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Creoles and pidgins don't have inadequate lexica

A response to Peter Mühlhäusler*

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In his article “Language form and language substance,” published in *JPCL* 26.341–362 (2011), Peter Mühlhäusler argues for an ecolinguistic approach to creoles and pidgins that should be focused on the vocabulary. According to him, better than other approaches to these new language varieties, his embodies the substance of a language, connecting this to the environment in which its speakers evolve. He decries the fact that the vocabulary, more specifically aspects of it that deal with denotation and world view, has been neglected in favor of structural aspects of creoles.

Mühlhäusler starts his arguments by distancing (his brand of) ecolinguistics from my “ecology of language” (EL) approach as initially articulated in Mufwene (2001). Indeed, as clearly explained by Lechevrel (2011), it would be inaccurate to lump me together with ecolinguists who subscribe primarily to Whorfianism, as if cross-cultural variation in world views was the primary derivative meaning of LANGUAGE ECOLOGY and, consequentially, the maintenance of linguistic diversity should be a critical mission of linguistics (see also Mühlhäusler 2003). I too believe in preventing ecological degradation, but I would also like to determine what strategies are effective or promising as opposed to alternatives that are a waste of time and energy. Unfortunately, I am afraid that Mühlhäusler and other ecolinguists who embrace his views have not explained how being wedded conservatively to their linguistic and cultural traditions helps speakers/signers adapt to an otherwise changing physical and/or socioeconomic ecology out of their control and prevent it from changing (further). As I show below, the author does not

* I am grateful to Enoch Aboh and Michel DeGraff for constructive feedback on a draft of this essay, especially for double-checking the accuracy of my interpretation of the article to which I am responding. I am solely responsible for all the shortcomings the reader may identify in this essay.

demonstrate in the article to which I am responding how what he considers to be adequate vocabulary would confer better ecological fitness to speakers of the relevant languages or would help them better manage their natural environments.

Mühlhäusler's article is question-begging in a number of other ways, but I will start with his inaccurate claim that my EL approach is "characterized by competition, a view that was common in the early stages of ecolinguistics (e.g. Haugen 1972)" (p. 343). Competition and selection, as the state of affairs arising in a social interaction setting that presents many variants for the same communicative functions and ultimately favors some options over others, are certainly not all that this approach boils down to. Also, while Haugen is informative about borrowings, language attrition, and language shift among immigrants (to the United States), he provides little information about how the relevant ecologies arise in the first place. He is even less informative about the mechanisms that integrate features from various sources into an emergent variety and the particular external and internal ecological factors that bear on them, simply because he did not deal with the emergence of new vernaculars such as creoles. These questions have become part of my EL approach.

The above comments explain why I have sought inspiration more from macroecology than from Haugen, whom I rarely cite, except in tracing the history of the EL approach in linguistics. He does not distinguish between external and internal ecologies, nor between direct and indirect ones. Nor does he discuss population structure and periodization, in the context of which the Founder Principle or founder effects must be assessed. The link to Haugen is that he was a pioneer and made evident how the socioeconomic environment exerts an impact on the practice, vitality, and structures of a language. This is an important contribution to linguistics that should not at all be treated as *démodé*. As a matter of fact, it connects the EL approach more productively to macroecology, highlighting similarities between biological evolution and cultural evolution, with language evolution fitting in the latter.¹ It also frames the issues I raise below about Mühlhäusler's claims, showing how misguided or mistaken these are.

What we should also remember about language ecology approaches, including Mühlhäusler's brand of ecolinguistics, is that theorizing on the impact of the environment on a language does not necessarily commit the linguist to the moral obligation of doing something for the maintenance of an environment that is the

1. This position does not deny the role of human biology as an important ecological factor in the case of both culture and language. There is room for Universal Grammar, though the specifics of this remain to be articulated in linguistics. I just consider language to be one of the many cultural artifacts produced by human populations endowed, as they are, with particular biologically-enabled mental capacities for rich communication (Mufwene, 2013).

most favorable to a language. This is an important philosophical distinction that in biology sets ecologists apart from environmentalists, with the latter, who need not be ecologists, very much engaged in advocacy for the conservation of the environment. Advocacy is even more convincing and can be more effective when it is theoretically well-grounded.

