

Transfer, Continuity, Relexification and the Bioprogram - What the substratist / universalist debate in creolistics implies for modern theories of language acquisition

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1. Introduction¹

In the conventional wisdom, children are supposed to derive rules by processing input (with or without the help of some specific language-learning device); in this way, they arrive at a rule system similar to, if not identical with, that of their elders. If this were all children could do, then they would simply learn the pidgin, and there would be no significant gap between the generations. In Hawaii, at least, we have empirical proof that this did not happen – that the first creole generation produced rules for which there was no evidence in the previous generation's speech.

Bickerton (1981: 6)

While we accept with Bickerton that pioneering Creole-speakers necessarily drew on the bioprogram, rather than substrata, for rules to make an adequate language from pidgin, once a creole had begun to jell (and thereafter) and was available as a target language to new slave immigrants, there was the potential for features of the languages of such slaves to be incorporated into that creole.

Baker & Corne (1986: 169)

[...]the creators of a creole language, adult native speakers of the substratum languages, use the properties of their native lexicons, the parametric values and semantic interpretation rules of their native grammars in creating the creole. Creole lexical entries are mainly created by the process of Relexification.

Lefebvre (1998: 9)

Since Chomsky's introduction of notions such as *Universal Grammar (UG)*, *Principles and Parameters*, *Language Acquisition Device* and *Language Faculty* linguists' interest has experienced a huge shift towards language acquisition research. Children find themselves in the centre of linguistic interest and they have been claimed to have parts of language innately encoded in their brains.

But even after 40 years of linguistic research these notions mentioned above remain rather vague. Nobody has ever touched, seen or smelt this strange but important thing called UG, still it persists in quite a number of linguistic theories. Not only language acquisition theory has discussed the presence of UG, but also syntacticians as well as members of the other linguistic disciplines focused more and more on this innate entity. This also applies to creole genesis research. The introduction of UG had a serious impact on creolistics and

¹ I would like to thank M. Anissa Strommer, Natascha Müller, Craig Volker and Séamas Ó Fearghail for fruitful discussion, help, and hints. I would also like to dedicate this paper to the Unserdeutsch-speaking community. Unfortunately there has not been much research on this unique creole (apart from Volker's pioneering work). All of the Unserdeutsch examples were taken from Volker (1989, 1991). However, any shortcomings in the interpretation of these examples are my own.

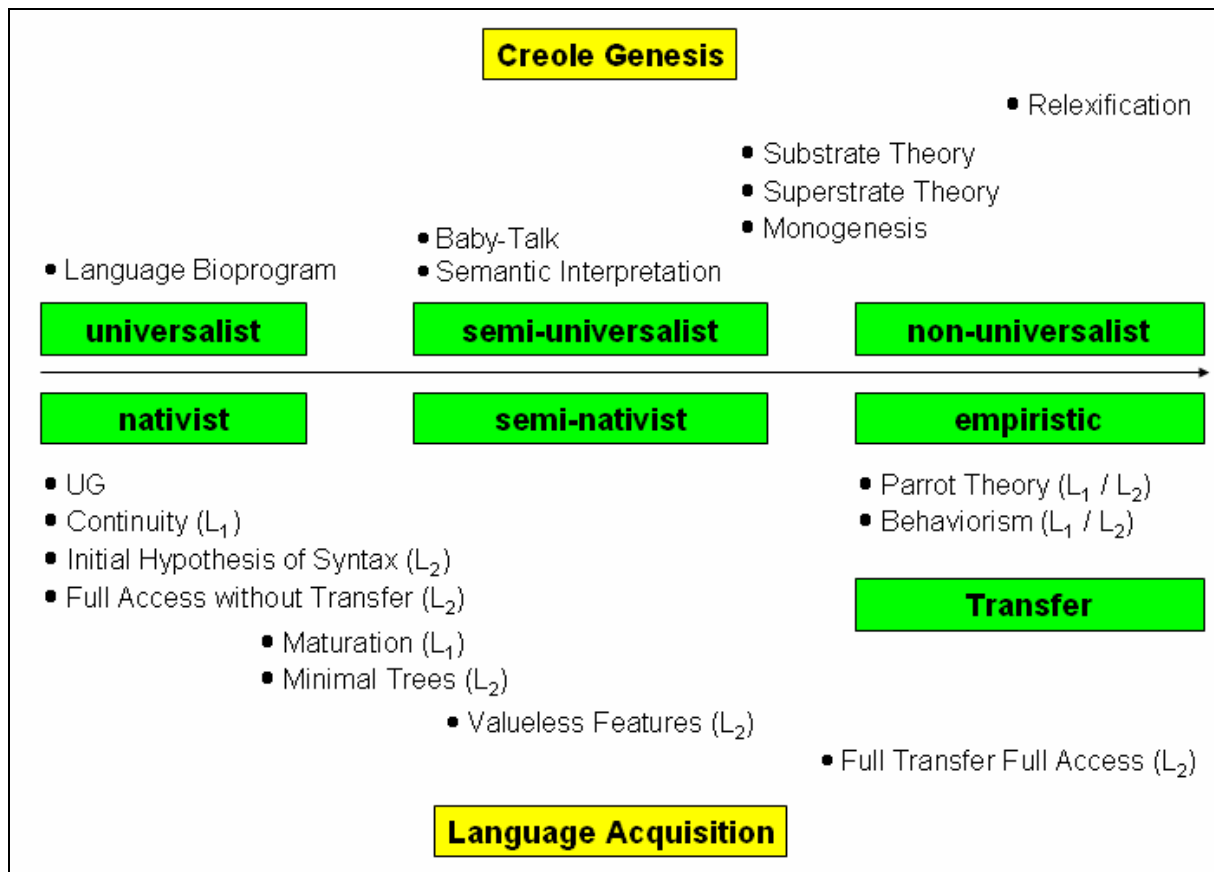
especially with Bickerton's introduction of the *Language Bioprogram Hypothesis* linguists tried to find parallels between language acquisition and creole genesis.

However, science can not develop with only one theory which is axiomatically assumed. Therefore there have also been other attempts to explain how creole genesis can be accounted for. One modern and important opposing theory to the LBH is the Substratist approach which assumes that language does not have its origin in UG but in the substrate languages involved in the creolization process. With this assumption the role of UG gets very blurry and one might wonder if in this case an innate language capacity is needed at all.

Yet such a radical approach has never been proposed. UG itself was never denied by Substratists but its influence was limited so that UG was more or less only expected to constrain language genesis in general, not to directly reflect innate linguistic structures. However, if one compares the two theoretical poles in creole genesis which are the LBH and Relexification (an extreme form of Substratism) one immediately realizes that there is strong friction between these poles as far as UG is concerned. This friction also has serious implications for language acquisition theory. For linguists children acquiring their first language are geniuses since the learning of such a complex system like a natural language should in theory be everything else but easy. Language acquisition is assumed to be only possible because of the existence, constraining mechanisms and direct structural reflections of UG as well as the *tabula rasa* effect which allows children to learn many things easier and faster than adults. However, while children are assumed to be geniuses in language acquisition research, in the Relexification approach of creole genesis it is adults who are assumed to be the driving forces behind creole genesis. Since the acquisition of language has been shown to become more difficult with the years language acquisition research should doubt that adults who have lesser linguistic capabilities as far as language learning is concerned should be able to take this highly complicated step: creating a creole (hence a natural language) out of a highly irregular and deficient pidgin.

Figure 1 below gives you an overview of the theoretical situation. The diagram shows the different approaches to creole genesis and language acquisition. These approaches are ordered by their degree of Universalism and Nativism. This means that on the left we find theories which assume that there are parts of grammar directly encoded in our genes or in a Bioprogram. The more we go the right side the less universal it becomes; semi-nativist / semi-universalist theories do not neglect the possibility that there are linguistic features biologically stored, but they also state that structure is also created with time. Theories to the right, on the other hand, tend to rule out the idea of linguistic structure which is innate to humans. However, language may be constrained by Universal Grammar in these frameworks. Language acquisition is a mere transfer or copying of features from the source language (a pidgin, a substrate or children's environmental input).

Note that there is a predominance of theories of creole genesis in the semi-Universalist and non-Universalist area while theories of language acquisition dominate in the field of Universalism / Nativism.



**Figure 1: Different theories of creole genesis and language acquisition
and their degree of Universalism / Nativism**

The main aim of these pages is to shed more light on the friction points between theories of creole genesis and both L_1 and L_2 acquisition. The discussion will also yield some positive 'fallout' which could, again assuming that the approaches taken in this paper are correct, be regarded as direct evidence against or in favour of theories of language acquisition. However, this is not the primary motivation of this paper but it may give new insights into both creole genesis and language acquisition research.

This paper will start with giving you short definitions about the theories we will be talking about: theories of creole genesis and theories of both L_1 and L_2 acquisition. Since creolists do not always have full insight into language acquisition research (and vice versa) each theory will be briefly introduced in section 2.2 and 2.3. A short definition of pidgins and creoles will also be provided. Section 3 will focus on the friction points mentioned above. These shall be exemplified by looking at linguistic data from both language acquisition research as well as creole languages, especially Unserdeutsch² (Rabaul Creole German).

2. Definitions

2.1 Pidgin and creole languages

Pidgin languages are "mixed languages" which develop in situations where communication is needed but not possible because of the unintelligibility of each participating

² Literally 'our German'

language. These languages primarily developed during the colonization of Africa and other areas overseas by European colonizers. The linguistic contact between the colonizers and the African slaves was always difficult at the beginning since two different and unintelligible linguistic systems were being confronted: the languages of the dominant colonizers (the *superstrates*) and the languages of the slaves and indigenous population (the *substrates*). To enable at least a rudimentary form of communication speakers of the superstrate and the substrate had to reduce the phonological, morphological and syntactic complexity of their speech. As a consequence a mixed variety developed which at least allowed the transmission of simple information (such as orders to the slaves).

The fascinating thing about pidgin languages is their rapid development. This makes the study of pidgin languages so interesting for linguists. While standard languages like English or French only show relatively few and minor diachronic changes (such as case syncretism) over the years one can observe a developmental boom with pidgins. Once a pidgin has established as a medium of conversation it starts accommodating its structure for the increasing needs of the pidgin-speaking community. Especially syntax and the lexicon develop further on the basis of the two languages involved in the pidginization process. During this process it can be observed that the grammatical basis of the pidgin tends to depend on the substrate while the lexemes (which are normally phonologically and morphologically reduced) are derived from the superstrate lexicon. Therefore the notion "mixed language" is not really appropriate. If we presume such a mixture then we would expect that both source languages be equally involved in the pidginization process, i.e. they are to equal parts responsible for both the lexicon and the grammatical structure, but this is not the case.

With time passing by the newly created contact language develops more and more to a code which is capable of encoding more complex thoughts. But not only the language changes, their speakers also change. New generations of children were born in the colonies who, as a result, acquired the pidgin as their mother tongue. The resulting problem lies at hand: these children were acquiring an incomplete and, compared to standard languages, not fully developed linguistic system. However, no linguist will deny that small children are everything else but helpless as far as language acquisition is concerned. Rather the opposite seems to be the case: small children seem to recognize the incompleteness of their linguistic input and very soon they start elaborating their mother tongue (the pidgin). There are different theories which try to account for this phenomenon; a brief overview shall be given in the following section.

