) Retroflex vowels in Dardic and Nuristani (Vᶫ = retroflex vowel)

Old IA	*Rumbur*	*Urtsun*	*Kalkatak*	*Kati*	*gloss*
pāɲí-	pẽᶫ	as'pẽᶫ	pha(:)n	duʃ'pẽᶫ	'palm of the hand'
kilāʈa-	ki'l̪aᶫ			ki'l̪aᶫ:ɻ	'kind of cheese'
ɑ̃ʂā¶hĩya-	a'ʐaᶫi	a'ʐaᶫ:i	a'ʐa:ɽi		'apricot'
maɲí-	mãᶫ'(ɦ)ĩᶫk	'maɽĩᶫk	ma'ɽi:k		'beads'

From (13) it is clear that the retroflex vowels in the Western Kalasha dialect area derive from lost retroflex consonants in Old Indo-Aryan. The eastern dialects like Kalkatak have no retroflex vowels at all, displaying instead a variety of reflexes including retroflex consonants. To the east are languages lacking retroflex vowels, while to the west there are other languages apparently possessing retroflex vowels, such as Kati (see table)

and Waigali (not shown), belonging to the Nuristani group of Indo-Aryan languages. Note that Kalasha does not belong to the same subgroup of Indo-Aryan as Kati and Waigali. This suggests that the presence of retroflex vowels is a feature that has diffused across a subfamily boundary.

the east asian linguistic area: register, tone, and monosyllabicity

In Southeast Asia we find a vast area of contact between languages and language families stretching from Southern China through Vietnam, Cambodia, Thailand, and Laos. Three examples of areal features are the development of *register systems* (involving contrasting voice quality), *tonogenesis* (development of contrasting pitch levels or contours), and a tendency to *monosyllabicity* (words of one syllable only). We can take as an illustration a case in which examples of all three can be found, the Chamic languages. These languages are Austronesian languages spoken on the Asian mainland, in Cambodia, Vietnam, and on Hainan Island in southeast China, as well as in Atjeh province on Sumatra. I will mention three Chamic languages which display phonological contact phenomena of these types.

Old Cham was the language of the former *Champa* kingdom lasting from the sixth to the seventeenth centuries. This kingdom was squeezed between various Khmer and the Vietnamese kingdoms, and, as we shall see, this has not been without linguistic consequences.

register in western cham

Western Cham is spoken in Cambodia, where its speakers are in contact with various languages belonging to the Austroasiatic family. Khmer, the main language of Cambodia, is a member of this family, and possesses a phonological feature referred to under the term *register*. *Register* in the context of this language family refers to a feature of voice quality that has developed from features of formerly present consonants and has clear phonetic similarities to aspects of *tongue root harmony* as found in many African languages. Historically, register distinctions have arisen due to a merger of voiced and voiceless initial consonants. The former voiced consonants have induced a lax, breathy *voice quality* in the following vowel, while the former (and still) voiceless consonants are associated with a tense, clear voice quality. In tandem with this, the vowels themselves are more closed in their articulation following former voiced consonants, as against more open in their articulation following former voiceless consonants. (This is similar to the situation with the feature of *advanced tongue root*, which is associated with a more closed vowel position and often with a lax voice quality.) Finally, in contrast to

the voiceless consonants, the former voiced consonants are associated with a lower pitch and a lowered larynx (Henderson, 1952).

Edmondson and Gregerson (1993) identify at least the vowel height aspect as holding for Western Cham, and also the pitch difference (ignoring preglottalized voiced consonants, which retain their voicing). Tenseness differences may also exist. It seems fairly certain that this type of contrast, illustrated in (14), is due to Khmer influence:

(14) *Western Cham* (*V* = lax, breathy vowel)

paw	[paw]	'tobacco pouch'
baw	[paw]	'snail'
ʔbaw	[(ʔ)baw]	'bag'

tonogenesis in eastern cham

Eastern Cham (Phan Rang dialect; Thurgood, 1993) has moved a step further than Western Cham in the phonological effects of loss of a former voiced/voiceless consonant contrast. The phonation effect associated with original voiced stops, and seen in Western Cham, is only partially present in CV-syllables in Eastern Cham. However, there is a consistent tone opposition on the stressed syllable (the last syllable in a polysyllabic stem) between low and high tones.

If the stressed syllable began historically with a voiced stop, this syllable now has a low tone. If the stressed syllable began historically with a voiceless stop or /s/, this syllable now has a high tone. If a *presyllable* (a syllable preceding the stressed syllable) began with a voiced stop, and the stressed syllable began with a liquid or /h/, then the lowering effect of the originally voiced stop has been transferred to the stressed syllable, giving it a low tone. In addition, glottal stop finals have a pitch-raising allophonic effect, especially noticeable in the low tone, which has a rising component. Eastern Cham is in contact with Vietnamese, like Khmer an Austroasiatic language. Vietnamese has a well-developed tone system of six tones (also involving *creaky voice* or constricted vibration of the vocal cords in some cases). Thus, it can be assumed that the development of tone in Eastern Cham has occurred under the areal influence of Vietnamese.

I illustrate these tonogenetic phenomena in (15), where grave accents mark the low tones. Stressed (second) syllables with no marking have high tone. The first two examples (a) illustrate what happens when the stressed syllable was historically preceded by a voiced stop. The voicing is lost and the following vowel has a low tone. The following two examples (b) have

a Proto-Chamic voiceless stop in the onset of the stressed syllable, so the tone is high. The next two examples (c) illustrate presyllables with voiced stop onsets followed by liquid onsets in the stressed syllable. Here the initial voiced stops once again cause low tones on the stressed syllable. The last example (d) has an initial voiceless stop, so has a high-toned stressed syllable.