As suggested above, the commitment to the survival of mankind and other animals on our planet is a noble and wise cause. However, note that the commitment here is to the *welfare of mankind* in harmony with nature. I consider languages foremost as communication technology, developed to manage our social lives (including sharing knowledge), and only secondarily as representational systems reflecting particular world views. I therefore expect linguistic-diversity advocates to show how, without being maladaptive, sticking to one's heritage language and sticking conservatively to a heritage culture enhance the fitness of the affected populations, especially at a time when the socioeconomic ecologies on which they have little control have changed or are changing to their disadvantage.² In the case of Mühlhäusler's article, one must also demonstrate why we should adopt his claim that current, non-ecolinguistic approaches "seem [...] strongly inappropriate for Pidgin and Creole languages" (359), though, I must also clarify that we needn't all be investigating these language varieties from the same perspective.

I will now respond to the main tenets of Mühlhäusler's article, one by one, beginning with the fact that the author does not provide his reasons for the following allegation:

Competition is a subordinate factor in understanding how ecologies work. Nor does it explain complex multilingual language ecologies or many aspects of structural and lexical development (343).

As explained above, one of the endeavors of my EL approach has been to identify in the relevant ecology, both internal and external, factors that favor a particular language over alternatives and/or particular formal or structural variants over others. Mufwene (2001, chs. 6 and 7) focused especially on how the socioeconomic ecologies of particular contact settings favored certain languages over others, citing in fact "complex multilingual ... ecologies" in various parts of the world and at different times in human history. My approach also highlights similarities between language choice and its consequences on the linguascape and the selection of features into an emergent language variety. In fact the two aspects of competition and selection, at the macro and at the micro levels, are related and concurrent, if not inseparable. Several chapters in Mufwene (2008) are devoted to the role of contact

2. This is not an argument against multilingualism, to the extent that the ecology in which one evolves sustains it.

in language evolution, with “language contact” naturally presupposing multilingualism. If the rest of Mühlhäusler’s article is an indication of how ecolinguistics explains the relation between a language and its ecology, I show below that it does not live up to the author’s claims or aspirations.

Mühlhäusler also observes that “Some aspects of language development are due to deliberate human actions” (343). We agree on this, but an important element here is “some” and the implication that one must be judicious in identifying those aspects of language development or evolution (not quite the same concepts for me) that are deliberately actuated by the (would-be) users. When it comes to language loss by whole populations, the collective shift leading to this outcome is typically not deliberate, being the cumulative consequence of which particular language individual members of the relevant population find more useful or practicable on particular occasions, with the ultimate consequence that it is not passed on to their children. Structural changes affecting a language are seldom consequences of deliberate decisions by speakers. This is especially true of lexical attrition, related to the focus of Mühlhäusler’s article, because lack of (frequent) opportunities to use particular lexical items bears negatively on how easily they can be retrieved when an opportunity arises. *Habitus*, rather than “deliberate human actions,” is the general explanation for the fate of a language from the point of view of its structures and that of its vitality.

On p. 344, Mühlhäusler claims:

As regards Creoles, they do not come into being as copies of an innate blueprint or develops [sic] as bricolages combining parts of substrate and superstrate languages, but as a response to their speakers’ need and wish to make sense of their society and natural environment, and to communicate about them.

While I concur that creoles are not “copies of an innate blue print,” it is also true that some mental faculty (in the form of Universal Grammar or otherwise) constrains the particular ways in which any language cum idiolect develops ontogenetically in individual speakers and how communal languages as the analogs of biological species evolve within particular populations. Regardless of whether creoles were made deliberately by their speakers (I think they were not!), it is now undeniable that they did not evolve from scratch; they have integrated, often with natural modifications, materials and features selected from both their lexifiers and some of the relevant substrate languages. The challenge has been to work out specifics of the contact equation that yields these new vernaculars. The contact setting naturally provides the ecology that bears on such differential evolution. However, I doubt that speakers develop a language (variety) “to make sense of their society and natural environment” and not just to communicate adequately or efficiently about it and to manipulate each other. Knowledge does not presuppose specific

languages, such as English or Swahili, though it is undoubtedly linked to some language of thought, which is a different story. The languages we speak or sign facilitate sharing knowledge acquired from interactions with the environment, social and otherwise. I doubt that they generate it independent of interactions with other members of the speaker's/signer's community or of access to documents produced by others with whom a speaker/signer shares a language (as made possible by publications or audio and video recordings). In any case, I show below that the author makes no convincing case for his claim that his brand of ecolinguistics is more appropriate for creole and pidgin language varieties.

