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II Universalist approaches

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II.1 Introduction

The general idea that universal aspects of the human linguistic capacity are somehow responsible for the specific features of pidgins and creoles goes back at least to the Portuguese creolist Coelho, who writes in 1881:

‘The Romance-creole and Indo-Portuguese dialects and all similar formations owe their origin to the action of physiological or psychological laws [that are] the same everywhere and not to the influence of the preceding languages of the peoples where these dialects are found.’

[translated from the Portuguese]

However, early authors are not very specific about the kinds of universals that may have played a role. In essence, Coelho’s statement is primarily directed against the idea of substrate influence (see chapter 9).

The reason that universals are mentioned at all when we discuss pidgin and creole genesis, is that the newly formed languages are often assumed to be alike in ways that cannot be explained exclusively by reference to similarities among the contributing languages. Hence the appeal to universals. In this chapter we will outline the different approaches that have been brought to bear on this.

II.2 Types of universals

The two dominant conceptions of pidgin and creole universals may be termed procedural and constitutive. Procedural universals are universal properties of processes (such as second language learning, or grammaticalization), and constitutive universals are universal properties of the resulting pidgins and creoles (such as their TMA systems, or their word orders).

II.2.1 Procedural universals

Procedural universals generally have a (more or less precisely defined) psycholinguistic basis and are formulated as strategies a speaker may employ in the language contact situation.

For pidgin genesis universal properties are attributed either to the adaptation mechanisms of speakers of the dominated languages, as possibly in (1), or of the dominant colonial languages, as in (5) below.
Universalist approaches

(1) Disregard pre-verbal unstressed elements in the target (Schuchardt 1883: 237)

(1) can account for the fact that the Romance pre-verbal clitics have disappeared in the creole languages. Thus Spanish (2a) has a Papiamento reflex (2b), and French (3a) a Haitian reflex (3b):

(2) a. Él me mira. 'He looks at me.' (Spanish)
   b. E ta mira mi. '(S)he sees me.' (Papiamento)

(3) a. Il se voit. 'He sees himself.' (French)
   b. Li we li(-mem). 'He sees himself.' (Haitian)

Since the strategy is one of reduction, it is assumed to characterize pidgin genesis. It is problematic in that it cannot correspond to a learning process in the form formulated: how do you disregard something you do not know about? If we assume it is part of one of Slobin’s operating principles (e.g. 1978) governing language learning, as in (4), this problem disappears:

(4) Pay attention to the end of the word.

Since the clitic elements in the Romance languages occur at the beginning of the word and are unstressed, or may even form part of the phonological word, they escape notice and disappear in the pidginization process.

Anthony Naro (1973 and later work) has formulated principle (5) to describe the way speakers of the dominant languages may have adapted their speech in the language contact situation (see chapter 8):

(5) Express each separately intuited element of meaning by a phonologically separate stress-bearing form.

Such a principle would explain the amount of semantic transparency characteristic of some aspects of pidgin and creole systems.

For creole genesis we must think of the kind of developmental universals suggested (but never formulated clearly) in the work of Mühlhäuser (1986), governing the gradual expansion and development of systems of signifiers. The theory of grammaticalization (see chapter 10) will put this approach on a firmer basis, once it has reached a more definitive form. We have no quarrel as such with procedural universals. Undoubtedly there are general mechanisms of language learning. They are, however, rather vague in many cases.
11.2.2 Constitutive universals

Constitutive universals belong to the domain of the theory of grammar. A first example might be (6):

(6) Every natural language must conform to Universal Grammar.

This principle, which has its basis clearly within the generative research tradition, is interesting in two respects. First of all, it undercuts the basis for the commonly held assumption that creoles are in some sense special languages. Second, it potentially allows us to make a principled grammatical distinction between pidgins — which need not conform to UG — and creoles — which must conform to UG. This in turn could lead to research into the development from pidgin to creole where we could see UG in action, as it were. The trouble is that strong versions of the Interlanguage Hypothesis, which holds that even intermediary products of second language learning are natural languages, would imply that pidgins, inasmuch as they are like interlanguages, fall under (6). Thus (6) offers not much of particular interest, however true. A principle such as (7) is more promising:

(7) Creole languages present the unmarked option in each domain of Universal Grammar.

This proposal was made concretely by Bickerton (1984), building on his well-known *Roots of Language* (1981), but the idea behind it appears in much work from early on in the field of creole studies. If it were plausible, it would lead to a fruitful set of research questions: we would have an independent check on markedness theory, the theory that specifies what is marked and what is unmarked. We return to Bickerton's theory below.