(15)

	Proto-Chamic	*Eastern Cham*	*gloss*
(a)	ʔuduŋ	ʔatùŋ	'nose'
	dada	tətà	'chest'
(b)	bituk	pətuk	'cough'
	mata	məta	'eye'
(c)	bara	pərà	'shoulder'
	biləu	pəlèw	'body-hair'
(d)	kuli:t	kəliʔ	'skin'

Note that many unstressed vowels in this language reduce to [ə]. This is also an areal tendency in Southeast Asia in general. Complete loss of such vowels is found in Rade, another Chamic language of Vietnam (Maddieson and Pang, 1993). This leads us on to the third Chamic language I want to examine here – Utsat (Thurgood, 1993).

monosyllabicity in utsat

Utsat is spoken on Hainan Island in southeast China by a small Moslem community. The other languages of Hainan are uniformly monosyllabic as to their lexical stems. These are: Southern Min Chinese; the Li, the major minority group, whose languages are distantly related to Thai; Be, another relative of Thai; and so-called "Miao-speakers" – a Yao language, part of the Miao-Yao family, whose further relationships are controversial.

Utsat is no exception to this monosyllabic tendency. Generally, the stressed syllable of the Proto-Chamic form comprises the main portion of the surviving Utsat syllable. If the Proto-Chamic form has a medial liquid and an initial stop, this has developed in Utsat to an aspirated stop (usually pronounced as a fricative; Maddieson and Pang, 1993), if the original initial stop was voiced (e.g., *phia*^{11}), and as a plain stop if the initial stop was voiceless (e.g., *piu*^{55}), illustrated in (16).[1] Note that there is still a partial correlation with tone such as we saw in the Eastern Cham example (15).

(16)

Proto-Chamic	*Utsat*	*gloss*
mata	ta^{33}	'eye'
maɲak	ɲa^{24}	'oil'
tanah	na^{55}	'earth'
basah	sa^{55}	'wet'
tikus	ku^{55}	'rat'
dada	tha^{11}	'chest'
əbus	phu^{55}	'ransom, rescue'
ʔiduŋ	thuŋ^{11}	'nose'
digəi	xai^{11}	'tooth'
labuh	phu^{55}	'fall down'
lagah	xe^{55}	'tired'
bras	phia^{11}	'rice'
bara	phia^{11}	'shoulder'
biləu	phiə^{11}	'body hair'
bahrəu	phiə^{11}	'new'
glay	xiaiʔ^{42}	'forest'
pluh	piu^{55}	'ten'

dialect mixing

Under *dialect mixing* we can distinguish four types of process. These are *koiné formation*, the similar *regiolect formation* (the formation of regional koinés), *dialect shift* (the influencing of one dialect by another), and the *influencing of standard varieties by dialect(s)*.

koiné formation

Koiné formation occurs when a new dialect is formed on the basis of a group of existing dialects, possibly with most features deriving from the politically or culturally most important dialect(s). The original Hellenistic (Greek) koiné was the first-known case of this process. The new dialect was based mainly on the Attic dialect of Athens, but combined with the phonology of the closely related dialects of Ionia (the central western coast of Asia Minor and the offshore islands). Attic Greek already had considerable status, due to the far-reaching political influence of Athens, a major player among the Greek city-states, although it was by no means always on the winning side in the frequent internecine strife in Greece, Asia Minor, and southern Italy. As far as culture is concerned, nearly all of the known Greek literature is in either Attic or Ionic. The writings of Homer, the greatest poetic work in Greek, are for example largely in Ionic. According to Joseph (1999), Athens may well have had a population of 300,000 at the height of its power in the fifth to fourth centuries B.C. Joseph estimates the total Greek-speaking population then to have been

of the order of 800,000 people. If this is at all accurate, the number of speakers could also have been a factor in the dominance of Attic in later days. King Philip of Macedonia adopted Attic-Ionic Greek as the language of his court in the fourth century B.C. His son Alexander the Great continued this practice, and carried the Greek language with him in his extensive conquests in the east, using Greek as the administrative language of his new empire.

This Greek koiné, underpinning all forms of Greek spoken at the present day with the exception of Tsakonian,[2] gained in strength with the expansion of the Roman Empire eastwards starting in the first century B.C. Another factor was the growth of the Eastern Church, with Greek as its liturgical language, where Asia Minor soon became one of the main strongholds of Christianity. The emperor Diocletian divided the Roman Empire into two parts in 285 A.D. The official language of the Western Empire was Latin, while in the Eastern Empire the de facto official language was Greek, which replaced the native languages of Asia Minor, such as Lydian, Lycian, Carian, Phrygian, Galatian, and others. The koiné won out over the dialects of the old small independent Greek states, such as Thebes, Corinth, Boetia, and Lesbos, among others. The great diversity in dialects that had previously existed was eliminated, only to be replaced by a new diversity as the koiné broke up under the Ottoman Empire to the point of where dialect intercomprehensibility no longer existed in all cases.

The large number of speakers and the widespread use of Attic(-Ionic) as an administrative language enabled the markedness of the Attic (monophthongal) vowel system in the classical period to triumph over the more symmetrical vowel systems of the other dialects. The following is the koiné vowel system:

(17)

i i:	y y:		u:
e e:			o
ɛ:			ɔ:
		a a:	

There are two marked features here. The first is the occurrence of front rounded vowels /y,y:/ where all other Greek dialects except for Ionic had back rounded vowels. The second is the remarkably unbalanced nature of the system as regards long and short vowels. The monophthongization of the old diphthongs /ei/ and /ou/ had disturbed the symmetry of the earlier vowel system, giving the new long vowels /e:/ and /u:/.[3] This complex system did not last long, undergoing a wholesale realignment,

and resulting eventually in the following much simpler system by the end of the Hellenistic period (Joseph, 1999):

(18)

i	y		u
ɛ			ɔ
		a	

regiolect formation

The term *regiolect* refers to a similar situation linguistically to koiné formation, but differs sociolinguistically. Hinskens (1993) suggests restricting this term to cases where the locally distinctive features of dialects are given up but where wider common regional features are preserved. In this sense, one could also speak of a *regional koiné*. Regiolects arise only in cases of strong regional identity. Hinskens discusses the case of Limburg (the Netherlands), where dialect use is widespread in informal contexts.