In saying that "Dans la langue il n'y a que des différences," did Saussure (1916: 166) really suggest that linguistics should not be interested in semantics or did he mean to underscore his position that oppositions on the paradigmatic and syntagmatic axes is a principle that makes language work? Speakers rely on it to distinguish sounds from each other; likewise for words and longer utterances. This, I understand, is what Hockett (1959) came to articulate as "duality of patterning" and Martinet (1960) as "double articulation." Saussure often invokes semiology, stating on p. 34 that "Pour nous (...) le problème linguistique est avant tout sémiologique" and *Cours de linguistique générale* includes a section titled "Mutabilité" (pp. 108–113) in which he discusses "un déplacement du rapport entre le signifié et le signifiant," the two sides of his notion of "linguistic symbol." While he emphasizes the need to distinguish synchrony from diachrony and the social from the psychological/individual aspects of language, he is apologetic about not elaborating on semantics (mentioned in a footnote on page 33). He also holds no discourse against Michel Bréal, who had coined the term *sémantique* (1897), and whose preoccupation was lexical semantic change. Structuralists remained faithful to this denotational definition of *semantics*; in fact, they invented semantic "field theory," which focused on how words fit together in particular semantic domains and how they differ from each other within the domain. We would of course wait until the birth of ethnosemantics and componential analysis in the 1960s to analyze meaning on the model of distinctive-feature analysis in phonology.

It seems to me that Mühlhäusler built a straw man in this part of his exposé. This is followed by another questionable citation:

As Nettle (1998) has shown, the diversity of endemic languages is directly correlated to the diversity of endemic species, and, more generally ecological diversity (346–347).

This claim has been repeated several times over the past decade and a half in the literature on language endangerment. I will share with *JPCL's* readers what I learned while writing a review article on *Language and poverty* (ed. by Wayne Harbert, 2008):

Moore and colleagues (2002), however, point out that the correlation is only partial. First, it depends on the particular kinds of biological species one focuses on. Second, focusing on vertebrates, there is no such match in the Central African plateau region, where there is less linguistic richness, perhaps as a consequence of diseases (due to the tsetse fly in the present case) affecting the indigenous populations. Moreover, one should not overlook population movements and the ways that they have affected biological diversity in the host habitat (Mufwene 2010:913–914).

Because mankind depends on the geographically-variable physical ecology including animals and plants for their survival, their actions on it have often eroded the often claimed correlation between linguistic and biological diversities. Consistent with some of my remarks below, I think it would be unreasonable to advise populations evolving in particular natural habitats against using wisely the resources these provide them for their survival. However, but running out of resources because the population has grown beyond what the fauna and flora of the geographic ecology can sustain is not the same as “mismanaging the environment.”

Let's now turn to the central question of Mühlhäusler's article, viz., whether creoles' and pidgins' vocabularies are inadequate and do not help them “make sense of (...) their natural environments.” I would like to know what the standard is for measuring the lexical adequacy of a language. Is it assessed relative to whatever there is in the physical environment that a linguist would like to find a term for? Or is it assessed relative to what (potential) resources in the environment have retained its speakers' interest, because they are or may be relevant to their day-to-day existence? Is this question different from that of whether a language has a vocabulary that matches word for word and concept for concept that of another language? If not, the assumption would be anti-Whorfian, just the opposite of what Mühlhäusler appears to subscribe to! Or should a creole match the communicative capacity of whatever languages it evolved from and/or of the indigenous and non-indigenous languages it replaced? Or should it simply be able to satisfy the communicative needs of its speakers?

What culture should a language reflect, a static one that captures and is frozen in the history of the language community or rather what is constantly being (re)shaped by its speakers as they respond adaptively to their changing ecologies (Mufwene 2001), especially from the point of view of the vocabulary? We cannot of course ignore the fundamental question of whether culture is static, frozen in language like paintings in a museum, or whether it is dynamic and is thus an emergent phenomenon (consistent with complexity/emergence theory!) whose past stages are interesting to the cultural and linguistic historian. These and other related ones are questions that I think an ecolinguist should be prepared to answer before suggesting that some creoles or pidgins spoken in settings where they

emerged are inadequate for their speakers' communicative needs, for managing their environments, and for their adaptation to the latter. These are different questions from that of whether or not speakers of these language varieties are doing nothing to adapt them to their new communicative needs.