It seems impossible that a child with a pidgin language as primary input still speaks a language with all the deficiencies mentioned above as an adult. It is simply not sufficient for speakers of a language to be able to utter semantically obvious and simple structured phrases. Since we also want to express feelings, thoughts or even poetry our language demands complex structures. At this point a second developmental boom is initiated. With the first child acquiring a pidgin language as mother tongue the pidgin starts developing into a *creole* (< spn. *criollo* 'European born and raised in a colony').³

The development does not stop with the first generation in the creolization process; the language continues developing exactly as standard languages do – the only difference being a more rapid development in the initial stages. Therefore creoles must be regarded natural languages just as English or French, the only difference being their special history and initial speed of development.

³ As we will also see it is not always children who are assumed to be creolizers. Relexification theory for example claims that it is adult who are the driving forces behind the creolization process.

2.2 Theories of creole genesis

Any theory of creole genesis must account for the properties of these languages. Therefore [...] an optimal theory of creole genesis must account for the fact that creole languages emerge in multilingual contexts where there is a need for a lingua franca and where the speakers of the substratum languages have little access to the superstratum language [...] It must also account for the fact that creole languages manifest properties of both their superstratum and substratum languages and explain why these properties are divided as they are.

Lefebvre (1998: 4)

Only few linguistic theories are still undisputed, even after centuries of linguistic research. The case of creole genesis is not an exception. Especially with Bickerton's introduction of his *Language Bioprogram Hypothesis* a quarrel arose between Bickerton and the Universalists on the one side and creolists working in the Substrate / Relexification tradition on the other. While Universalists claim that creole structures are direct reflections of an innate human *language capacity* (defined by Chomsky 1981, 1984), Substratists point out that the influence of the substrate languages involved in creole genesis can never be denied and plays the major role in creolization, thus also implying the importance of the history of both the substrate and superstrate. Some creolists find themselves between the fronts, trying to find an alternative approach to the problem of creole genesis. However, the Universalist / Relexificationist scale in **Figure 1** can also be regarded as a continuum with different theories overlapping each other. Therefore theory A does not always necessarily rule out theory B and vice versa.

The intention of this paper is to show that there is strong friction between theories of creole genesis and theories of both L₁ and L₂ acquisition. Since creolists are rarely language acquisition researchers (and vice versa) I would like to give a brief summary of modern theories of creole genesis and language acquisition so that the following discussion of these points of friction will become more transparent.

2.2.1 Universalist (Nativist) theories

2.2.1.1 The Language Bioprogram Hypothesis (LBH)

The *Language Bioprogram Hypothesis* (henceforth LBH) arose in the tradition of Chomsky's model of *Universal Grammar* (henceforth UG), both stressing the need for an innate human language capacity:

The LBH (Language Bio-program Hypothesis) claims that the innovative aspects of creole grammar are inventions on the part of the first generation of children who have a pidgin as their linguistic input, rather than features transmitted from preexisting languages. The LBH claims, further, that such inventions show a degree of similarity, across the wide variations in linguistic background, that is too great to be attributed to chance. Finally, the LBH claims that the most cogent explanation of this similarity is that it derives from the structure of species-specific program for language, genetically coded and expressed, in ways still largely mysterious, in the structures and modes of operation of the human brain.

Bickerton (1984: 173)

However, according to Bickerton it need not necessarily be the case that the LBH always comes into play when substrates and superstrates collide. There are cases of very stable pidgins such as Fanakalo (South Africa) which seem to be sufficient for everyday communication, thus making a creolization process an optional continuation of language development in these special cases.

Chomsky's model of *Principles and Parameters* is also referred to by Bickerton. Once a child is being exposed to a pidgin language as his mother tongue it more or less immediately realizes that it is being confronted with impoverished input. This deficient input is not due to bad performance of his parents or social environment but due to the incompleteness of the language itself. Being equipped with a set of innate principles and parameters the child sets all parameters to a default value, i.e. a maximally unmarked state, and then re-evaluates its input, thereby transforming the pidgin into a creole. These defaults children assume are e.g.

- a) all sentences are tensed
- b) all maximal projections and Vs can be focused
- c) the focused V must leave a copy at the extraction site
- d) all movement is cyclic COMP-to-COMP

If a parameter gets marked by the child, then, according to Bickerton, this is due to the superstrate language. Unmarked features like the ones listed above manifest what could be regarded as the "[...] *syntactical component of the 'protolanguage' which Bickerton has proposed as the source in early hominids for the more complex languages of the present day.*" (McWhorter 1997: 8). If this were the case this would also imply that all features of creole languages would always have been and should always be predictable.

A subcomponent of the LBH which Tsuzaki (1971) called the "*pan-creolic type*" assumes a basic TAM-system which is underlying all creolization processes. In this system every creole tends towards the development of three TAM-particles: a temporal marker of the anterior, a mood marker for the irrealis and an aspectual durative marker. The order of these elements within a sentence is assumed to be fixed T-M-A.

The LBH has suffered from various attacks and counterevidence. Especially the "*substratomania*s" (Bickerton 1981: 48) found various proofs which should falsify the LBH. As far as grammatical aspects are concerned, Lefebvre (1998: 6) mentions the frequent reflection of substratum features in the creole languages as well as a rather strong variation among the creoles themselves. Koopman (1986: 255) mentions a problem with principle d) mentioned above. If we assume that all movement is cyclic from COMP to COMP, thus ruling out NP movement, why then can Bickerton claim that "[...] *all transitive verbs with agent subjects may appear as intransitive verbs with theme subjects.*" if this implies NP movement? Counterevidence was also found against the pan-creolic type. We will not go too far into detail here, for a detailed summary of arguments in favour of or against the pan-creolic type see e.g. Singler (1990) or Frowein (2005b).

Apart from grammatical aspects counterevidence against the LBH can also be given from a historical point of view. While the LBH assumes that children having a pidgin language as their mother tongue are in charge of the creolization process some historical aspects seem to contradict. As McWhorter points out the colonization of the new world happened under brutal circumstances. This led to a low birth rate among the slaves and thus to less children who could drive creolization forward. This indicates that the role of adult learners of the pidgin language is more important than Bickerton might want to confess; an approach which is also taken by Relexificationists (see section 2.2.3.1).

Bickerton was also criticized because of his methodology he developed the LBH with. Goodman (1985) argues that Bickerton cited language from elderly speakers of Haitian pidgin which should have been the linguistic predecessors of the upcoming creole language.

However, Goodman points out that the pidgin had already existed before these elderly people had arrived. This means the pidgin language which was investigated can not be the predecessor of today's Haitian Creole, hence making the LBH questionable.

Although I have presented quite a lot of facts which run contrary to the LBH, Bickerton's theory has not yet completely vanished. It is still a highly discussed issue and looking over current literature one gets the impression that this is not going to change in the nearer future. It can also be argued that the LBH (especially the pan-creolic type) as opposed to other theories of creole genesis is the strongest and the most far-reaching while other theories seem to be more careful with their assumptions (Relexification being an exception). One of the reasons why the LBH has never been filed completely may lie in modern theories of language acquisition which stress the importance of innate principles and parameters.

2.2.2 Semi-Universalist (semi-Nativist) theories

2.2.2.1 Baby-Talk

All atrocities performed on language derive from its inherent possessors in the same manner as child language depends on the speech of the wet nurse. Or to use another image: it is not the foreigners who break away single stones from a splendid, well-appointed edifice in order to construct meager huts, but the owners themselves who put them to such ends.

Schuchardt (1909), translated from German⁴

The notion *Baby-Talk* is used in both theories of creole genesis and theories of language acquisition. In the context of creole genesis it was first used by Schuchardt (1909). Bloomfield (1933) and Ferguson & DeBose (1977) also adapted to this theory. The Baby-Talk theory claims that creole languages are products of consciously simplified variants of the substrate and superstrate languages. The intention of this simplification is easier communication between speakers of the substrate and the superstrate.

Actually there are two separate Baby-Talk theories, defined by Rickford (1977: 487-491). *Baby-Talk I* assumes that the creole language is based on a simplified register of the speakers of the *substrate* language while *Baby-Talk II* presumes that the creole language is based on a simplified register of the *superstrate*. In both theories children acquiring this Baby-Talk variant as their mother tongue are assumed to be the creolizers.

Like the LBH this theory has its pros and cons. The main argument in favour of this theory is that it can nicely explain many common features of different "Baby-Talks" we find in first-language acquisition on the one side and simplified registers of language involved in pidginization and creolization processes on the other. The fact that there is some kind of a universal process happening when Baby-Talk is being used (e.g. use of morphologically simple word forms, omission of copula verbs, simple syntax etc.) therefore makes it both: a Universalist and a Substratist theory. On the one hand it is assumed that UG governs the structure of Baby-Talk while the surface code itself derives from the substrate language.

However, the arguments against the Baby-Talk hypothesis outnumber those in favour of it. One of the two main arguments focuses on creole features which cannot be a result of Baby-Talk, such as the preverbal TAM-markers mentioned in the pan-creolic type. Remember that these would rarely be found in Baby-Talk variants, let alone stable pidgins. Another argument points at the numerous structures between the creole languages and their

⁴ McWhorter (1997)

West-African substrates which are both similar and complex, but this only holds for Baby-Talk I.

This evidence makes the Baby-Talk theory not an optimal one. But nevertheless all creolists more or less agree that Baby-Talk is at least to a certain extent involved in pidginization and creolization processes.

2.2.2.2 Semantic Interpretation (Semantic Transparency)

The theory of *Semantic Interpretation* (or *Semantic Transparency*), henceforth SI, proposed by Langacker (1977), Seuren & Wekker (1986) among others surfaces as a mediant theory between Universalism and Substratism. According to this theory second language learners and learners of a pidgin or creole language tend to reanalyze highly marked and therefore intransparent structures of a language with the aim of simplifying them. Langacker regards SI as a strategy by which language learners try to create an

[...]ideal or optimal linguistic code [which] will be one in which every surface unit, typically a morpheme, will have associated with it a clear, salient, and reasonably consistent meaning or function and every semantic element in a sentence will be associated with a distinct and recognisable form.

Langacker (1977: 110)

This means SI assumes a mapping from semantic deep to syntactic surface structure, allowing creolizers to express themselves with least effort:

Intuitively speaking, Semantic Transparency can be seen as a property of surface structures enabling listeners to carry out semantic interpretation with the least possible machinery and with the least possible requirements regarding language learning.

Seuren & Wekker (1986: 64)

For the SI theory to work properly three rules have to be obeyed to as good as possible:

Uniformity

Language coding processes (i.e. creolization) are based on basic or *uniform strategies* of language, such as an SVO word order, lack of grammatical gender and regular inflection of verbs. Violations of all these three example principles can be observed frequently in languages like German or Dutch.

Universality

The rules and principles of language coding should be maximally language-universal and minimally language-specific. Features like a complex system of verb inflection are said to be non-universal (hence non-creolic).

Simplicity

The mental or cognitive cost for mapping semantics onto syntax and thus creating utterances must be as little as possible. Seuren & Wekker assume that this cost can never be zero because then one would have to think of some kind of a predicate calculus language which is simply unnatural.