Hinskens (2004) also provides a smaller-scale example of such a phenomenon from the municipality of Ubach-over-Worms in south Limburg. The dialect of the larger part of the municipality belongs to the so-called "transitional zone" between the East Limburg dialects and the Ripuarian dialects.[4] In this zone, diminutives formed on stems ending in a velar consonant are realized as /-ʃkə/. In the Ripuarian dialect of Rimburg spoken in the eastern part of the municipality, the normal equivalent would involve the variant /-skə/. However, the Rimburgers are now moving towards using /-ʃkə/, like the other inhabitants of the municipality.

(19)

Rimburg (older)	*Rimburg (newer)*	*Ubach-over-Worms*	*gloss*
kʏkskə	kʏkʃkə	kʏkʃkə	'little biscuit'

In this case, it would probably be more fitting to describe this as a "municipiolect" rather than a regiolect, as Ubach-over-Worms is hardly to be described as a region.

dialect shift

The following discussion of German[5] dialect dynamics refers, unless specified otherwise, to a situation that reached its endpoint around the beginning of the twentieth century. The situation since then has changed vastly with the rapid expansion of Standard German through all levels of society. The viability of the numerous traditional local dialects varies; some have practically disappeared, while others remain in widespread

use – for example, those spoken in Switzerland. In what follows, I make extensive use of Schirmunski (1962).

The old local dialects of Germany are divided traditionally into three groups, (i) Low German (Low Saxon, Platt(deutsch)) or *Niederdeutsch*; (ii) Middle German or *Mitteldeutsch*; and (iii) High German or *Oberdeutsch*. An equally frequent division is into Low and High, depending on whether the *High German consonant shift*, in which stops became affricates and/or fricatives, has *regularly* applied. I will return to Middle German below. The boundary between Low and High German is a very complex affair. In the central area, there is a fairly clear boundary running from west to east, but at the west end there is the famous *Rhenish Fan*, where the *phonological isoglosses*, or boundaries between different pronunciations, *fan* out to cover a large area.

Up to a point in the eastern Sauerland where all of these separate isoglosses essentially converge in their spread eastwards, the various isoglosses fan out westwards to the end of German-speaking territory. This so-called fan runs from north to south – from a point on the German/Dutch border near Venlo in the north, to the upper reaches of the River Saar in French Alsace in the south. From north to south some of the more well-known isoglosses distinguished by German dialectologists are: the *ik/ich*-isogloss, the *maken/machen*-isogloss, the *dorp/dorf*-isogloss, the *dat/das*-isogloss, and the *appel/apfel*-isogloss.

At the eastern end of the boundary, things become much less clear. The dialects in this area are sometimes referred to as *settlers' dialects* (*Siedlungsdialecten*). Germans of mixed dialectal origin settled in Slavic language territory (Pomeranian, Sorbian, Kassubian, Slovincian, Polish, etc.). The mixture of High and Low German dialect speakers is one reason for the sometimes less clearcut nature of the eastern German dialects.

Precisely because of this difficulty in determining the boundary between Low and High the term Middle German was devised. Middle German can be defined as those dialects in Germany between the *ik/ich*-isogloss and the *appel/apfel*-isogloss. According to Schirmunski, Middle German is basically High German on a Low German base, or *substrate*. It is largely an area that was Low German-speaking in the early Middle Ages, but in which various High German consonant-shift isoglosses have been moving northwards ever since, as is known from the historical record.

dialect shift in the halbmundart of berlin

One feature of the shifting dialect situation for German is the atypical pronunciation of the High German affricate phonemes /pf/ and /ts/ in

significant portions of the Middle German area. The old city dialect (Halbmundart) of Berlin formed a High German peninsula in an otherwise Low German area of the Brandenburg region. Berlin previously had a Low German dialect. In the old city dialect, the pronunciation of the two unfamiliar High German affricates (spelled *pf* and *z*) in initial position had been as fricatives /f/ and /s/, and this substrate feature was retained.

(20)	*Old Berlin dialect*	*German orthography*	*gloss*
	feniç	Pfennig	'penny'
	flantsən	pflanzen	'to plant'
	sait	Zeit	'time'
	se:n	zehn	'ten'

Such fricative rather than affricate pronunciations used to be typical of Low German first-language speakers' High German generally, and this is clearly the origin of these pronunciations in the dialects in which they later occur. Furthermore, there were Low German "relic" words in this dialect, as was typical in the whole Middle German area, such as:

(21)	*Berlin city dialect*	*German orthography*	*gloss*
	ik/ikə	ich	'I'
	wat	was	'what'
	et	es	'it'
	ʃi:tən	scheißen	'to shit'

We know now that sound changes do not operate overnight. It is not the case that whole communities discover when they get out of bed one morning that during the night they have replaced one sound with another across the board. Sound changes operate first on some words and later on others. The changes proceed at different rates through styles of speech, age groups, and social groups, and are ultimately transmitted at a personal level through the various social networks in which speakers participate (Milroy, 1980). A sound change may lose its force before it has progressed through all the members of the relevant group of words. To judge by the relic words in numerous German dialects, extremely common function words such as pronouns are more resistant to change than the rest of the vocabulary.

dialect shift in the german dialect of wermelskirchen, rhineland

Another interesting case of what can happen near the High German consonant-shift boundary is illustrated by the dialect of Wermelskirchen

near Remscheid in the Rhineland (Schirmunski 1962, pp. 287–8). In this dialect are found the shifted variant of the voiceless stops (i.e., fricatives) following short vowels and the unshifted variant (i.e., stops) following long vowels. This applies even within paradigms:

(22)

Infinitive	*1st Singular Present*	*1st/3rd Plural Past*	*Past Participle*	*gloss*
ʃmi:tən	ʃmi:t	ʃmesən	jəʃmesən	'smite'
bre̥çən	breç	bro̥:kən	jəbro̥xən	'break'

Note that the conditioning is purely phonological – depending on the length of the vowel and not on the morphological slot in the paradigm. In the first case we have an unshifted /t/ in the 1st Singular Present, and a shifted /s/ in the 1st/3rd Plural Past, while in the second case things are the other way round. Such a strict regularization occurred nowhere else in the Rhineland according to Schirmunski. Initial voiceless stops are not shifted at all, apart from a few literary loanwords:

(23)

Wermelskirchen	*orthography*	*gloss*
taŋk	Zahn	'tooth'

dialect-influenced standard

The difference between dialect-shifting, or the influencing of one dialect by another, and the occurrence of a dialect-influenced standard language is a matter of degree. The perceived social status of language varieties can cause dialect shift. It was not chance that caused the isogloss between High and Low German to move continually north for hundreds of years. The fact that the High German dialects resemble Standard German phonologically to a greater degree than do Low German dialects undoubtedly was a factor. There is also only a difference of degree between a dialect-influenced standard and a regiolect as Hinskens (2004) points out.

scots > scottish standard english

A striking case of a dialect-influenced standard language is that of Scottish Standard English (SSE). This is exemplified by the native speech of the author, a middle class Glaswegian (native of Glasgow). The phonology of SSE is radically different in one aspect from all other forms of first-language Standard English spoken in Great Britain, the U.S.A., Canada, Australia, New Zealand, and South Africa.[6]

These other Standard Englishes share in general very similar vowel systems where two classes of vowels – "tense" and "lax" – are opposed to each other.

(24)

	Tense	*Lax*
Duration	long	short [longer before voiced consonant]
Relative height	higher	lower
Peripherality	peripheral	high vowels centralized
Homogeneity	diphthongal	monophthongal

In SSE, the oppositions of "tense" and "lax" vowels are realized partly in a different fashion (as indicated by boldface type):

(25)

	Class A	*Class B*
Duration	**short [long before r,v,ð,z,ʒ,#]**	**short**
Relative height	higher	lower
Peripherality	peripheral	high vowels centralized
Homogeneity	**monophthongal**	monophthongal

This gives the following differences between the Southern British Standard English (Received Pronunication – RP) and SSE:

(26)

	RP	SSE		
greet	/gri:t/	[grɪit]	**/grit/**	**[grit]**
greed	/gri:d/	[grɪid]	**/grid/**	**[grid]**
agree	/əgri:/	[əgrɪi]	/əgri:/	[əgri:]
agreed	/əgri:d/	[əgrɪid]	/əgri:d/	[əgri:d]
grief	/gri:f/	[grɪif]	**/grif/**	**[grif]**
grieve	/gri:v/	[grɪiv]	/griv/	[gri:v]
grit	/grɪt/	[grɪt]	/grɪt/	[grët]
grid	/grɪd/	[grɪ̈d][7]	/grɪd/	**[grëd]**

The SSE forms given in boldface type represent some of the major differences between the phonetic realizations of SSE and RP. Specifically, I have singled out the lack of phonological lengthening (or diphthongization) of tense vowels in the context before stops and voiceless fricatives, and the lack of phonetic lengthening of lax vowels before "voiced" stops. Now we have to consider why we have these differences. Let us compare

the realizations of high front vowels in a number of Scots dialects located to the south of Glasgow, in Renfrewshire (R), Lanarkshire (L), and Ayrshire (A). These vowels do not in all cases correspond to high front vowels in SSE.

(27)

	SSE	*Eaglesham (R)*	*Newbigging (L)*	*Newmilns (A)*
beet	**/bit/ [bit]**	**/bit/ [bit]**	**/bit/ [bit]**	**/bit/ [bit]**
dead	(/ded/)	**/did/ [did]**	**/did/ [did]**	**/did/ [did]**
eye	(/ae/)	/ i:/ [i:]	/ i:/ [i:]	/ i:/ [i:]
beef	**/bif/ [bif]**	**/bif/ [bif]**	**/bif/ [bif]**	**/bif/ [bif]**
nieve (fist)	–	/niv/ [ni:v]	/niv/ [ni:v]	/niv/ [ni:v]
bit	/bɪt/ [bët]	/bët/ [bët]	/bët/ [bët]	/bët/ [bët]
bid	/bɪd/ **[bëd]**	/bëd/ **[bëd]**	/bëd/ **[bëd]**	/bëd/ **[bëd]**

The small amount of data given here is sufficient to identify the Glasgow SSE vocalic system as possibly deriving from a substrate pattern similar to that found in this group of dialects. Stem-final vowels and certain "tense" vowels preceding voiced fricatives are long. All other high vowels are short. This is precisely the pattern encountered in the SSE of Glasgow (and other places). The boldface forms illustrate the lack of lengthening of tense vowels before stops and voiceless fricatives, and the lack of a voicing effect in lax vowels before voiced stops, i.e., the features of the SSE vowel system that diverge from those of other standard varieties of English.[8]

language mixing

Mixed languages are of distinct types as far as phonology is concerned. Some have inherited two phonological systems, while others clearly have a single phonology – that of one of the two contributing languages. In cases where a present-day language has inherited two phonological systems, a theoretical question is whether the language should be described in terms of two phonological systems or in terms of a split segmental phonology. This has been done in a number of Meso-American language descriptions in the past, largely for practical ease of description. The question is whether the proper way of dealing with these split systems is to distinguish strata in the lexicon parallel to those operating in English with regard to Germanic and Latinate morpheme classes, with their differing effects (e.g., on stress assignment to syllables). Or do we need parallel phonologies in some cases?[9]

two phonologies – michif

One case illustrating a mixed language with two phonologies is Michif, a language spoken in the Canadian and American border prairie provinces by members of the Métis ethnic group. The Métis are a mixed population descended from French fur traders and travelers and American Indian women. The Métis were bilingual or multilingual. Bakker and Papen (1997) presume that French and Cree were spoken by many Métis, and that there was much code-mixing. Although Michif can only be proved to have existed by 1930, the authors believe that it has existed since the early 1800s.

Michif is not directly derived from a mixture of French and Cree, but from two varieties of those languages, Métis French and a lingua franca form of Plains Cree. Métis French itself exhibits the influence of Cree or some other Algonquian language. One possible sign of Cree influence is that it has no high mid vowels /e/ and /o/. These are raised to high vowels and fall together with /i/ and /u/. Métis French also has sibilant harmony: if two sibilants are present in a word, they must be the same (either /ʃ – ʃ/ or /s – s/). For more information on Métis French, see references in Bakker and Papen (1997).