I admit that the lexicon of the heritage language of a transplanted population may be inadequate for communication about the host environment (348–349). However, is it likewise true that the new language variety (creole or pidgin) which has emerged locally in response to the contact ecology is *ipso facto* ill-suited for communication about the co-emergent contact-based culture, which includes ways of interacting with the host physical environment (including its fauna and flora? Are there communicative needs that even an incipient pidgin used only for occasional trade does not meet, when indeed all the relevant culture applies in this case only to trade-related interactions? Isn't the fact that an incipient pidgin can be adapted, with a richer vocabulary and some structural complexification, to become an expanded pidgin and thus a vernacular an indication that it is adequate enough to serve more communicative needs than in a trade setting? Are there any populations on earth that have kept languages that are inadequate for their vernacular communicative needs and have not either abandoned them or modified them to meet their needs? Or is the culture that matters independent of the communication domains in which the related creole or pidgin is used?

The emergence of creoles in itself appears to illustrate language shift under ecological conditions where a heritage language no longer meets its speakers' communicative needs, because it would be societally more restrictive or less gregarious. Thus, it is not just a matter of denotational adequacy; it's also a question of societal suitability or convenience, what an ecolinguist should remember. Or is the situation for creoles and pidgins anywhere different from other languages? Even if one agrees with Mühlhäusler that creoles evolved from antecedent pidgins, one would also have to be consistent with what has typically been associated with this view, viz., that the transition to creoles would have been abrupt. One of the reasons is the cognitive ecological pressures the relevant population must have felt to communicate about what matters in the physical environment of fauna and flora, not just the social one. Otherwise, the emergent societies could hardly have survived.

Surprisingly, Mühlhäusler then asserts:

I concluded that it takes several generations, probably around three hundred years, for the linguistic resources of a transplanted group to develop a language capable of dealing adequately with the majority of their new environment and conditions, and that in the meantime, there can be massive environmental deterioration (349).

He claims that this is about how long it took Jamaican Creole to develop an adequate vocabulary for communication about the local physical environment, overlooking of course the fact that the contact history and socioeconomic ecology that produced Jamaican Creole are not identical with those that produced Pitkern. I find the above claim quite question-begging for an analysis that claims to be ecolinguistic and therefore raises normally the expectation that the specific ecology of the emergence of a language variety influences how its systems evolve. Perhaps Mühlhäusler would prefer to stipulate this kind of inquiry as secondary in his study of creoles? In any case, I would love to see the comparative and/or historical information that supports this apparent speculation about how long it took Jamaican Creole to develop an allegedly more adequate lexicon for communication about the natural environment of its speakers.

At least some summary of the relevant comparative history could have been included in the article, alongside evidence from some early creole texts, to support his claim. He suggests strongly that in most creole communities, people have been incapable of interacting adequately with their environments because they have not developed an adequate vocabulary. I would think instead that, as the relevant speakers got to know and use particular resources in their new environment, they would name them and the activities in which they would use them, as well as the different states/conditions that are relevant to their consumption and therefore worth communicating about. This is what appears to have always been the case in the history of “Homo loquens.” I return to this point below.

Evidently, things depend in part here also on Mühlhäusler's assumption that, at the earliest stages of settlement colonization, communication among the slaves was only in pidgin (as noted above), which suggests that it must have been minimal for at least one human generation, and that, according to Mühlhäusler's version of this position, it complexified gradually to become increasingly more adequate lexically, over “around three hundred years.” Speakers of Jamaican Creole, for instance, would have waited for centuries before developing an adequate vocabulary for adaptive interactions with their ecology. Again, as noted above, this scenario raises the question of how the exogenous population managed to survive for so long, until the vocabulary which is alleged to “make sense of (...) their natural environments” finally emerged. Does the relevant colonial history suggest this scenario at all? Where are the relevant independent references that inform his conclusion?

Mühlhäusler also repeats “McWhorter's claim (2000:86) that tonogenesis is developmentally late and typical of old languages” (351). If languages such as Kikongo-Kituba (which is probably just a century old) count as creoles, then the statement is inaccurate, because Kituba still has tones, though they coexist with a pitch-accent system. Lingala is fully tonal and Papiamentu has tones too. Whether

or not Jamaican Creole has tones lies in the eyes of the beholder; as different linguists have claimed different things about it. In any case, it is noteworthy, from an ecological perspective, that the European lexifiers of creoles associated with plantation settlement colonies are tone-less. For the relevant creoles not to have tones is thus as normal as for them not to have noun classes, which their lexifiers lack too. It is therefore more critical to explain how Papiamentu developed tones, unlike other Atlantic creoles. The fact that it did not develop in a plantation setting is irrelevant, unless Caboverdiano, which did not either, also has tones. This an important ecological question that an ecolinguist cannot overlook... unless of course he shows no interest in how the new language varieties emerged and what particular ecological factors bore on these specific evolutions.