It is very often difficult to find true counterevidence against theories which are hybrids between two other theories. One could think of psycholinguistic experiments which could verify this approach. This could indicate that Seuren & Wekker could have got very close to the real underlying concept of creole genesis.

2.2.3 Non-Universalist (non-Nativist) theories

2.2.3.1 The Substrate Hypothesis and Relexification

As mentioned earlier the *Substrate Hypothesis* (henceforth SH) is the opposite theory to the LBH and collisions of these two theories have been dominating creolistic theory ever since their introduction. The SH was first proposed by Adam (1883) and especially since the introduction of the LBH more and more creolists (e.g. Taylor (1971), Alleyne (1980)) also subscribed to this theory.

The SH claims that creole genesis is not a direct reflection of innate principles or innate parameters but is mostly due to the substrate language. In this framework it is argued that the substrate language is responsible for the grammar of the upcoming creole while the superstrate language fills the lexicon. Historical evidence for this idea can be seen in the fact that the African slaves somehow had to be able to combine the words of the colonizers. It seems plausible that the grammar of their mother tongues would have been the first choice in these cases.

A very extreme case of SH is proposed by Lefebvre (1986), her approach is called *Relexification*. Relexification theory assumes that the grammatical features of creoles solely depend on the substrate while the lexicon solely depends on the superstrate, thus ruling out UG as a provider of structure during the creolization process. Lefebvre exemplifies this with the case of Haitian Creole which she assumes to be a completely French-relexified version of its substrate Fongbe. In a more recent approach Lefebvre (1998) defines *dialect levelling* and *reanalysis* as additional necessary principles which are responsible for creole genesis in addition to Relexification itself. *Dialect levelling* is defined as

[...] reduction of variation between dialects of the same language [the superstrate] in situations where these dialects are brought together.

Lefebvre (1998: 46)

This idea is not new in theories of creole genesis, it was also proposed earlier by Mühlhäusler (1980), Mufwene (1990) and others.

Reanalysis has also been shown as a relevant factor in creolization and post-creolization processes (see e.g. Detges 2000, Eckkrammer 2001, Frowein 2005a). Reanalysis is defined as

[...] change in the structure of an expression or class of expressions that does not involve any immediate or intrinsic modification of its surface manifestation.

Langacker (1977: 59)

This means that unlike grammaticalization reanalysis does not change the surface representation of an utterance, only the function changes. A good example can be seen in the case of the agglutinated articles in French-based creoles:

French	Mau/SeyCr	RéuCr	LouCr	Hai/MarCr	other
<i>le chien</i> 'the dog'	<i>lisyê</i>	<i>syên</i>	<i>chyên</i>	<i>chên, chyên</i>	<i>chyên</i>
<i>la pluie</i> 'the rain'	<i>lapli</i>	<i>lapli</i>	<i>plwi, pli</i>	<i>lapli</i>	<i>lapli</i>
<i>du feu</i> 'the fire'	<i>dife</i>	<i>(di/də) fe</i>	<i>(di)fe</i>	<i>dife</i>	<i>dife</i>
<i>un âme</i> 'a soul'	<i>nam</i>		<i>nam, lam</i>	<i>nām</i>	<i>nām, nam</i>
<i>des / les affaires</i> 'the affaires'	<i>zafer</i>		<i>zafè</i>	<i>(z)afè</i>	<i>zafè</i>
<i>des / les oiseau</i> 'the birds'	<i>zozo, zwazo</i>	<i>zozo, zwazo</i>	<i>zozo, zwazo</i>	<i>zwazo, zwèzo</i>	

Table 1: Agglutination of the French article in French-based creoles (Stein 1984: 38)

In the examples given above the articles do not function as such anymore. They have become a semantically bleached part of the word without any morphological function.

<i>la pluie</i>	→	<i>lapli</i>
<i>the rain</i>		\emptyset rain

There have been many arguments both in favour of and against the SH and Relexification. Evidence has been found in different linguistic modules. The phonology of Atlantic creoles bears a lot of features which are also typical for many West-African substrate languages (e.g. prenasalized and co-articulated stops)⁵. Other similarities are also found in syntax. Both the Atlantic creoles and their west-African substrates show the syntactic phenomena of predicate clefting, adjectival verbs or serial verb constructions.

Counterevidence is given by the heterogeneity of the African languages themselves. Very often it is unclear why advocators of the SH had chosen a specific African language to prove their theories. According to Bickerton Substratists are obliged to prove that in order to show substrate influence of a specific language, history must show that there were people at the right place and to the right time in order to have had influence on the upcoming creole. This was indeed only rarely done by Substratists.

We mentioned that both the LBH and Relexification theory are very extreme cases of theories of creole genesis. Therefore the LBH was not the only theory which received quite a lot of criticism, Lefebvre has also been confronted with counterevidence and doubt. Many creolists note that there simply is no such 1:1 relation between substrate and creole structure which Relexification assumes; some counterevidence will be given in later sections of this paper. It also left unclear why it is the Fongbe language as the substrate which should be the driving force behind the creolization process. During the creolization phase speakers of Fongbe were vastly outnumbered by speakers of other languages⁶ which could also have had influence on the development of the creole.

⁵ Although there are obvious similarities between the Atlantic creoles and their west-African substrates the question arises why phonology is regarded as a linguistic structure which has to be transferred to the creole. Because the lexical part of the creole derives from the superstrate one could wonder why structural phonological features, which are linked more directly to the lexemes than morphological or syntactic features, are also transferred. My intuition is that this closer link could in theory also have the consequence of a creole phonology which is strongly influenced by the superstrate language.

⁶ which are nevertheless genetically related to Fongbe

2.2.3.2 The Superstratist Hypothesis

This hypothesis goes back to Faine (1936), Chaudenson (1979), and Fournier (1987) among others. Unlike the SH the *Superstratist Hypothesis* (henceforth SupH) claims that not only the lexicon depends on the superstrate, even the structure of the new creole is dependent on the dominant adstrate. It is also argued that creoles do not derive from the superstrate in general but from specific superstrate dialects. This means that substrate influence is to a large part denied. The SupH was very popular among creolists who focused on French-based creoles because it was argued that the creoles reflect a diachronic change of French dialects which were spoken by the sailors which were involved in the slave trade.

However, beyond the obvious lexical influence of the superstrate there is no direct evidence for this theory. As counterevidence creolists argued that there is no proof that specific superstrate dialects were predominant at this time. Despite this, there also is no such dialect which is able to explain all the phenomena the creole reveals. As an example, McWhorter shows that there are indeed cases where one could assume a dialectal transfer from French to Haitian Creole (1a) but there are no cases of copula deletion in French dialects as can be seen in certain constructions of Haitian Creole (1b) or cases of postposed adpositions in regional English dialects as in the English-based creole Saramaccan (1c).

- | | | | |
|-----|----|-----------------|---|
| (1) | a. | French dialect | <i>Il est après marcher.</i> |
| | | Haitian Creole | <i>L'ap mache.</i>
'He is going.' |
| | b. | Standard French | <i>Je *(suis) sous la table.</i> |
| | | Haitian Creole | <i>Mwen ø anba tab-la.</i>
'I am under the table.' |
| | c. | Saramaccan | <i>Mi de a wosu báka.</i> |
| | | English | <i>I am behind the house.</i> |

McWhorter (1997: 3)

Because of the counterevidence the SupH can be ruled out as the underlying concept of creole genesis although we will show in later sections that there are obvious cases of superstrate transfer in creoles like Unserdeutsch.

2.2.3.3 The Monogenesis Hypothesis

The *Monogenesis Hypothesis* (henceforth MH), as proposed by Whinnom (1956), Taylor (1956) and Thompson (1961) claims that all creole languages are descendants of a Portuguese-based proto pidgin language named Sabir. Sabir was assumed to be spread around the world by Portuguese traders between the 15th and 17th century. This means creoles derive from the same language, the only difference among them being that they were relexified by different superstrates and attributing the differences among creole grammars to chance or superstrate influence.

The MH has the advantage of explaining certain structural features which are common among creoles. Despite this, very often creole lexemes can be traced back to a Portuguese superstrate, such as *savvy* < *saber* 'to know' or *pikin* < *pequeno* 'child'.

Still some problems also arise with this theory, one being that the European superstrates are genetically closely related. Therefore one could assume that the reason for the structural similarities among creoles lies in the close genetic relation of the superstrates. In

addition, Rickford (1987) points out that the evidence suggests that the slaves who arrived on the plantation to the major part only spoke African languages, hence also questioning the existence of such a proto-pidgin.

2.2.4 Summary

What I did in the previous sections was giving an overview of the different approaches which try to explain the phenomenon of creole genesis. However, it was not my aim to criticize or evaluate these theories in detail but to give an impression of the importance of the substrate languages in modern theories of creole genesis. As we can see, Bickerton's LBH has suffered from the other approaches which are neglecting the direct reflection of UG in the creole. We should keep this in mind as an important finding as we proceed to different theories of language acquisition.

The classification of the different theories of creole genesis in Figure 1 is by no means meant to be a definite one. It was just meant to show that there is a continuum of theories which may overlap each other at certain points. Relexification does not mean that UG is completely denied and LBH does not mean that other languages may never have influence on an upcoming creole. Therefore one or another theory may also be more to the right or more to the left of this scale. Nevertheless I would like to point out that the gap between LBH and Substratists / Relexificationists is quite a big one.

2.3 Theories of language acquisition

2.3.1 Nativist (Universalist) theories

Since Chomsky's introduction of notions such as *Universal Grammar* or *Language Faculty* small children acquiring their first language were drawn into linguists' centre of interest.

Generative grammar [...] is concerned with those aspects of form and meaning that are determined by the *language faculty*, which is understood to be a particular component of the human mind. The nature of this faculty is the subject matter of a general theory of linguistic structure that aims to discover the framework of principles and elements common to attainable human languages; this theory is now often called *universal grammar* (UG) [...] UG may be regarded as a characterisation of the genetically determined language faculty. One may think of this faculty as a *language acquisition device*, an innate component of the human mind that yields a particular language through interaction with presented experience, a device that converts experience into a system of knowledge attained: knowledge of one or another language.

Chomsky (1986: 3)

In the more modern framework the UG approach was extended by introducing the Model of *Principles and Parameters* (henceforth PaP). This theory assumes a set of rules, functions, and processes (*principles*) which are needed to encode thought into language. In addition to this a set of *parameters* is assumed which, like the principles, is innate to human beings. We can imagine parameters as switches with two (in other theories there are even more, cf. Hyams 1989) values: *true* or *false*, *1* or *0*, *yes* or *no*, *A* or *B*. Every child is equipped with such a set from the very beginning (the *initial state*). It is assumed that initially, all parameters are set to a default and unmarked value, no matter in which linguistic environment

a child grows up. Acquiring a language means using the innate principles to analyze the linguistic input and setting the parameters to a value which makes up the language the child is learning via positive evidence (*triggers*). This also means that there are no two languages which share exactly the same parameter settings, each language is unique in this way.

While this Nativist approach was rarely criticized in its totality there have been various attempts to show that there are still some issues which need to be discussed. Verrips (1990: 12-13) points out two major problems with PaP. The first question which arises is why language acquisition takes time at all if all the child needs to do is to set certain parameters on the basis of simple evidence. PaP does also not explain why children acquiring different unrelated languages very often pass the same stages or sequences of language acquisition.