At present, a third of Michif speakers know Métis French, and only a small percentage speak Cree. Cree phonology is evidenced in Michif words of Cree origin, notably in verb forms, while French phonology is evidenced in words of French origin, notably in the noun forms.

The split phonologies present in Michif differ in both the consonant and vowel systems. The Michif-Cree consonant system is fairly minimal, with a voiceless stop-affricate series (/p,t,tʃ,k/), one sibilant and an h-sound as fricatives, two nasals, and two glides. The Michif-French consonant system is much more complex, being very similar to Standard French. It has the same four voiceless stops as the Michif-Cree part (/p,t,tʃ,k/); a full set of voiced counterparts to these; two voiceless sibilants (a "hissing" /s/ and a "hushing" /ʃ/), a voiceless labiodental (/f/), and /h/; the voiced counterparts of the fricatives (/v,z,ʒ/); four nasals (/m,n,ɲ,ŋ/); two liquids (/l,r/); and two glides (/w,j/). The Michif-Cree consonant system is a subset of the Michif-French one. We can indicate the relationships as follows, where the Michif-French consonant system is shown with consonants present in both subsystems given in boldface type:

(28)

p	**t**	**tʃ**	**k**
b	d	dʒ	g
f	s	**ʃ**	**h**

v	z	ʒ	
m	**n**	ɲ	ŋ
	l, r		
w		**j**	

A feature of Michif phonology derived from Métis French is sibilant harmony, as in the following words of French origin:

(29)	ʃɛʃ	'dry'	< *sèche*
	ʃavaʒ	'Indian'	< *sauvage*
	zezy	'Jesus'	< *Jésus*
	riʃɛʃ	'wealth'	< *richesse*

The vowel systems of the two portions of Michif phonology (Michif-Cree and Michif-French) are not so neatly related as is the case with the consonant systems. The Michif-Cree system distinguishes long and short vowels. The long vowel system I interpret as:

(30)	ii	uu
	ɛɛ	aa

The short vowel system has only one low vowel:

(31)	i	u
	a	

Bakker and Papen mention three nasalized vowels, but the underlying status of their [æ̃] is unclear, as they indicate that this varies with /ɛɛn/. Clearer is the status of the other two nasalized vowels, /ĩ, ũ/.

The Michif-French vowel system is different. I interpret the oral vowel subsystem as follows (overlap with the Michif-Cree system is represented by boldface):

(32)	**i**	y	(ə)	**u**
	ɛ	œ	**a**	ɔ

The long vowels of Standard French are absent, increasing the contrast with the Michif-Cree system.

Both the Michif-Cree and the Michif-French subsystems involve a fairly broad range of allophony. Bakker and Papen do not discuss this in any detail, so that it is not clear whether personal variation, intra-

speaker variation, or variation between Michif-speaking communities is involved. With regard to the vowel /i/, Baker and Papen list both [ɪ] and [i] allophones for both Michif-French and Michif-Cree subsystems, but with a different distribution.

The status of the /ə/-like vowel is unclear, and it is uncertain to what extent it resembles its French counterpart. The nasalized vowels are as follows:

(33)			**ũ**
	ɛ̃	œ̃	ã

Here the relationships cannot be indicated in terms of proper inclusion. The /ũ/, which is both the only high back nasalized vowel of Michif, can be considered part of both systems. In Michif-French, it represents the back nasalized vowel of Standard French, /ɔ̃/. Michif-Cree also has a high front nasalized vowel /ĩ/, which does not form part of the Michif-French system.

one phonology – media lengua

The scond case of a mixed language that I will briefly discuss is Media Lengua (ML), a mixed language spoken in Ecuador. The component languages are Quechua and Spanish. It can be described in brief as a system with Spanish lexical items borrowed and adapted (*relexified*) into Quechua grammatical structures. Muysken (1996) puts the date of formation of Media Lengua at between 1920 and 1940. It is spoken according to him by "acculturated Indian peasants, craftsmen, and construction workers" (Muysken, 1996, p. 374). Media Lengua is spoken in villages that "are socially and geographically intermediate" (ibid.) between the Quechua-speaking rural world in high-altitude Andian settlements, and the Spanish-speaking towns on the valley floor. While some older ML speakers speak Quechua, and some young children may speak Spanish (Muysken's fieldwork is from the late 1970s), ML is not intelligible to either Quechua speakers or Spanish speakers.

Let us consider the two cases we examined previously (pp. 81–2) with reference to Ecuadorean Quechua:

(34) The raising of Spanish /e,o/ to /i,u/ in Quechua; and
The representation of /Cl-/ clusters.

In the first case, we find mixed reflexes, with a greater tendency for original Spanish /e,o/ to be retained in ML if the vowels are accented, as seen in the following examples:

(35)	*Spanish*	*Media Lengua*	*gloss*
	querer	kiri	'want'
	relój	reloxo	'watch'
	conocer	konozi	'know'
	por qué	purki	'why'
	por qué	porke	'because'

In the second case, /f/, a non-native phoneme which has been borrowed from Spanish into some forms of Quechua (e.g., Imbabura Quechua, sometimes occurs in ML in onset clusters, as in /flor/ 'flower' (< Spanish flor). This is despite the fact that /f/ is often replaced by /p^h/, as is usual in Ecuadorean Quechua, cf. ML /p^hruta/ 'fruit' (< Spanish *fruta*).

We can see that when new Spanish phonemes such as /e,o,f/ are imported into the Quechua and then the ML sound system, new phonotactic possibilities are introduced. In fact, however, these phonological innovations do not go beyond what bilingual speakers of Quechua do in any case. This is unsurprising as ML was formed by a group of bilingual speakers.

split prosody – saramaccan

Another interesting case concerns a number of aspects of the phonology of Saramaccan, a creole language spoken by maroons (descendants of runaway slaves) in Surinam, the former Dutch Guiana, in South America. This is sometimes regarded as a mixed creole, as it has two main sources of its basic vocabulary, English and Portuguese, English being the most important. However, it is mixed in more ways than one as we will see.