Then comes the following statement:

My own longitudinal study of the development of word formation in Tok Pisin from stable Pidgin to Creole suggests that word formation was not particularly intense or productive even in creolised varieties (351).

Doesn't it matter at all that Tok Pisin resorted to compounding or another concatenating word-formation strategy to express new concepts? Is its lexicon putatively inadequate simply because it did not resort primarily to derivations?

On p. 352, Mühlhäusler observes:

surprisingly relatively little environmental lexicon is contributed by substratum languages and, in the absence of full access to the superstrate language internal devices, are used to develop new names.³ This process is slow and a mismatch between lexical resources and the complexity of the natural environment in which Creoles are spoken, persists for extended periods of time.

As a matter of fact, from an ecological perspective, why should substrate languages be expected to contribute more of the relevant words when speakers of these heritage languages were actually giving them up for the colonial vernaculars and doing their best to adapt in learning their vocabularies, with or without modifications? One would have to be an extreme substratist to expect otherwise! Animal tales in creoles, such as Gullah, often show adaptations of their presumably substrate contents to the local ecology. The strong animal is no longer the lion or leopard but the wolf, though there are still tales about the monkey as a protagonist.

In any case, as is rightly suggested by Mühlhäusler himself, we cannot ignore the fact that substrate languages have contributed some terms, however minimally,

3. I think the second comma should be repositioned mentally by the reader, in order for the second part of the first sentence to read more meaningfully as follows: "in the absence of full access to the superstrate language, internal devices are used to develop new names." This is the interpretation that I am critiquing.

when necessary. A number of Western Atlantic English creoles have words such as *gumbo* and *okra*, which are of African origin. As I also learned recently from Enoch Aboh (p.c., 26 August 2012), Saramaccan has retained the Gungbe/Fongbe term *degon* for 'shrimp', although English has one. I also learned from Michel DeGraff (p.c., 28 August 2012) that Gbe languages have exerted some influence on Haitian Creole's lexicon in the domain of Vodoun religion, which may be found in, for instance, Anglade (1998). All this shows that when something mattered to the population, they would name it with a word either from the lexifier (as I show below) or from another language, or they would coin a complex form from the extant lexicon (as illustrated with Tok Pisin in note 5). Nonetheless, we are still left with the following questions: How does one measure the alleged "mismatch between lexical resources and the complexity of the natural environment"? Is this a problem unique to creole language varieties?

And then follow a few pages intended to demonstrate the negative impact of Pitkern inadequate vocabulary on the fate of Pitcairn Island:

When comparing data of traditional indigenous languages with data of Creoles spoken in the same area (e.g. data of Torres Straits and Papuan languages and data of Torres Strait Broken or data of Tahitian with data of Pitkern) there appears to be a striking difference. Here are some examples: (352)

(...) Broken is spoken by the descendants of the original inhabitants of the Torres Straits (plus some groups of newcomers) and the spatial and cultural disruption found with other Creoles is less in evidence here. This can be seen, for instance, in the relatively large number of words referring to natural kinds originating in the local languages (Meriam Mir (MM) and Kalaw Lagaw Ya (KLY)) of the Islands (353).

(...) There is a clear trend towards English-derived names as the traditional diet is replaced by a mainstream Australian diet, particularly in the large towns of the Queensland mainland, where the majority of Torres Strait Islanders reside, a trend which is strengthened by the participation in mainstream education (354).

On the other hand, on Pitcairn Island, Pitkern is spoken

by the descendants of the mutineers of the *Bounty* (from the British Isles and St. Kitts) and their Tahitian consorts. (...) In this contact language the terms relating to interpersonal relations far outnumber names of non-human life forms.

(...)

The number of named plants on Pitcairn Island is around 150, with many endemic and native plants remaining unnamed. (...) Over time some new terms developed. English terms and locally developed names predominate and there is a much diminished cultural knowledge of the use of plants. Many plants that were named and culturally used in Tahiti were never named or used on Pitcairn (354).