According to Verrips PaP is also not able to explain *why* children's grammars change from one state to another and *when* this change happens:

[...] two issues are at the heart of the developmental problem:

First, there is the issue of *change*: what makes the grammar of a child change in the course of time and which changes are possible? In other words, in the sequence $G_0, G_1, G_2, \dots, G_n$, what is the mechanism that leads from one grammar to the next?

Secondly, there is the issue of *sequence*: to what extent are these grammars formed in a specific sequence and why is this so? In other words, in the sequence $G_0, G_1, G_2, \dots, G_n$, what determines that G_1 appears before G_2 ?

It is clear that parameter theory as it stands gives no answers whatsoever to these questions, and in this sense it is entirely impossible to use it as a theory of language development. It can only be used as such when it is extended with an interpretation of the concepts in a framework that enables us to answer, explain and investigate the developmental issues.

Verrips (1990: 13)

The conclusion which Verrips draws points at another question which remains unsolved: are these innate principles (a vague entity in Verrips' approach as well as in any other theory of language acquisition) assessable from the very beginning or is access restricted to a certain level of cognitive development? The first idea is called *Continuity*, the latter is given the notion *Maturation* by language acquisition research. These two ideas shall be investigated in more detail in the following sections.

2.3.1.1 Continuity (L_1)

The proposals under the heading 'continuity' take as their basic assumption that Universal Grammar is available to the child from the earliest stages of language acquisition. The fact that child grammars differ from adult grammars is therefore not due to a difference in UG, but to a difference in another domain. Every grammar the child construes falls within the limits imposed by UG.

Verrips (1990: 14)

Continuity, an approach to L_1 acquisition, is a notion which combines two theories of language development: *Lexical Learning* (Clahsen 1989) and *Ordered Parameters* (Roeper & Weissenborn 1989). It comes with two important implications:

- a) the child's grammar does never violate UG
- b) the child's grammar is different from adult grammar (these differences lie outside of the influence domain of UG)

According to the theory of *Lexical Learning* language acquisition solely consists of the acquisition of lexical words and their features. Syntactic structures are inherent properties of the lexemes; in order to produce grammatical utterances all the child needs to do is bringing the lexemes into an order supported by UG. An interesting implication would therefore be that the lexicon determines syntax, not vice versa. It also follows that the order of the lexemes which are acquired is finally responsible for the developmental stages of language acquisition, an implication which seems rather dubious because it is left unclear what should determine the sequence of their acquisition. Therefore one may doubt that Lexical Learning can be a basis for language development and language acquisition.

Another theory which can be assigned to Continuity is the theory of *Ordered Parameters*, proposed by Roeper and Weissenborn (1989). The authors point out that the child is exposed to ambiguous input which could imply different settings of a specific parameter. As an example they refer to the 0-subject-parameter in Italian. Italian allows covert subjects but still there constructions which require the presence of such a subject. As a solution it is assumed that parameters are chained, with each parameter having an 'unmarked bias' for a series of subparameters. Setting the pro-drop parameter to the Italian value would for example imply an unmarked bias setting of the following parameters:

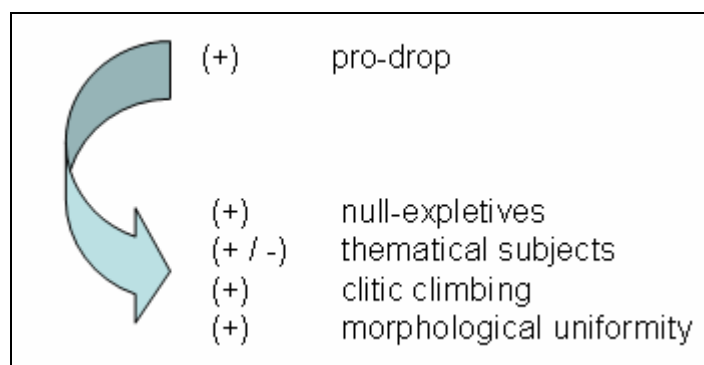


Figure 2: Chained and biased parameters in the Ordered Parameters model

However, there is not much evidence which shows that those kinds of chained sets of parameters do exist, neither for the pro-drop-parameter nor for other parameters.

Lexical Learning and Ordered Parameters both have defects, but still they do not indicate that Continuity must be completely ruled out as a possible explanation for language development. It should also be mentioned that there have been attempts to account for L₁ acquisition from a *strong* (e.g. Bottari, Cipriani & Chilosi 1993/1994) and *weak* (Radford 1988) Continuity point of view.

2.3.1.2 The Initial Hypothesis of Syntax (L₂)

The *Initial Hypothesis of Syntax* (henceforth IHS), an approach to L₂ acquisition, goes back to Platzack (1996). According to this theory both learners of L₁ and learners of L₂ have the same initial state which is UG. This means the learner starts with functional categories and parameters which are all set to a default or unmarked value. White assumes this unmarked value to be a *weak* value since overt movement, which is motivated by strong features, comes

with cognitive cost. On the basis of the L₂ input it is then up to the language learner to determine if a certain parameter has to be reset to *strong* (such a reset could for example be motivated by overt movement).

Although the IHS has not yet been further examined and criticized as far as the acquisition of L₂ is concerned, there is experimental evidence that falsifies the idea of having the parameters set to a default (weak) value at the initial state. White shows that French-speaking learners of English transfer the strong INFL-feature of French (which leads to raising of the verb out of the VP into INFL, see (2a)) into L₂, thus often showing verbs before adverbs (2b) and giving further evidence for transfer hypotheses of creole genesis:

- (2) a. [IP *Jean embrace_i souvent* [VP *t_i Marie*.]]
- b. * [IP *John kisses_i often* [VP *t_i Mary*.]]
- c. [IP *John often* [VP *kisses Marie*.]]

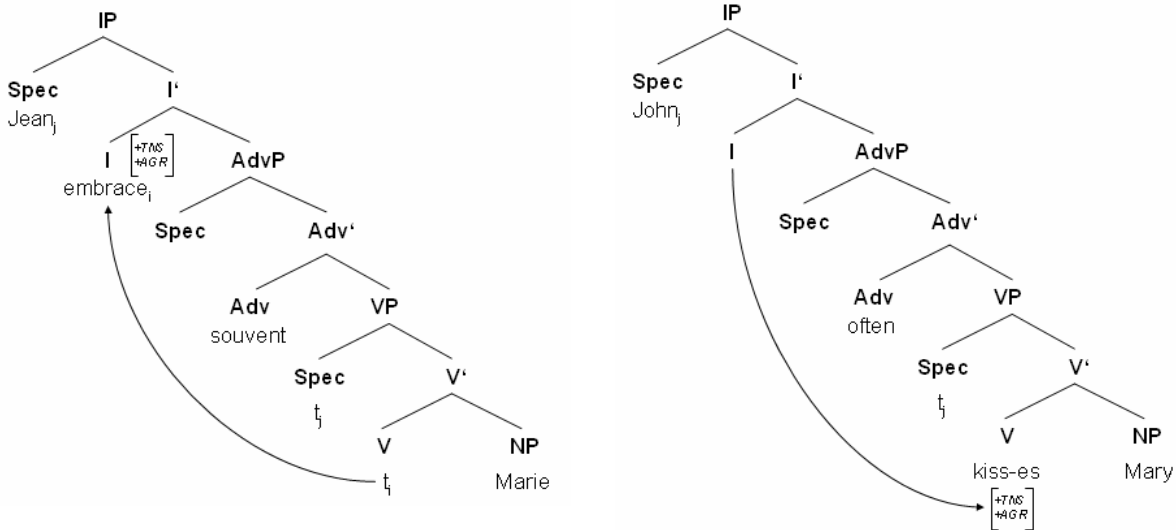


Figure 3: Verb raising in French (strong INFL) and Affix Lowering in English (weak INFL)

French-speaking learners of Chinese, on the other hand, seem to verify the IHS since the Chinese grammar is English-like as far as the feature strength of this parameter is concerned, and French-speaking learners of L₂ Chinese never raise the verb. Therefore further investigation within this framework is needed.

2.3.1.3 Full Access without Transfer (L₂)

Another theory of second language acquisition which is able to support the idea of having initial access to UG and L₁, called *Full Access without Transfer* (henceforth FAWT), was proposed by Flynn & Martohardjono (1994) and Epstein et al. (1996) among others. According to the FAWT the L₁ is not the initial state, still it is not denied that L₁ effects are possible in L₂. With this assumption it remains rather mysterious what the initial state should be then. White believes that it can only be UG, but this option is ruled out by the authors. The details about the initial state therefore are very vague within this framework.

Evidence for the FAWT was drawn from an elicited imitation task conducted by Epstein et al (1996). The basis of this test was the assumption that language learners can only successfully imitate sentences which are analysable by the current grammar. This means if learners are able to inflect verbs then it must be assumed that they know that inflectional features are located in INFL (compare **Figure 3**). However, White questions that this test was

a good indicator for such a theory because the test subject had already lived in the L₂-environment for too long and therefore no conclusions should have been drawn from this test as far as the initial state is concerned. Furthermore, since the FAWT is also a *Full Access* theory claiming that language learners have full access to their L₁ grammar during the time of language acquisition, one must also keep in mind that the presence of L₂ categories is no counterevidence against an initial state which is L₁-based. Therefore the FAWT must be regarded as a weak theory.

2.3.2 Semi-Nativist (semi-Universalist) theories

Die Biene sumset wie sie sauguet; der Vogel singt wie er nistet - aber wie spricht der Mensch von Natur? Gar nicht, so wie er wenig oder nichts durch völligen Instinkt, als Tier tut ... Es müssen statt der Instinkte andere verborgne Kräfte in ihm schlafen! Stummgeboren; aber -

[The bee buzzes in the same way that it sucks; the bird sings in the same way that it nests - but how does man speak by nature? He does not, as he does only little or even nothing by pure instinct, as an animal does ... There must be other latent powers slumbering within man! Born mute; but -]

Johann Gottfried Herder (1772): About the origin of language

2.3.2.1 Maturation (L₁)

The proposals categorized under 'maturation' take as a basic assumption that some parts of UG are not available to the child at the outset of language acquisition and that they have to grow, independently more or less from anything else. Under this assumption, language acquisition can be compared to teething or learning to walk: although every normal child will grow up to have teeth, to walk and to talk, it takes a certain time after birth for these organs and capacities to 'unfold'.

Verrips (1990: 14)

As opposed to Continuity a strong implication of *Maturation* is that the child's L₁ grammar may violate UG at times since trying to access a parameter which can not yet be cognitively processed will most of the time yield a violation of the target grammar. Within this framework three subtheories have emerged: *Maturing Modules*, *Maturing Principles* and *Maturing Levels*.

In the *Maturing Modules* framework (Felix 1987) it is assumed that it is the linguistic modules (e.g. x-bar-principle, case theory) which mature. Felix exemplifies this with the acquisition of word order in German which the child assumes to be free at the beginning. With a maturing x-bar-syntax, however, the child is forced to determine a basic word order such as SVO or SOV. Since both these combinations are possible constructions in German the child will have to wait until the system of embedded clauses is acquired and then it will be able to decide for one of these constructions which is SOV.