Saramaccan makes extensive use of tone, but it is not a straightforward case of a tone language. As has been most clearly stated by Good (2004a, 2004b), Saramaccan involves a split prosodic system. On the one hand, there are numerous words of European origin, from English, Portuguese, and Dutch.[10] On the other hand, there are two major sources of African vocabulary in Saramaccan: first, Fon, a Gbe language of Benin in West Africa; and second, probably the (Ki)Ntandu form of Kikongo, hailing from Zaire in western Central Africa.

All three European languages are stress-accent languages. This means that each word has one syllable bearing the accent. This accent, whose position is partly predictable in all three languages, is realized largely

in terms of relative length and amplitude. With an intonation contour, these syllables are the ones that are aligned with the high tones of the contour. This fact will be seen to have significance in the light of the reinterpretation of the European prosody in Saramaccan.

Both of the African source languages for Saramaccan are tone languages which can be fully described in terms of two tones, high and low. Both of these languages have contributed significantly to the Saramaccan lexicon. Around 150 lexical items in Saramaccan have been identified as derived from each language, and it is certain that there are in fact more.[11]

European-derived lexical items appear in Saramaccan generally with a high tone corresponding to the position of the stress in the European language. Examples (with high tone indicated by the acute accent over the vowel) are:

(36)	*Saramaccan*	*European language*	*gloss*
	náki	*knock* (English)	'hit'
	kulé	*correr* (Portuguese)	'run'
	sipéi	*espelho* (Portuguese)	'mirror'

The only general type of exception to the rule that the high tone indicates the position of the original stressed vowel are cases like the following, where an epenthetic vowel has been inserted to break up a cluster following a stressed vowel:

(37)	*Saramaccan*	*European language*	*gloss*
	síḱisi	six (English)	'six'
	wólúku	wolk (Dutch)	'cloud'

The other vowels in these words have variable tone-assignment according to their phrasal environment, but are represented as toneless in the lexicon. These words contrast significantly with predominantly (but not solely) African-derived words, which have specific tones on every vowel (mora). In the following examples, high tone is indicated by an acute accent over a vowel and low tone by a grave accent:

(38)	*Saramaccan*	*Original language*	*gloss*
	pùkùsù	lu-mpukusu (Kikongo)	'bat'
	bàndjà	mbaansya (Kikongo)	'side'
	màtùtù	ma-tutu (pl.) (Kikongo)	'small rat'
	zònká	zòkán (Fon)	'charcoal'

The two types of words – those which are derived from European or non-European (largely African) sources – differ in their behavior in several ways, as further explored in Good (2004a, 2004b).

simplification (or not) in creole languages

It has often been claimed that pidgin and creole languages are simpler than other languages. The term *pidgin* covers such a wide range of communication systems that it is doubtful whether any generalizations can be made about them. Moreover, the phonological changes associated with creoles by no means paint a consistent picture. Many of the so-called simplifications associated with creole languages are probably to be associated with phonological patterns present in substrate languages.

open syllable structures in saramaccan

For example, creolists have pointed out that Saramaccan favors an open syllable structure, adding a vowel to words with English final consonants, as in the following examples:

(39)	*English*	*Saramaccan*	*gloss*
	back	ɓáka	'back'
	love	lóɓi	'love'
	bed	ɓédi	'bed'

This is sometimes assumed to result from the imposition of an unmarked syllable structure on English lexical items. In fact, it more likely represents the major Fon substrate present in Saramaccan, as Fon allows only open syllables. At the same time, it cannot be denied that Fon syllable structure is unmarked, but the process of creolization does not need to be invoked to explain this fact.

complex fon labial-velar stops > saramaccan

Another illustration of the Fon influence on Saramaccan is the presence of numerous lexical items of Fon origin. Some of these preserve so-called *labial-velar* stops. These are stops with a complex articulation involving simultaneous closure at the labial and velar places of articulation. In the following examples, labio-velar articulation is indicated by /gb/ and /kp/ (acute and grave accents indicate high and low tone, respectively, as before; and a rising tone is indicated by a combination of the two):

(40)	*Fon*	*Saramaccan*	*gloss*
	àgbàdʒá	àgbàdjá	'cartridge pouch'
	àgbǎn	àgbán[12]	'dish, pot'
	dénkpè	dèkpè	'dagger'

The retention of these complex sounds in Saramaccan can certainly not be regarded as representing any kind of *simplification*. The Saramaccan people were isolated from major external influences for a long period of time. This may be a contributing factor. Compare the facts in the following section.

complex fon labial-velar stops > sranan labials

Sranan is the coastal creole of Suriname. It represents the language of the former slave population in this ex-Dutch colony. Here too Fon must be assumed to have been an important substrate language. What happens to Fon labial-velar stops in Sranan? The following examples show that the complex labial-velar stops of Fon are replaced by simpler labial stops in Sranan:

(41)	*Fon*	*Sranan*	*gloss*
	kpédʒèlùkún	pegrekú[13]	'Xylopia'
	gbɔ̀ xɛ̀ɛ́n[14]	bohén[15]	'cough'
	lògbózò	lobóso	'rheumatism'

Is this replacement not a type of simplification? Once again, there is no reason to assume that this is the case. The explanation is surely that unlike the Saramaccans, who have a 300-year history of isolation, the language of the coastal creoles was exposed to constant influence from Dutch, which lacks labial-velar stops. Therefore, these doubly articulated stops were replaced by (plain) labials. Here we observe a case of superstrate influence, which may represent a normal or common state of affairs for a creole language.

creolization/pidginization in the southern sudan

An interesting case of pidginization/creolization concerns a number of related languages that have their common origin in Southern Sudan. Three Arabic-based contact languages are involved: (i) Juba Arabic, the lingua franca of Southern Sudan – nowadays both a pidgin and a creole; (ii) KiNubi, a creole spoken in Kenya and Uganda; and (iii) Turku, a pidgin of French colonial Chad (Owens, 1997). The basis for all three was trading camps in Southern Sudan, with the following components: Arab

and Nile Nubian traders from Northern Sudan, locally recruited soldiers, numerous slaves, and other camp followers. The formative period lasted from only 1854 to about 1880, i.e., approximately one generation. Owens estimates the number of native Arabic speakers at between 10% and 25% of the population at the formative period. The population of the camps was estimated to be nearly 60,000 in 1870, of which more than two-thirds were slaves. This compares to an indigenous population in the area of about 190,000.