(...)

When Pitkern has a word borrowed from Tahitian and where use is made of a plant, the range of uses tends to be much narrower than in Polynesia. The *tiplant* or *rauti* was used extensively in early years to distil a spirit but it was not used as fodder, eaten or for medicinal purposes (355).

These last comments remind me of Jamaican Creole, which, according to Mühlhäusler (see above), took “around three hundred years” to develop a more adequate lexicon, though I think the author’s comparative assessment is misguided. In Jamaican Creole, avocados are called *pears* [pya]; and *goat* [gwot] is also used for *lamb*. These are shifts and semantic extensions similar to those of the words *hound* and *hen* ‘female chicken’ also extended to other female birds in English. Should we think of them as inadequate lexical adaptations?

I am left to wonder what particular insights the ecolinguistic approach contributes to understanding the differential evolution of things here that any other approach, especially my EL approach, would not. Where the emergent language is spoken by a predominantly indigenous population that has not abandoned their cultural traditions, terms have been selected from the indigenous language to make up for gaps in the adopted and indigenized language. As the life style of the relevant population changes, owing to urban life and formal education, new terms are developed in the new, non-indigenous vernacular; and traditional, indigenous terms may be given up. Such phenomena have been observed in African languages as spoken in urban centers and/or by educated people and have nothing to do with lexical inadequacy. They are actually reminiscent of trends in, for instance, clothing fashions. One selects the clothing or word that is either more fashionable or more appropriate for the occasion, as basic ethnography tells us.

On the other hand, where the population speaking the emergent vernacular is exogenous and cultural traditions have been disrupted in favor on the emergent life style, either words from the new, local vernacular are used, or words from languages spoken by people transplanted from similar natural ecologies are used, albeit with modifications. On Pitcairn Island, even Tahitian women coming from a related physical ecology do not use terms from their heritage languages because there is no demand/use for them, as, according to Mühlhäusler himself, very little is used from the host natural environment. This situation triggers lexical attrition, as in the case of many other immigrants who evolve in host ecologies that do not motivate them to draw on their heritage knowledge and languages to adapt. Thus, none of these evolutionary patterns is apparently particular to creoles or pidgins.

The above observations demonstrate that the vocabulary alone does not help people “make sense of their (...) natural environment”; otherwise Tahitian women on Pitcairn Island would have certainly made good adaptive use of Tahitian words that apply. Thus, cultural practices determine whether terms from a heritage or the target language can be retained (with or without semantic shift), whether any

can be borrowed from an indigenous language, or whether any can be coined using strategies available in the emergent variety, as notably in Tok Pisin.⁴ All in all, knowledge of or familiarity with details of the environment, as well as relevance thereof to a population's life style, determine what can be found in the vocabulary, but the latter does not influence how speakers deal with nature.

Turning to Mauritius, Mühlhäusler observes that a relatively small number of terms for "biological lifeforms" are used as opposed to the larger vocabulary "denoting types of human qualities and human behaviours" (356). As described, this situation is reminiscent of that of Pitcairn Island, especially if one also considers the fact that both places were apparently uninhabited before they were colonized by the French in one case and the English in the other. In both cases, there was thus no indigenous language to borrow vocabulary from. In any case, Mühlhäusler remarks that in Mauritius "The lifeforms named are typically those that are currently used or impact cultural practice (e.g. pests or pets)" (356), which makes me wonder what is the special insight from the ecolinguistic approach that no other approach could capture. Or is the key issue the fact that there have been few studies of the lexicon in creolistics? Interestingly, what Mühlhäusler reports pales compared to Chaudenson's (1974) study of the vocabulary of Réunionnais, which is correlated with the changing life styles of the colonists and slaves throughout the development of the colony of Réunion.

Having read the above passages and more from Mühlhäusler's article, I still wonder how putatively more adequate vocabularies can help "sustain [Creole] speakers in their new environment[s]" (357) when it is relatively inhospitable (see below). Regarding the alleged "gap between the language and environment" (357), how do creoles compare with non-creole languages? Let's take English, for instance. Barring scientific vocabularies, is there a folk English term for everything noticeable in the British natural environment? Are there no particular plants to which the British populations have remained indifferent, because they may be irrelevant to their traditional life style? How can there be "loss of traditional ecological knowledge and the loss of those parts of the lexicon in which social knowledge is encoded" (357) in places such as Pitcairn and Mauritius where the current populations are exogenous and where current life styles are as emergent as the vernaculars they speak?