Maturing Principles (Borer & Wexler 1987) works in a similar fashion, the difference being that there is not a maturation of linguistic modules but a maturation of the underlying principles (e.g. the locality constraint in syntax). According to Verrips these ideas are hard to falsify although it should be noted that it is left unclear which parts of the child's grammar mature, and it is also vague to what extent the process of *learning* plays a role within this theory.

Maturing Levels (Lebeaux 1988) assumes that it is only the different levels of grammatical representation which do mature. This means early utterances of children do not reflect a syntactic structure but rather a pure lexical structure which is just a simple lexical structure tree having a lexeme structure without any syntactic implication. According to Verrips Maturing Levels is the most consistent candidate in the Maturation approach.

2.3.2.3 Minimal Trees (L₂)

The *Minimal Trees Hypothesis*, proposed by Vainikka & Young-Scholten (1994), assumes that the initial state of language which is about to be acquired is a grammar which contains only lexical categories such as N, VP, ADV (which are derived from L₁) and their properties (e.g. headedness) but not functional categories such as INFL. During language acquisition functional categories are taken from UG (motivated by L₂ input) and applied to the L₂ grammar step by step. Syntactically speaking these functional categories are added bottom up (VP → IP → CP ...). As opposed to FTFA only a part of the L₁ grammar (the lexical categories) can be regarded as being a part of the initial state.

Minimal Trees draws evidence from the analysis of Korean and Turkish as well as Spanish and Italian learners of German. Turkish, Korean and German are languages in which the VP is right-headed while in Italian and Spanish VPs are left-headed. If the Minimal Trees Hypothesis were true than one would assume that Korean and Turkish learners of German do transfer the value of the headedness-constraint from their L₁ into L₂ while learners with an Italian and Spanish mother tongue produce utterances which indicate that their headedness-parameter is set to "right-headed". As the following examples show this is indeed the case:

L ₁ = Korean / Turkish (=German)	L ₁ = Spanish / Italian
<pre> graph TD VP --> Spec VP --> V_prime[V'] V_prime --> NP V_prime --> V </pre>	<pre> graph TD VP --> Spec VP --> V_prime[V'] V_prime --> V V_prime --> NP </pre>
(3) a. <i>Oya Zigarette trinken.</i> b. <i>Eine Katze Fisch alle essen.</i>	(4) a. <i>Trinke de orange oder?</i> b. <i>De esse de fis.</i>

Table 2: The headedness property in Korean / Turkish and Spanish / Italian applied to German (Vainikka & Young-Scholten 1994)

Beginning L₂ learners of German also do not raise the verb out the VP, indicating a lack of the functional category IP, and they also do not show *wh*-questions or subordinate clauses introduced by complementizers, indicating a lack of the functional category CP. Advanced learners tend to add agreement features to the verb (indicating an acquired IP category) but there is still a lack of CP. CP is later on acquired by advanced learners; embedded clauses introduced by complementizers can then be seen frequently.

However, there are also some problems which arise with the assumption that the Minimal Trees Hypothesis is correct. First, it is the case that there are indeed functional categories which are present from the beginning (e.g. a NegP). (4) and (5) also show determiners which are a functional category. Second, it was reported that some English-speaking children learning French had complementizers in their utterances in the earliest

recordings (5), thus showing a presence of CP, but also showing a lack of IP because of uninflected verb forms in the same utterance:

- (5) *Mama know* [_{CP} *that we go outside*].

(White 2003: 74)

Utterances like the one in (2b) are also not compatible with this model since they show L₁ influence. It is also unclear why language learners with a fully developed L₁ including functional categories and having a UG with such categories should dismiss these when they start acquiring the L₂.

2.3.2.4 Valueless Features (L₂)

The *Valueless Features Hypothesis*, proposed by Eubank (1993 / 1994), claims that the initial state of L₂ acquisition is a grammar which contains both lexical and functional categories as well as features which are drawn from L₁. The parameter values, however, are assumed to be inactive first. Parameter values are assumed to be set once the morphological paradigm has been acquired. This is a form of *weak transfer* since everything but the parameter values is being transferred.

Evidence for this theory can be drawn from sentences like (6) and (7), sentences which again show the setting of the strong/weak INFL-parameter. If the parameter has not yet been set then the learner can freely decide if he/she wants to raise the verb or not:

- (6) a. [_{IP} *Jean embrace_i souvent* [_{VP} *t_i Marie*]]. (French, raised verb)
 b. * [_{IP} *Jean souvent* [_{VP} *embrace Marie*]]. (French, verb not raised)
- (7) a. [_{IP} *John often* [_{VP} *kisses Mary*]]. (English, verb not raised)
 b. * [_{IP} *John kisses_i often* [_{VP} *t_i Mary*]]. (English, verb raised)

Both variants are expected within this framework and indeed these are utterances produced by French-speaking learners of English. However, one may wonder about constructions like (8). Valueless Features would predict that the optional raising of verbs over negations should also be expected, but this is not the case:

- (8) a. **The children like_i [not* [_{VP} *t_i spinach*]].
 b. *The children (do) [not* [_{VP} *like spinach*]].

(White 2003: 79)

Another important reason against this hypothesis is the question why a parameter should be inactive. Therefore Valueless Features was never considered as a very serious candidate to explain L₂ acquisition.

2.3.3 A Transfer theory: Full Transfer with Full Access (L₂)

The *Full Transfer with Full Access Hypothesis* (henceforth FTFA), proposed by Schwartz and Sprouse (1994) assumes that the initial state in L₂ acquisition is a particular grammar; this means learners adopt the grammar that they already have (L₁). Full transfer in this context means that the entire L₁-grammar is being transferred to L₂ at the very beginning, forming the initial state. With an initial state of L₂ which equals L₁ learners acquiring the

second language reset the parameters in a way which fits the structure of L₂. If the learner's L₁ grammar only gives insufficient clues about the L₂ input then the learner can recourse to UG to fill the gap, this means parameters are set to a default value. Since the resulting interlanguage is constrained by UG the theory implies full access to UG at any time.

Evidence is drawn from a test (Yuan 1998) where learners of L₂ Chinese had to judge the grammaticality of sentences which show a pronoun which has been moved over a long distance. While English does not have such a pronoun, languages like Japanese or Chinese do. If the FTFA were true then we should conclude that

- a) Japanese learners of Chinese **do** use long-distance referring pronouns
- b) English learners of Chinese **do not** use long-distance referring pronouns

As the test results suggest this holds to be true:

L₂ groups	L ₁ Japanese (n = 24)	92
	L ₁ English – intermediate (n = 32)	53
	L ₁ English – advanced (n = 25)	71
Native speakers (n = 24)		94

Table 3: Acceptance of long-distance referring pronouns (Yuan 1998)

This means that the underlying grammar during the acquisition of L₂ indeed seems to be L₁. According to White (2003) FTFA is difficult to falsify because if there are no visible L₁ effects FTFA can always claim that learners already are beyond the full transfer stage. Another point which remains unanswered in this approach is how long L₁ is supposed to have influence on L₂.

2.3.4 Non-Nativist (non-Universalist) theories: Behaviourism and Parrot Theory (L₁ / L₂)

Non-Nativist theories of language acquisition and especially the theory of *Behavioral Language Acquisition* (Skinner 1957) are largely rejected by modern linguists and psychologists, Skinner was even regarded about 35 years behind his time. Behaviourists claim that speakers' utterances are largely dependent of the speakers' environments. While the individual behaviour of man can be shaped via operant conditioning, peoples' language is also created in much the same fashion. This means any positive or negative evidence in the language input will lead to a change of grammar. A very extreme behaviourist theory is called *Parrot Theory*. This hypothesis goes even further, claiming that in both L₁ and L₂ language is just a pure imitation of previously heard speech.

These theories were more often applied to L₁ acquisition. As L₂ acquisition research became more important in linguistics Behaviourism was already filed. Therefore there have not been too many investigations of second language acquisition from a behaviourist point of view. One should assume, however, that the behaviouristic influence on L₂ must be much the same as on L₁.

Because there is only very little evidence for and much more obvious evidence (e.g. the question why children produce ungrammatical sentences which they can never have heard from their environment) against a behaviourist approach we will not go into detail here.

2.3.5 Summary

As mentioned before this paper is not supposed to criticize or evaluate the different theories of language acquisition. The aim of showing you these theories was to give you an impression of how important the presence and functioning of a Universal Grammar, innate principle or innate parameters is in more recent frameworks of both L₁ and L₂ acquisition.

As **Figure 1** suggests theories of language acquisition can also be placed along a scale of Nativism and Transfer. Like the Universalism / Substratism scale of the theories of creole genesis certain theories of language acquisition may be placed more to the left or more to the right. Their placement in this diagram is again by no means meant to be definite, but it should give you a first overview and impression of to what degree these theories can be regarded as nativistic, transferistic or behaviouristic.

3. Creole genesis vs. language acquisition

This section shall now discuss the friction points between theories of creole genesis and theories of language acquisition. In the final sections I also would like to shed some light on the implications for theories of language acquisition.

As you have seen in section 2 there are two poles which try to account for creole genesis: the LBH and Relexification. While the LBH assumes that language structures are reflections of the innate UG, Relexification claims that language structure derives from the substrate only. The following sections shall give you an impression of the friction between these two poles.

3.1 Language universals

It is known for centuries that there are very often strong similarities among languages, even if they find themselves in no obvious genetic or historical relation to each other. Especially creole languages have more than once led linguists to assume that there are universal principles. Greenberg (1963) tried to formulate some of these universals such as:

Universal 1: *In declarative sentences with nominal subject and object, the dominant order is almost always one in which the subject precedes the object.*

Universal 8: *When a yes-no question is differentiated from the corresponding assertion by an intonational pattern, the distinctive intonational features of each of these patterns are reckoned from the end of the sentence rather than from the beginning.*

Universals are regarded as manifestations of either an innate language capacity or as a product of cognitive (maybe even logical) processes. An advantage of creole languages, as opposed to standard languages, is that they more or less develop out of nothing. Because of the young age of creole languages they give us pretty good insight to the universals underlying language, this is more difficult with "normal" languages like English or French.

Universals are thought to be a default value of parameters or an unmarked case. **Universal 1** for example is reflected in most languages as can be seen in many non-creole languages:

SOV, which Bickerton claims to be the most common order among older Japanese HPE speakers and which is also the underlying structure for Japanese, does not even exist in HCE, thus strengthening the idea that universals are involved. The further a creole develops the more syntactic structures are possible, hence the great variability in **Table 5**.

There are also universal principles which were not explicitly formalized by Greenberg but which are nevertheless very salient. One which can always be observed with creole languages is the reduction of morphology, i.e. the tendency of creole languages to become analytic. Analyticity has been reported for most creoles, even if both their substrate and superstrate are agglutinating. A reduction of morphology, be it verbal or nominal, is already a salient feature of the pidginization process.

How can the LBH and Relexification account for these two universals mentioned above? There is no problem with the LBH since it claims that both are direct reflections of the language capacity, i.e. we could argue that SVO and analyticity are the default value or unmarked parameters and creole structure is a direct manifestation of these parameters. Relexification, on the other hand, is ruled out in these cases since SVO and analyticity need not necessarily be a feature of the substrate or superstrate, hence cannot be transferred from the substrate. Therefore language universals strongly prefer the LBH to Relexification. The implications which follow will be discussed in sections 3.5 and 3.6, for the moment we shall conclude that there are arguments in favour of the LBH and innate structures.