The *Turku*-using community was created when a traders' rebellion was defeated by the expansionistic Egyptians, who were attempting to extend their authority over the region. A group of rebel soldiers moved to present-day Chad, then attacked and took over the Kingdom of Bornu. In 1888, the Egyptian governor abandoned Southern Sudan in the face of the Mahdist uprising and crossed into Uganda with his soldiers and their camp-followers. These formed the ancestors of the present *KiNubi*. From 1893, these soldiers were co-opted into the British East Africa Company. *Juba Arabic* represents the pidgin spoken by those soldiers and camp-followers that remained behind in Southern Sudan. By 1985, Juba Arabic had become the native language of 40% of the population of the town of Juba (population 200,000), the capital of Southern Sudan.

A comparison of the phonology of KiNubi with that of Arabic reveals major differences. One of the major substrate languages is Bari, together with other Nilotic languages, but little Nilotic influence can be traced in KiNubi. As we saw above, under normal circumstances it is not usual for creoles/expanded pidgins to inherit much in the way of substrate phonology.

Among the more important deviations from Arabic are the following:

(42) (a) KiNubi lacks the Arabic pharyngeals and pharyngealized consonants (the so-called *emphatics*).
(b) KiNubi lacks the geminate consonants of Arabic.
(c) KiNubi has a typical 5-vowel system, with only a marginal length distinction in the low vowel /a/. Nilotic languages tend to have very large vowel systems, with additional distinctions of length and tongue-root advancement.
(d) Whereas Arabic makes use of the pan-Semetic triconsonantal lexical root system, there is no sign of such a system in KiNubi. KiNubi has fully specified consonants and vowels in its lexical representations for nouns and verbs, e.g.:

kalám	'word'
bágara	'cow'
bíyo	'to buy'
áʃrubu	'to drink'

(e) The position of the accent is variable, whereas most forms of Arabic have predictable stress.

KiNubi is of special interest as a more recent case of creolization. What we see here in fact appears to be not so much simplification as the removal of the most marked phonological features of both Arabic *and* the Nilotic languages – reduction to the lowest common denominator, as it were. What in fact occurs in creolization might not be simplification but *negotiation* among speakers in the process of achieving phonological uniformity. Clearly, the numbers of speakers of the various contributing languages and other sociohistorical factors will play a significant role in determining what the end result will look like in any given case.

conclusion

Few aspects of phonology are immune from change under conditions of language contact. For this reason, it is pointless to try to list every phenomenon that is susceptible to change under contact. Nevertheless, it is worthwhile to review the types of cases described in this chapter.

We have observed contact-induced change at the segmental level. These cases included straightforward reinterpretation of foreign sounds in terms of elements of the native system, foreign sounds intruding themselves into the native system, and such intrusion forcing the reallocation of allophones to particular phonemes. We have observed the phonotactics of the native system being changed, but also native systems resisting such change, either by deleting elements or by epenthesizing them. We have observed changes such as neutralization of voicing distinctions taking place on the one hand while on the other hand new phonological distinctions of register or tone are created by promoting allophony to distinctive status. Finally, we have observed more drastic changes in phonological structure like the tendency to monosyllabicity in Southeast Asian languages.

As these many and varied cases demonstrate, language contact is the driving force behind much phonological change. It would therefore appear that the various types of linguistic contact, which have largely been ignored in mainstream linguistics in general and phonology in

particular, deserve to take a more prominent place in a view of phonology geared to describing and explaining language in the real-life contexts of human interaction.

acknowledgements

I am extremely grateful to the editor for her insightful comments and critical nudgings, also to Klaske van Leyden for her assistance with the revision of the manuscript.

notes

1. The tone numbers 55 indicate a high tone, 33 a mid tone, and 11 a low tone. A rising tone starting relatively low and rising to a relatively high point is indicated by 24; a falling tone starting relatively high and falling to a relatively low point is indicated by 42. Tonal deviations, not addressed here, can also be observed.
2. Descended from the Laconian dialect of classical times, a member of the Doric group of dialects.
3. Raised from /o:/.
4. These represent a restricted extension of the German Ripuarian dialects into a strip of eastern Limburg in the Netherlands (the Kerkrade, Vaals, Bocholtz, and Rimburg area).
5. By dialects of German, I refer both to dialects of what is called High German, as well as dialects of Low German, recognized in both the Netherlands and Germany in terms of the European Treaty on Regional and Minority Languages under the name of *Low Saxon* (Nedersaksisch/Niedersachsisch).
6. Editor's note: note the discussion in Chapter 5, this volume, of the differential acquisition of Scottish English versus Southern British English vowels by second-language learners.
7. The raised single length mark indicates the longer pronunciation of the vowel before a voiced obstruent.
8. In fact, most Scots dialects do not exemplify the SSE patterns to this extent. In particular, they possess a number of unchangeable long vowels in the Class A ("tense") group. This actually makes it easier to begin to identify the geographical source of these phenomena. This has not, to my knowledge, been attempted so far.
9. A good illustration of the use of strata in theoretical work is Ito and Mester (1995).
10. Suriname was an English colony from 1651 to 1667. Portuguese Jewish planters were brought in 1665 and 1667 from Cayenne (French Guiana) to Suriname, where they acquired a large group of plantations on the middle reaches of the Suriname River. Suriname became a Dutch colony in 1667. These historical influences are the main factors explaining the presence of the various European lexical strata in Saramaccan. For more on the formation of the Saramaccan tribe, see Price (1983).