4. Indeed, this language variety provides the following useful examples: *gras* 'grass' or 'fur', *gras bilong ai* 'eyebrow, eyelash', *gras bilong pisin* 'feather' (*pisin* [< *pigeon*] 'bird'), *gras bilong sipsip* 'wool' (*sipsip* 'sheep'), *gras nogut* 'weed(s)', *maus gras* 'beard', and *gras bilong het* 'hair'; and *han* 'hand/arm', *han bilong pisin* 'wing', *han bilong siot* 'sleeve' (*Tok-Pisin.com* at <http://www.tok-pisin.com/>; 23 August 2012) The strategy is systemically and mnemonically economical, as well as transparent.

Mühlhäusler also brings to bear on the above topic an alleged “mismanagement” of the ecology of Pitcairn, which forced its residents to relocate to Norfolk Island. In the process, “English terms and locally developed names predominate and there is a much diminished cultural knowledge of the use of plants” (354). It is not clear to me that the alleged lexical inadequacy of Pitkern is responsible for the mismanagement, or how the adoption of “English and locally developed names” in an English creole contribute to “a much diminished cultural knowledge of the use of plants.” Are we being encouraged to subscribe to the 19th-century ideology of linguistic purity which had the consequence of marginalizing creoles and pidgins as evolutionary anomalies?

Incidentally, Jared Diamond (Diamond 2005: 120–135), to which Mühlhäusler refers the reader for an explanation of the “ecological disaster” on Pitcairn Island, provides an account that does not factor language in and actually downplays the agency of the relevant populations in such cases. According to Diamond, Pitcairn Island, which had been uninhabited, was not ecologically fit to sustain in the long term the population that the British colonizers dumped there, so to speak, especially as the population grew larger. The limited resources, which could not be reproduced (such as by farming), were ultimately depleted, for natural reasons independent of the residents (despite what the book’s subtitle suggests!). The size of arable land was too small for the population that was growing much too big for the Island to sustain and fishing was not rewarding, owing to lack of a reef on the coast line. Apparently the Island had been abandoned at least centuries earlier by Polynesians, if they did not die, for the same reason of limited natural resources. There appears to be nothing in this sad history that a more adequate lexicon could have contributed to help the residents adapt to their inhospitable environment.⁵

I am not sure how relevant the topic of the (in)adequacy of creoles’ lexica is to the subject matter of language endangerment, but Mühlhäusler also claims that “many Pidgins and Creoles have become highly endangered languages as has been documented by Ehrhart & Mühlhäusler (2007),” owing to “their marginal social position and the pressure from the superstrate, small speaker numbers, migration, and social mobility” (357). What this ecolinguist does not point out is that a

5. In an another informative chapter on ecologically-grounded comparative history focused on Haiti, the Dominican Republic, Easter Island, and other, neighboring islands of the Pacific, Diamond (2010), shows how nature can be unfair in providing a better climate, more resources, more rain (which can quickly replenish deforested land), and more favorable winds (which would not deplete arable soil) to some parts of the world than to others. In many cases, the affected populations are more the victims of nature’s injustices than the agents of the disasters, though they could have learned to better manage the wrong decks of cards that nature had dealt them. Language can of course help share the relevant knowledge to do this but the relevant terminology is not anterior to the production of this knowledge.

number of the dead or dying creoles have simply been displaced by another creole, as in the case of Skepi Dutch (which he cites) and Berbice Dutch both replaced by Guyanese Creole, and the French creoles of Trinidad and Dominica being driven to extinction by the local English creoles. In connection to this, note that even the East Indian contract laborers who were brought to Trinidad and Guyana in the 19th century lost their heritage languages to the local creole vernaculars, not to the superstrate language. In the case of Kristang, Mekanese, and Negerhollands (all cited by the author), I think that the fact of being a small and economically weak population surrounded by a dominant majority population speaking an indigenous or just another important vernacular exerts an assimilation pressure that is hard to resist.

This evolution is reminiscent of that of most European immigrants' languages that were brought to Anglophone North America and to Australia. In the case of creoles, Gullah has survived to date because the socioeconomic isolation of its speakers has not ended, contrary to their former geographical isolation. Unlike, for instance, their European American counterparts on Ocracoke Island, North Carolina, African American Sea Islanders, often identified derisively as "Geechees," are not socially integrated with the more affluent in-migrants from the mainland. Thus the former are losing their "Hoi Toide" brogue, while Gullah in coastal South Carolina and Georgia shows striking resilience, despite predictions to the contrary since the late 19th century (Mufwene 1991, 1997).