Not only Greenberg's universals can be tested with the help of creole languages. Of course the universal features which are claimed by the LBH itself also need to be verified. While Bickerton has shown the adequacy of the LBH and some of its universal features in the case of Hawaiian Creole the picture looks very different in Unserdeutsch.

Tok Pisin is assumed to be the main substrate in the Unserdeutsch creolization process; this was shown by Mühlhäusler (1984: 38) and Volker (1989). Both argued that Relexification played a major role in this process. Mühlhäusler applied the universals of the LBH proposed by Bickerton to Unserdeutsch with the following results:

Feature	Hawaiian Creole	Tok Pisin	German	English	Unserdeutsch
(1) Movement	+	+	+	+	+
(2) Definite article	+	-	-	-	-
(3) TAM	+	-	-	-	-
(4) Complements	+	-	-	-	?
(5) Relativization	+	+	-	?	-
(6) Negation	+	-	-	-	-
(7) Existential	+	+	+	-	-
(8) Copula	+	+	-	-	-
(9) Adjectives	+	+	-	-	-
(10) Questions	+	+	-	-	+
(11) Question words	+	+	+ -	+ -	+ -
(12) Passive equivalent	+	+	-	-	-

Table 6: The presence of Bickertonian universals in different languages (Mühlhäusler 1984: 40)

According to **Table 6** the Bickertonian universals may indeed apply to languages like Hawaiian Creole but Unserdeutsch does not fit this pattern. Therefore one could assume that the application of universal principles is only optional or constraining creolization. This fits the idea which most modern creolists share, i.e. that there is interplay between universals and substrate structures:

[...]we feel that the truth, as is so often the case, lies between the two extremes. We suspect that there are both universal and substrate factors in creologogenesis - in varying proportions, depending on the precise social and historical circumstances obtaining at the period of creologogenesis itself.

Muysken & Smith (1986: 11)

The SVO word order is not the only feature which could directly derive from UG. One of the features which is very common among all languages, including Unserdeutsch is also topicalization, i.e. movement of constituents to the sentence-initial position to pragmatically stress them:

- (10) a. Unserdeutsch: [QP *Nur ein Name*]_i *i konnte ni finden* t_i.
 b. English: [QP *Only one name*]_i *I could not find* t_i.
 c. Standard German: [QP *Nur einen Namen*]_i *konnte ich nicht t_i finden*.

(Volker 1989: 175)

Also pay attention to the structure of the Unserdeutsch sentence which is completely similar to English. The Germanic V₂ – feature has been lost in Unserdeutsch (as in English or Yiddish), the same applies to the Standard German *Satzklammer* (sentential bracket), hence the switched order of subject and modal verb. It could be argued that V₂ anyway is a marked construction and therefore not the default setting of the UG parameter. Therefore I assume the headedness parameter to be reset to "left-headed" in this case, this being a direct reflection of the universal default value.

Another universal which is very typical for creoles, not necessarily for standard languages, is that these languages do not syntactically distinguish questions and statements via verb-fronting as in Standard German (11b) or *do*-support in English (11c):

- (11) a. *Du will trinken Kaffee?* *Du will trinken Kaffee.*
 (Unserdeutsch, Volker 1989: 174)
 b. *Willst du Kaffee trinken?*⁸ *Du willst Kaffee trinken.*
 (Standard German)
 c. *Do you want to drink coffee?* *You want to drink coffee.*
 (English)

Intonation is the clue that tells speakers whether an utterance is a question or not. This phenomenon has also been reported for Hawaiian English and Tok Pisin.

In total, however, Unserdeutsch data seems to favour Relexification to the LBH for reasons we will shed light on in the following sections. As Mühlhäusler notes:

It seems fair to conclude that Bickerton's conditions for the development of a true creole are seriously deficient. Of the many social factors that may promote or block the emergence of Bioprogram grammar they may not even count among the more important ones.

Mühlhäusler (1984: 40)

⁸ „*Du willst Kaffee trinken?*“ would also be a possible construction in Standard German, stressing the noun (compare English “*You want to drink coffee?*”).

However, regarding this section alone would suggest that UG's influence was quite strong in the Unserdeutsch creolization process. This is also what language acquisition theory would predict.

3.2 Deficient input and its development

What makes creole languages so special is their history. Their ancestors, the pidgins, are a product of the need for a communication medium among two linguistically and culturally strongly diverging groups. Substrate and superstrate serve as bases for the upcoming pidgin language with the substrate and / or UG providing the pidgin structure and the superstrate providing the lexicon. Needless to say, pidgin languages are not complete languages since it is not possible to express everything one could express in a standard language or a creole. Pidgins are characteristic of a reduction of morphology, simplified phonological systems as well as simplified syntax and a simplified lexicon.

If pidgins are that deficient, the question arises how children should be able to learn it as their L₁. As was shown by Bickerton (1996) the case of the creolization of Hawaiian Pidgin happened under these specific circumstances:

In Hawaii [...] the pidginized input that gave rise to a creole language was radically ill-formed in at least three ways:

- a. It was structurally restricted (that is, it contained no sentences that could be unambiguously analysed as containing embedded clauses).
- b. It was radically variable (that is, it contained elements from more than one language and it had little or no structural consistency).
- c. It was morphologically impoverished (in particular, it lacked all grammatical and many derivational inflections as well as a high percentage of such word-classes as determiners, prepositions, complementizers and verbal auxiliaries).

(Bickerton 1996: 34)

Bickerton questions that children should be able to learn a language as L₁ or to creolize a pidgin with these preconditions:

Clearly, there is no way in which a child exposed to data of this kind could acquire, from the data itself, the capacity to produce sentences containing relative clauses, embedded questions, embedded factives or adjunct clauses.

(Bickerton 1996: 36)

According to Bickerton a necessary consequence for theories of language acquisition would be that they can not rely on environmental / substrate / superstrate input alone.

But if syntax can be acquired from input of this level of impoverishment, then no theory that requires well-formed data as input can be an adequate theory of language acquisition. Since all extant theories of acquisition contain this requirement, it follows that, as yet, there do not exist any that could be called adequate theories.

(Bickerton 1996: 41)

As a consequence, the Bioprogram must also directly participate in the language acquisition and creolization process.

One may wonder if Bickerton is exaggerating when he claims that in modern theories of L₁ acquisition language learning is only possible with non-impoverished input since these

have never denied that children are exposed to such deficient code. They rather state that our spoken language is full of incomplete sentences, slips of the tongue, and grammatical mistakes and make up a huge amount of all our utterances. With Motherese children are also exposed to a pidgin-like structure! This does, however, not have any noticeable influence on the development of the child's speech. No matter if Bickerton is exaggerating or not: he points at a gap in recent language acquisition theory. That is, we must ask ourselves *to what extent* a child can be exposed to deficient input. While creolization is able to answer this question, language acquisition theory still must explain how deficient input may be for a child. Should a child who is permanently exposed to Motherese be able to ever gain native speaker-like competence of his environmental language or not? And if this is the case, do we have to admit that there is indeed some kind of an innate Bioprogram as Bickerton claims? And if this were not the case: how can we account for the fact that children are able to creolize a language (in the LBH approach, not in the Relexification approach!) but that they are unable to derive their mother tongue from Motherese?

When we talk about deficient code we not only have to ask ourselves how it can be acquired; we also have to ask ourselves how this code itself is created. Comparing pidgins cross-linguistically one will find strong similarities among them, even if these are by no means genetically or historically related to each other. One would only rarely encounter pidgins with verbal inflection, case marking or semantically highly-specific superstrate lexemes. (12) below should give you an impression of a pidgin structure, if there is any in this case:

- (12) *Tumach mani mi tink kechi do.*
 Plenty money I think catch though
 'I think he earns a lot of money, though.'
 (Hawaiian Pidgin English, Bickerton 1981: 11)

How do creators of a pidgin language know what they have to do in order to simplify a language? Since small children are not assumed to be "little linguists", why should we assume adults who are also not linguists or who do not have a good conscious knowledge of language to be such? The answer can only be that there is again something innate which tells pidginizers:

- a) Use simple sounds, preferably those which occur in both source languages!
- b) Try to break complex consonant clusters!
- c) Forget about morphology!
- d) Forget about syntax!
- e) Only use basic and everyday lexemes, i.e. say (13a) instead of (13b):

- (13) a. *Go away!*
 b. *Translocate the accumulation of protoplasmic entities that you are.*

- f) etc.

The situation is very similar to baby-talk, but the average mother will not have studied a language extensively and hence have a good conscious linguistic knowledge. Nevertheless she will be able to simplify her output in order to make herself understood better (actually this is her intention but it does not make things easier for the child as language acquisition research has shown). Therefore we should conclude that simplification of language or baby-talk conforms to innate principles or innate mechanisms like the ones proposed above.

Remember that this also means direct structural influence of UG. Again, the LBH can nicely account for this while Relexification can not.

What about the next step in the creolization process, the creation of the creole itself? Be it children or adults, it is a complete and natural language which develops out of a pidgin, a language which must conform to UG. Therefore UG access must be possible at any time, during pidginization and during creolization. Again there is no problem with the LBH but the picture gets blurry when we look at Relexification. According to the latter creolization is second language acquisition by adult learners of a deficient pidgin. If language acquisition assumes that adults' access to UG is more restricted than for children one may wonder why adult creolizers should be able to take this big step from pidgin to creole without help from young children.

3.3 Substrate and superstrate influence

As mentioned earlier creoles are a product of the interaction between a substrate and a superstrate. While the superstrate provides the lexicon it is the substrates which are for a great part responsible for the creole grammar. (14) below gives you an impression:

- | | | | | | |
|------|----|---|------------------------------------|--------------------|--|
| (14) | a. | <i>Gila</i>
FOC PRO(them)
'They will go.' | <i>ta-la</i>
FUT-SUBJPRO (they) | <i>leka.</i>
go | (substrate Kwaio) |
| | b. | <i>Olketa</i>
FOC PRO(them)
'They will go.' | <i>bae-i</i>
FUT-SUBJPRO (3PL) | <i>go.</i>
go | (Solomons Pidgin ⁹)

(Keesing 1988: 214) |

Olketa in (14b) clearly derives from English '*all together*', its meaning and function as a third person strong pronoun however is obviously derived from the substrate.

This case indicates that linguistic structure does not always immediately derive from UG, only the substrate can be made responsible for the pidgin structure. Therefore (14) leads us to conclude that in the case of substrate influence we have to assume a minor impact of UG on the pidgin / creole and a major impact of the substrate. Therefore the substrate influence facts presented above strongly favour the Relexification approach to the LBH.

Still there are cases of creole features which do not seem to derive from the substrate. Such an example is the passive construction of Unserdeutsch. Since it is very uncommon for creole languages to have such passives it is very likely that passives do not directly reflect UG characteristics but that they strongly depend on one of the source languages.

Comparing the Unserdeutsch passive (15a) with its English (15b) and Standard German (15c) yields some interesting similarities:

⁹ Solomons Pidgin is not yet a creole but a fairly stable and relatively complex pidgin.