11. A recent cursory examination by the present writer of the extensive list of plant names in various languages of Suriname in van 't Klooster, Lindeman, and Jansen-Jacobs (2003) has emphasized this fact.
12. In both Fon and Saramaccan, a final *n* in the spelling indicates a nasalized vowel.
13. Sranan is basically a stress-accent language; the acute accent mark indicates the position of the stress.
14. This form is from the Gun language, and is an ideophone referring to breathing. Gun is closely related to Fon.
15. This form is from a nineteenth-century dictionary.

references

Aikhenwald, A. Y. (2002). *Language contact in Amazonia*. Oxford: Oxford University Press.

Bakker, P., & Papen, R. A. (1997). Michif: A mixed language based on Cree and French. In S. G. Thomason (Ed.), *Contact languages: A wider perspective* (pp. 295–363). Amsterdam: John Benjamins.

Edmondson, J. A., & Gregerson, K. J. (1993). Western Cham as a register language. In *Tonality in Austronesian linguistics* (pp. 61–74) Honolulu: University of Hawaii Press.

Elbert, S. H., & Pukui, M. K. (1979). *Hawaiian grammar*. Honolulu: University of Hawaii Press.

Emmeneau, M. B. (1939). The vowels of the Badaga language. *Language, 15 (1)*, 43–7.

Good, J. (2004a). Tone and accent in Saramaccan: Charting a deep split in the phonology of a language. *Lingua, 114*, 575–619.

Good, J. (2004b). Split prosody and creole simplicity: The case of Saramaccan. *Journal of Portuguese Linguistics, 11–30*.

Heegård, J., & Mørch, I. E. (2004). Retroflex vowels and other peculiarities in the Kalasha sound system. In A. Saxena (Ed.), *Himalayan languages: Past and present* (pp. 57–76). Trends in Linguistics, Studies and Monographs 149. Berlin/New York: Mouton de Gruyter.

Henderson, E. J. A. (1952). The main features of Cambodian pronunciation. *Bulletin of the School of Oriental and African Studies, 14 (1)*, 149–74.

Hill, K. C. (1967). A grammar of the Serrano language. Doctoral dissertation, University of California Los Angeles.

Hinskens, F. (1993). Dialect levelling in Limburg: Structural and sociolinguistic aspects. Doctoral dissertation. University of Nijmegen.

Hinskens, F. (2004). Nieuwe regenboogkleuren: Jonge typen niet-standaardtaal en hun taalkundig belang ('New colours of the rainbow: New types of non-standard language and their linguistic importance'). Inaugural lecture, Department of Linguistics. Amsterdam: Vrije Universiteit.

Ito, J., & Mester, A. (1995). The core–periphery structure of the lexicon and constraints on reranking. In J. Beckman, S. Urbanczyk, & L. Walsh (Eds.), *Papers in Optimality Theory* (pp. 181–210). Amherst: Graduate Linguistic Student Association.

Joseph, B. D. (1999). Ancient Greek. In J. Garry & A. Faber (Eds.), *Encyclopedia of the world's major languages, past and present* (pp. 256–62). New York/Dublin: H. W. Wilson Publishers.
Maddieson I., & Pang, K.-F. (1993). Tone in Utsat. In *Tonality in Austronesian linguistics* (pp. 71–89). Honolulu: University of Hawaii Press.
Milroy, L, (1980). *Language and social networks*. Oxford: Blackwell.
Muysken, P. C. (1997). Media Lengua. In S. G. Thomason (Ed.), *Contact languages: A wider perspective* (pp. 365–426). Amsterdam: John Benjamins.
Owens, J. (1997). Arabic-based pidgins and creoles. In S. G. Thomason (Ed.), *Contact languages: A wider perspective* (pp. 125–172). Amsterdam: John Benjamins.
Price, R. (1983). *First-time: The historical vision of an Afro-American people*. Baltimore: Johns Hopkins University Press.
Robins, R. H. (1958). *The Yurok language: Grammar, texts, and lexicon*. Berkeley: University of California Press.
Schirmunski, V. M. (1962). *Deutsche Mundartkunde: Vergleichende Laut- und Formenlehre der deutschen Mundarten*. Berlin: Akademie-Verlag.
Smith, N. (2001). Younger languages: Genetically modified. Unpublished manuscript. University of Amsterdam.
Smith, N. (forthcoming). Creole phonology. In J. V. Singler & S. Kouwenberg (Eds.), *Handbook of pidgin and creole linguistics*. Oxford: Blackwell.
Stark, L. & P.C. Muysken (1977). *Diccionario español quichua, quichua español*. Quito: Publ. de los Museos del Banco Central del Ecuador.
Thurgood, G. (1993). Phan Rang Cham and Utsat: Tonogenetic themes and variants. In *Tonality in Austronesian linguistics* (pp. 91–106). Honolulu: University of Hawaii Press.
van 't Klooster, C. I. E. A., Lindeman, J. C., & Jansen-Jacobs, M. J. (2003). Index of vernacular plant names of Suriname. *Blumea (Journal of Plant Taxonomy and Plant Geography)*, Supplement 15.

5
second-language phonology: the role of perception

paola escudero

introduction

It is well known that adult learners have great difficulty when attempting to learn the sounds of a second language (L2), as observed in the phenomenon commonly known as "foreign-accented speech." Despite the fact that adults have well-developed cognitive capabilities and have superior abilities for many complex learning and problem solving tasks, if the task is to learn the sound system of a language, adults are generally outperformed by children. How can we explain this paradox? This chapter builds a case to show that the explanation crucially involves perception.

In early phonological theory, the role of perception in explaining the performance of L2 speakers was taken seriously, as shown by the writings of Polivanov and Trubetzkoy in the first half of the twentieth century. Polivanov (1931/1964) claimed that the consonant and vowel phonemes of an L2 are perceived through the first language (L1) sound system, so that difficulties in the production of L2 sounds were viewed as a consequence of the influence of the L1 in perception. Likewise, Trubetzkoy (1939/1969) believed that inadequate production of L2 sounds had a perceptual basis, suggesting that the L1 system acted as a "phonological filter" through which L2 sounds were perceived and classified. Despite these early perception-based proposals, in the second half of the twentieth century, the focus of much research and theorizing in L2 phonology was on the production of sounds (see, e.g., Lado, 1957; Eckman, 1977, 1981; Major, 1987).