The alleged "pressure from the superstrate," traditionally associated with decreolization, is as disputable as claiming that all nonstandard varieties of languages with prestigious standard sociolects are endangered by the latter. The latter part of the claim is certainly not true of English nonstandard dialects, though it appears to be true of nonstandard French varieties in the perhaps unusual history of the spread of Parisian French at the expense of other varieties since the 18th century (and more so in the early 20th century!), with the help of the school system and other academic and administrative institutions (Pochard 2007, Nadeau & Barlow 2011).

Such differential evolution calls for a more adequate ecological account than suggested by Mühlhäusler. Regarding creoles, his claim is disputed by several creoles, including not only Gullah (Mufwene 1994) but also Jamaican Creole (Lalla & D'Costa 1990), Haitian Creole, and even those of Guadeloupe and Martinique. In the case of Jamaica and perhaps the rest of the Anglophone Caribbean, the popularity of Reggae music and Rastafarian life style and their association with grass-roots cultural values, in a climate of economic disenfranchising by a small elite benefiting almost alone from the political decolonization of the territories, have contributed to the vitality of creoles. These vernaculars serve as unifying identity markers in the struggle of the economically and politically disenfranchised.

In the case of Guadeloupéen and Martiniquais, worth noting is the fact that Créole becomes an identity marker for natives of these islands in metropolitan France, especially when they are treated as second-rank citizens, as many metropolitan French don't even know that Guadeloupéens and Martiniquais are also French citizens. In Guadeloupe and Martinique, being able to speak Créole can thus become indexical of not being a "Métropolitain," i.e. a White from Hexagonal France, unlike the local *Beké* ('White Créole'). Although many parents on these islands prefer speaking to their children in French, the latter acquire it nonetheless, outside home, from the older ones, especially during their teenage years. Besides, some of the same parents scold their children in Créole, which is their "soul language," and they use it to communicate casually with each other, even within earshot of their children. In the same vein, Nigerian Pidgin English has long functioned as the national language of Nigeria to many Nigerians abroad and is also very much invested in its popular culture.

All these ecological factors have contributed in different ways to the vitality of the relevant creoles and pidgins. One can even list more counter-evidence to Mühlhäusler's claim if one includes contact varieties such as Kituba, Lingala, and Sango, which have not been lexified by European languages in the category of "creoles and pidgins." I am not well placed to verify his claims regarding contact varieties of the Pacific, but I think one must be cautious about some generalizations, because the political and economic ecologies of the different "creoles and pidgins" are not the same around the world. In some cases, just the sentiment of being taken advantage of by political rulers and harboring distrust toward the ruling class fosters more attachment to the lower-status language. For instance, in Kinshasa, the capital of the Democratic Republic of Congo, an educated person that does not speak Lingala and is therefore presumed not to participate in urban popular culture is considered as an educated *muvila* 'villager'. As a matter of fact, pride in this urban vernacular, the sign of modernity, has been eroding the prestige of French in purely social domains, especially as this colonial language is associated no longer as much with (hope for) economic affluence as with arrogant abuse of political power and economic exploitation, among other bad things. So, I suppose ecolinguistics can be more informative than Mühlhäusler's article makes it to be.

It is not obvious to me how an ecolinguistic approach to creoles and pidgins is more appropriate than other approaches. Although I have no doubt that it can contribute to a better understanding of the connection between a language and its environment, I doubt that an adequate application of the EL approach does not do the same thing, as I hope my counter-arguments have shown. I conclude with a stronger reservation about Mühlhäusler's claim that "you can only know what you have language for" (359), preferring the alternative that you can express linguistically only part of what you know or can conceptualize. Speakers know much

more than they can verbalize, as they are often groping for the (right) words to express their ideas. The “principal function(...) [of a language] is [not] to enable [its] speakers to make sense of their (...) environment,” it is to share knowledge about what matters to the population of speakers, including their feelings. And I believe this is the only yardstick, arguably a variable one, which matters in measuring the adequacy of the vocabulary of a language. The lexica of creoles and pidgins are generally adequate for the communicative functions they serve. They are certainly not particularly responsible for the collapse of the physical ecologies of some islands such as Pitcairn.

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