- (15) a) *Der Chicken war gestohlen bei alle Raskol.* (Unserdeutsch)
 b) *The chicken was stolen by the rascals.* (English)
 c) *Das Huhn wurde von den Gaunern gestohlen.* (Standard German)
The chicken was by the rascals stolen

(Volker 1989: 169)

As Volker (1989: 168) pointed out the English and Unserdeutsch constructions are completely similar. Superstrate influence is twofold in this case. Almost half of the lexemes involved derive from German. *Raskol* is clearly derived from English *rascal*, yet it is not clear to me whether *bei* is supposed to be a direct realization of English *by* or if German *bei* 'at, near' has been reanalysed in this case, possibly motivated by the English preposition *by* which is a cognate. Two other reanalyses can also be observed: German *wurde* 'became / was' is replaced by German *war* 'was' and *alle* 'all', which is a quantifier in standard German, was reanalysed as a definite determiner. It is also interesting to note that Unserdeutsch makes use of an auxiliary which is also untypical for creole languages.

Showing the phrase structure trees gives us an impression of how Relexification works. Normally we would expect grammatical structures to derive from the substrate but in the case of Unserdeutsch it clearly derives from English which is one of the superstrates. One can now think of two different scenarios.

- a) The whole structure is relexified
 b) All the minor structural elements (e.g. INFL, agreement features, t_i ...) are copied one by one and then reassembled.

In scenario a) the lexemes are removed from the construction leaving behind the bare structure:

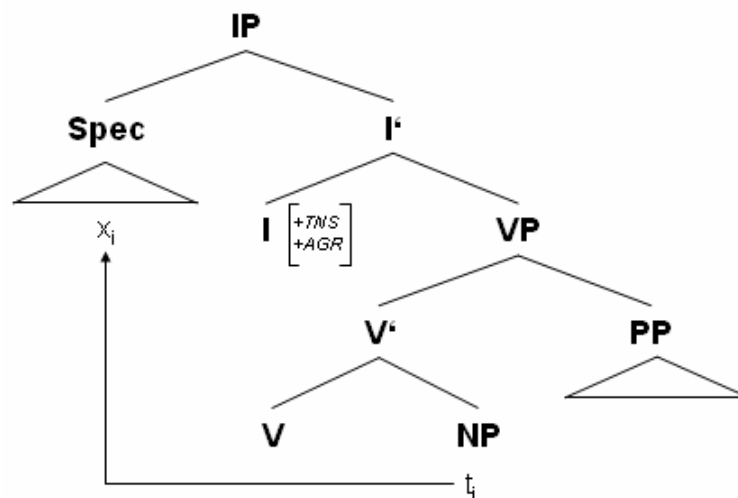


Figure 4: The bare English / Unserdeutsch passive structure

Structural properties such as the presence of finiteness features in INFL as well as the movement of x_i are preserved. It is now up to the creolizers to fill in the gaps with lexical elements from the superstrate(s), yielding the sentence in (15a).

dialects of German (which were spoken by the German colonisers, this could also be regarded as evidence for the SupH). This kind of construction is ungrammatical in Tok Pisin as well as in English, hence can only be traced back to Standard German. And indeed (19b) is found in some German dialects:

- (19) a. *Diese Car de Tyre is heruntergegangen.*
 This car the tire is flat ('gone down')
 'This car's tire is flat'.
 (Unserdeutsch, Volker 1989: 156)
- b. *Diesem Auto sein Reifen ist platt.*
 this.DAT car its tire is flat.¹⁰
 'This car's tire is flat.'
 (Dialectal German)

Finally, Unserdeutsch also allows possessive constructions which make use of a genitive suffix (20a, 21a), a construction similar to both English and Standard German. Volker (1989: 157) claims that constructions like (21a) where the possessor is a proper noun can only derive from English, but this is not necessarily the case since constructions like (21a) are also possible constructions of some German dialects¹¹. A similar construction can be seen in (21b), a less specifically dialectal but generally old-fashioned utterance of German. (21b) sounds very old-fashioned to native speakers and it also reminds of constructions which might still have been taught at the orphanage schools where Unserdeutsch was born. Therefore I would like to conclude that the genitive construction in (21a) could also be traced back to dialectal or old-fashioned German. However, as Volker also notes a more common construction which is used in Standard German is judged ungrammatical in Unserdeutsch (21c):

- (20) a. *Papa-s Waesche*
 Papa-GEN washing
 'Papa's washing'
 (Unserdeutsch / Standard German, Volker 1989: 156)
- (21) a. *mein Vater-s Haus*
 my father-GEN house
 'my father's house'
 (Unserdeutsch / Dialectal German, Volker 1989: 156)
- b. *mein-es Vater-s Haus*
 my-GEN father-GEN house
 'my father's house'
 (old-fashioned German, *Unserdeutsch)

¹⁰ DAT = Dative

¹¹ We have to note that (21a) is more common in dialects of northern Germany. The superstrate variants which are assumed to have participated in the Unserdeutsch creolization process, however, were dialects of southern areas. This could indicate that (21b) is more likely to be the source.

- c. *das Haus mein-es Vater-s*
 the house my-GEN father-GEN
 'my father's house'

(Standard German¹², *Unserdeutsch)

In addition, one can observe that Unserdeutsch possessive pronouns are not genitive-marked anymore (as they are in Standard German), at least not overtly, while nouns still show this feature. Therefore the construction in (21b) could be regarded as being the most likely structural predecessor.

All these facts account for the idea that the LBH can not always be applied to Unserdeutsch. Quite a number of features derive from one of the superstrates, the substrate or even all of them. Relexification, on the other hand was shown to be a good explanation for the origin of many Unserdeutsch structures. This is evidence for the fact that UG's direct influence is not as strong as far as creole genesis is concerned. As we will see later this has serious implications for theories of language acquisition.

3.4 A challenge for LBH and Relexification: Boarding School Creoles

Many creoles developed in much the same fashion: European colonizers took control over a colony, enslaving the indigenous population and raising the need for a lingua franca. The colonizers' language served as the superstrate while the indigenous' language(s) served as substrate languages in the pidginization process. However, this kind of development is different from the creole genesis which happened in Unserdeutsch.

In the case of Unserdeutsch the first speakers were mixed-race children who were being taught Standard German at a catholic mission orphanage school. Non of these children had a good command of any language, most of them having little knowledge of Pidgin English (which should later become Tok Pisin) or some other substrates (Tolai, Filipino, Chinese and others). Although the contact to the German superstrate was quite strong due to the German classes Standard German itself was only rarely spoken in the children's bedrooms. Rather a more or less relexified version of Tok Pisin developed as kind of a secret language so the children could give themselves a common identity.

This gives raise to three important questions as far as creole genesis is concerned:

- a) Who were the first competent speakers of Unserdeutsch, adult L₂ speakers of Pidgin German or the children acquiring Pidgin German as L₁?
- b) Does the answer to a) have any implication for LBH and Relexification?
- c) To what extent is UG involved in the development of a Boarding School Creole (or secret language), both from the LBH and Relexification point of view?

It is not yet possible to answer question a), neither for Unserdeutsch nor for any other known creole language. The reasons are different, depending on which theory of creole genesis is assumed. If we assume the adequacy of the LBH linguists would have to observe communities of pidgin speakers and then observe if there are any children acquiring the pidgin as mother tongue. The situation would be easier from a Relexification point of view. In

¹² It should be noted that the use of the genitive as in (21c) is on the decline in German. In spoken German it is often replaced by a combination of the preposition *von* 'of' and the possessive pronoun in the dative as in "*Das Haus von mein-em Vater*".

this case linguists would only have to permanently record and analyse the language which is spoken by L₂ speakers of the pidgin. However, from quite a number of pidgin languages we know that they have never developed into creoles, even if they are being spoken for more than one generation (e.g. Liberian Pidgin English).

This comes with an important implication which is related to question b): if there are pidgins which never creolize, how can Relexification then claim that it is adults who are the actual creolizers? Pidgins which exist for more than one generation and which have a sufficient number of speakers would necessarily have to develop into a creole, but as we know now this is simply not the case! The LBH, on the other hand can explain the reason nicely. Since there have never been any children who acquired the pidgin as L₁ (often due to sociocultural reasons like negative reputation of the pidgin) creolization can also never have happened. Therefore, in the case of Unserdeutsch as well as in the case of any other creole language I would like to argue that Relexification has a serious defect if it assumes adults to be the creolizers.

Question c) sets Boarding School Creoles a bit apart from standard creoles. One may ask to what extent creolizers draw back to UG in these cases, as opposed to standard creoles. One of the major differences between standard creoles and Boarding School Creoles is that there is actually no need for a lingua franca in the latter case. The creolizers (children in this case) have intensive access to the superstrate while having lesser access to the substrate(s). The superstrate alone could serve as a lingua franca, but still the creolizers decide to compose a language which allows them to identify themselves without appealing too much to the superstrate and yet distinguish themselves enough to establish themselves as a separate group within the indigenous community.

If there is such a strong contact with the superstrate one could expect a much stronger structural impact on the creole. Remember that creole structure is assumed to derive more or less from the substrate in the Substratist and Relexification approach. As some Unserdeutsch language samples clearly show there has been obvious impact of German structure on Unserdeutsch. This can be seen in case of the relatively complex Unserdeutsch morphology which obviously has its origin in Standard German; this is very salient in the case of the Unserdeutsch participle forms which are circumfixed by *ge-* and *-en*, a morpheme which is productive in Unserdeutsch (22a):

- (22) a. *Wir war ge-gang-en* *fi such.*
 We were PART₁-go.PERF-PART₂ for search¹³
 'We went to look (for x)'
 (Unserdeutsch, Volker 1989: 171)

- b. *Wir sind ge-gang-en, um [x] zu suchen.*
 We are PART₁-go.PERF-PART₂ for [x] to search
 'We went to look (for x)'
 (Standard German)

It is also interesting to note that the creolizers of Unserdeutsch did not eliminate the irregular verb form *gegangen* 'gone' and stick to a more generalized rule with a regular (but here ungrammatical) formation *gegeht* ≈ 'goed', as children learning Standard German or English as L₁ regularly do (23a, 23b):

- (23) a. **Wir sind (zu x) geht.* (children's L₁ German)
 b. **We goed (to x).* (children's L₁ English)

¹³ PART₁ = participle prefix, PART₂ = participle suffix, DAT = dative

Very often it seems to be the case that speakers of Unserdeutsch tend to replace participle verb forms ending in *-t* in Standard German (24b) by those ending in *-en* (24a):

- (24) a. *Du has mi fi das ge-frag-en, I werd geben du nachher.*
You have me for that PART₁-ask-PART₂, I will give you later.
'You asked me for that, I will give it to you later.'

(Unserdeutsch, Volker 1989: 181)

- b. *Du hast mich danach ge-frag-t, ich werde es dir nachher geben.*
You have me for.that PART₁-ask-PART₂ I will it you.DAT later give
'You asked me for that, I will give it to you later.'

(Standard German)

However, it is not the case that *ge-* and *-t* circumfixation is completely abandoned in Unserdeutsch.

In other cases word forms can become even more complex, again motivated by an appropriate structure in German (25b). Here the particle *weg* 'away' is prefixed to the verb (25a):

- (25) a. *Alle Knabe sind weg-ge-gang-en fi holen etwas.*
The boys are away-PART₁-go.PERF-PART₂ for fetch something
'The boys went away to fetch something.'

(Unserdeutsch, Volker 1989: 179)

- b. *Die Knaben sind weg-ge-gang-en, um etwas zu holen.*
The boys are away-PART₁-go.PERF-PART₂ for something to fetch
'The boys went away to fetch something.'

(Standard German)

Here *weg-ge-gang-en* 'gone away' consists of even three morphemes¹⁴, which is a very high number for an analytic language. These verb particle constructions are quite complex, still they have survived in Unserdeutsch.

These observations have strong implications for LBH and Relexification. The structures we have seen above indicate a direct structural influence of the superstrates, this is partly due to the strong contact Boarding School Creoles have to this superstrate. UG may be constraining this process, but it is not directly reflected in these cases. The Lefebvrian Relexification approach does not come into play either since there is no visible substrate influence in the case of the participle verb forms and verb particle constructions.

The sections above should have given you an impression of how both LBH and Relexification can account for features or genesis of Unserdeutsch, and why they can not in some cases. Since this paper is supposed to be a paper which wants to point at the implications for theories of language acquisition our findings shall be gathered and compared with theories of language acquisition in the following two sections.

¹⁴ Or four, depending on whether a circumfix is regarded as one or two morphemes.

3.5 Implications for theories of L₁ acquisition

Relexification may be able to answer a fair amount of questions which are related to the origin of creole languages. However, the approach proposed by Lefebvre (1998) comes with a serious and important assumption: it is *adults* who are the driving forces behind creole genesis and not *children*, as the LBH proposes. This also has another implication: while the LBH assumes that creolization is L₁ acquisition of a pidgin, Relexification claims that creolization is L₂ acquisition of a pidgin. If we assume Relexification to be a valid theory we must oppose Relexification to L₁ acquisition theories. L₁ acquisition has shown that it is children who are the best language learners, and research has also shown that the ability to acquire a language decreases with time. Given that adults may have more problems acquiring a language, how then should they be able to creolize a pidgin? Remember that creolization is a very complex procedure since it is the goal to develop a deficient language with little structure into a completely new natural language! This is why language acquisition research is more compatible with the LBH than with Relexification theory. The problem becomes even worse since language acquisition stresses the incredible linguistic capacities of children while universal and Nativist theories of creole genesis are ruled out by Substratists. It sounds like a new logical problem of language acquisition: assuming the linguistic power of children, hence stressing the importance of the LBH, Relexification and stronger substrate theories are ruled out. Assuming the importance of substrate languages and Relexification theory in creole genesis the children's role and UG influence is neglected. What does this controversy tell us about the specific theories of L₁ acquisition we dealt with in section 2?

In the *Lexical Learning* theory of the *Continuity* approach it is assumed that syntactic structures are an inherent property of the lexemes while UG is constraining what the surface result can look like. This means that the structure actually derives from the lexemes (thus from the superstrate), not from UG itself. Since it is the superstrates which fill the creole lexicon, within this framework we would have to assume that the structural influence of the superstrate is far higher than is usually assumed. This runs contrary to what the Lefebvrian Relexification theory assumes, because in this framework it is the substrates which are responsible for the creole structure. However, Lexical Learning does not rule out the LBH because it could be argued that the grammatical features which the lexemes bear are a projection of and constrained by UG.

Ordered Parameters on the other hand also assumes the presence of UG from the very beginning. Ordered Parameters focussed on the ambiguous input which is imposed to the child (in the Relexification approach: to the adult). Nobody will deny that pidgins are such a deficient input, and this input is even worse than in standard languages. Unfortunately there is yet too little data concerning the acquisition of pidgin languages since the actual creolization process happens in a very short period of time. Therefore Ordered Parameters can not be ruled out or verified from the creole genesis point of view.

Maturation, on the other hand, assumed that UG is present but not completely assessable by the child at the very beginning. No matter if we look at *Maturing Modules*, *Maturing Principles* or *Maturing Levels*: it is very difficult to falsify Maturation approaches since again there is no data on L₁ pidgin acquisition. This comes with an interesting consequence: should we wonder if a child acquiring a pidgin as mother tongue can ever produce an ungrammatical sentence? Remember that there is actually no positive evidence available for the child since a pidgin (especially in early stages) is a highly irregular linguistic code! However, the child is still able to create the new creole language out of nothing. This does of course not apply to the Relexification approach. In this framework adults should be expected to produce a lot of ungrammatical utterances, they should even not be expected to ever gain final native competence of the creole! As opposed to Continuity we could also assume that complex creole structures develop later than simple structures because the child is

initially not able to process complex procedures. But who should be able to judge the grammaticality of creolizers' utterances if not the creolizers themselves? This is why Maturation can also not be verified from the creole genesis point of view.

To sum up we can say that there is strong friction between theories of creole genesis and theories of L₁ acquisition. While language acquisition stresses the linguistic power of children, Relexification neglects the role of children and focuses on adults. While L₁ acquisition assumes that the higher the age is the less likely it is to acquire a language with native-speaker-like competence, Relexification regards creolization as a gradual process which can be done by one or more generations of pidgin speakers.

3.6 Implications for theories of L₂ acquisition

L₁ acquisition was shown to be incompatible with creole genesis if we assume Relexification to be the appropriate candidate to explain how creoles evolve. What do our observations now tell us about theories of L₂ acquisition?

Much the same of what we said about L₁ acquisition is also true for L₂ acquisition, the most important fact being the role of children or adults in the creolization process. It is also a major (and strongly discussed) claim of theories of L₂ acquisition that L₂ learning is more effective and more likely to become native-like the younger the language learner is. This alone favours the LBH and disfavours Relexification. Another question which remains unanswered is why if adults are assumed to be the creolizers, why is it only the substrate speakers who are creolizing and why are speakers of the superstrate left outside? Still we should be aware that there is a strong connection of Relexification and L₂ acquisition which is L₂. There should not be too many differences between adult acquisition of a standard language and adult acquisition of a pidgin language. One is of course the status of L₂ itself which is a non-deficient language in normal L₂ acquisition and which is a deficient pidgin in creolization. In order to establish a creole creolizers must have good access to UG and this access may not be too restricted because creolization is a complex procedure which must be constrained by UG. Since substrate influence has been shown to be an important factor in creole structure this runs contrary to the LBH, stressing the importance of Relexification and Substratist approaches. What does this all tell us about the theories of L₂ acquisition we discussed in section 2?

The *IHS* claims that for both L₁ and L₂ acquisition UG is the initial state. From the Relexification point of view the *IHS* is not tenable because here the substrate is the initial state. The LBH is therefore highly compatible with the *IHS*. Since creolists prefer either a Substratist or Relexification approach modern theories of creole genesis rule out the *IHS*.

The *FAWT* is not compatible with Relexification since it claims that neither the L₁ nor the substrate is the initial state, this is due to the exclusion of transfer processes. However, this does not mean that L₁ or substrate are inaccessible. Since it was unclear what the initial state should be in the *FAWT* approach the LBH is not fully supported by this idea.

Minimal Trees assumes that only lexical categories are available to the L₂ learner at the beginning while functional categories are transferred from UG to the creole. This approach seems quite compatible with universal approaches to creole genesis because both state that UG is immediately involved to a certain extent, although in the case of *Minimal Trees* we do not know to what extent. However, Relexification would assume that functional categories would be initially available because in order to transfer a structure the creolizer has to know what "the structure of the structure" is, therefore *Minimal Trees* is incompatible with Relexification.

Valueless Features seems to be more compatible with Relexification approaches since both assume that linguistic structure is transferred from L₁ or substrate / pidgin to L₂ or

creole. The problem is that Valueless Features expects parameters to be inactive as long as the morphological paradigm is not acquired. Since creole languages tend to be analytic languages this is very problematic, therefore Valueless Features could be considered inappropriate from the creole genesis point of view.

Finally there is the *FTFA* approach which obviously is compatible to Relexification. Both assume that the child has full access to UG, with UG being only a constraining mechanism rather than a source of grammatical structure. Linguistic structure is copied from substrate to creole or from L_1 to L_2 . Therefore the LBH is ruled out in this case.

Our findings for both L_1 and L_2 acquisition can be summarized as follows: as we have seen, Substratist and especially Relexification approaches strongly favour semi-Nativist approaches of language acquisition instead of pure Nativist / Universalist approaches. While *FTFA* (L_2), Valueless Features (L_2) and Relexification go hand in hand the LBH prefers being accompanied by Continuity as well as Maturation (L_1), IHS (L_2), FAWT (L_2) and Minimal Trees (L_2). This means there is very strong friction between theories of L_1 acquisition and the Relexification approach proposed by Lefebvre. The LBH seems to be more compatible to modern theories of language acquisition, but in some cases we could also observe some friction, but to a lesser extent.

4. Conclusion

The original intention of this paper was not to verify or falsify the different theories of creole genesis and language acquisition but to show that there is friction between both. Our findings in the previous sections may, however, favour and disfavour certain theories but they are by no means able to completely prove or rule out these theories. The main reason is that only little is known about the early stages of creolization as far as language acquisition is concerned. Since creolization is a very rapid process, in the LBH approach linguists have to react fast in order to get data from children acquiring a pidgin language as their mother tongue. This kind of data is not available, therefore it is almost impossible to use creole genesis against theories of language acquisition. One may, however, count our findings at least as circumstantial evidence.

There is another reason which makes creole genesis inadequate to falsify language acquisition at the current stage of research: the entities *Universal Grammar*, *Principles* and *Parameters* are still everything else but transparent. Neither language acquisition research nor creole genesis can clearly define what exactly is stored in our brains and to what extent children or adults have access to these data. What creole genesis needs is more facts.

Many of the facts presented in this paper could suggest that linguists have to assume that creole genesis is different from language acquisition; this means that the principles and processes which are underlying creole genesis are different from these underlying L_1 and L_2 acquisition. As a consequence, this could indicate that either modern language acquisition theory or the Lefebvrian Relexification approach to creole genesis is on the wrong track.

Looking at our findings vice versa could also lead us to assume that it is language acquisition theory which is often based on false presumptions. If we accept the Lefebvrian point of view we would have to wonder what the basis for L_1 acquisition should be since there is nothing available to the child to be relexified. However, this does not apply to L_2 acquisition because there we have plenty of possibilities for bases which could be relexified (L_1 itself, a copy of L_1 , UG ...). Just remember the different approaches to L_2 acquisition mentioned in Chapter 2.3).

Both LBH and Relexification are regarded as extreme theories. Such theories have the advantage of being able to explain problems easily with both few rules and few exceptions. On the other hand simple evidence is very often available and sufficient to easily falsify these

theories, this has been shown for both LBH and Relexification. Recent theories of creole genesis (such as Semantic Transparency) tend to be located between these two poles. They comprise many advantages of both poles (which does not mean that they do not produce new problems) and therefore seem to be more compatible to modern theories of language acquisition which stress both the importance of UG as well as the need for environmental input (=substrate / superstrate input). Therefore a good starting point to find a compromise between language acquisition and creole genesis might be located in the middle.

5. References

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