To get some idea of what features creoles have in common, consider (8) and (9):

(8) Wanpela man i bin skulim mi long Tok Pisin. (Tok Pisin)
    one man PM ANT teach me in Tok Pisin
    'A man was teaching me Tok Pisin.'

(9) Só mó ka ta tóka palmu. (Senegal Crioulo)
    one hand NEG HAB touch palm
    'One hand can't touch its palm.'

Generally we find a subject-verb-object (svo) word order, and various particles can occur between the subject and the verb. In the Tok Pisin example (8) a predicate marker *i* and an anterior tense marker *bin* (see chapter 20). In the Senegal Crioulo example (9) these are
a negation marker \textit{ka} and a habitual or generic marker \textit{ta}. In addition to word order and pre-verbal particles, a number of other features have been claimed to be fairly general across creoles. These include:

\begin{enumerate}
    \item [a.] the use of serial verbs
    \item [b.] transparent question word systems
    \item [c.] morphologically complex reflexives
    \item [d.] plural marking involving the third person plural pronoun
    \item [e.] a generalized locative preposition, often \textit{na}
    \item [f.] fronting rules: focus and predicate cleft
    \item [g.] the presence of double object constructions
\end{enumerate}

However, the extent to which these features are general and what the explanation is for the similarities is highly controversial. Various authors have tried to explain the universal characteristics of creoles from very different perspectives.

\subsection*{II.3 Semantic perspectives: transparency}

The issue of universals in pidgins and creoles came to be addressed seriously in the seventies, in the work of Traugott, and Givón, and later in work of Seuren & Wekker (1986). The \textbf{semantic transparency} theory claims that the structure of creole languages directly reflects universal semantic structures. The semantic structures of creoles are fairly directly mapped onto surface structures, without very complex intermediary relationships. An example of this, to return to the examples above, may be the fact that creole languages have separate tense/mood/aspect particles, which reflect separate logical operators, rather than incorporating tense, etc. in the inflection of the verb.

We can illustrate the semantic transparency approach with reference to question word systems. As is well known, the majority of known creole languages have adopted their vocabulary to a large extent from colonial languages. For this reason we often speak of French, English, Portuguese, Dutch, etc. creoles. For function words, such as question words, there is a much more indirect correspondence. The most striking characteristic of question words in a number of creole languages is their analytical character. In (11) we give some examples:

\begin{enumerate}
    \item [a.] wa tit (Q-time) \textit{‘when’} (Negerhollands)
        (compare Dutch \textit{wannen})
    \item [b.] o ten (Q-time) \textit{‘when’} (Sranan)
        (compare English \textit{when})
\end{enumerate}
In all these examples we find a form that can be represented abstractly as **question particle** \((Q) + \text{questioned semantic unit} (QSU)\). This question particle we will indicate as \(Q\) in the glosses.

We will analyze question words from the perspective of semantic transparency: do the question words perhaps reflect universal tendencies towards semantic transparency in the creole languages (Seuren & Wekker 1986; Bickerton 1988)? Next to forms such as (11), presented above, we also find other types, such as those in (12):

(12) a. wen taym 'when'  
    b. ken 'who'  
    c. andi 'what'

These forms deviate in various ways from the analytical model in (11). They may be a direct reflex of a form from the colonial language, as in (12b), or consist of a mixture of the full colonial language form and a questioned element as in (12a). Finally there is the possibility that they reflect neither the colonial language nor the analytical model in (11), as in (12c). Not all systems are transparent, some are opaque. In (13) we present the transparent system of Chinese Pidgin English, and in (14) the opaque system of KiNubi, a form of creolized Arabic spoken in Southern Sudan. A transparent system can also become opaque through time.

(13) \[
\begin{array}{lll}
\text{forms} & \text{analysis} & \text{Chinese Pidgin English (Bisang 1985)} \\
\text{WHO} & \text{who (-man)} & \text{who (-man)} \\
\text{WHAT} & \text{wat ting} & \text{Q-thing} \\
\text{WHEN} & \text{wat-time} & \text{Q-time} \\
\text{WHERE} & \text{wat-side} & \text{Q-side} \\
\text{WHY} & \text{wat-for} & \text{Q-for} \\
\text{HOW} & \text{how (-fashion)} & \text{how (-fashion)} \\
\text{} & \text{wat-fashion} & \text{Q-fashion} \\
\end{array}
\]

(14) \[
\begin{array}{lll}
\text{forms} & \text{analysis} & \text{KiNubi; Heine 1982} \\
\text{WHO} & \text{munu} & \text{who} \\
\text{WHAT} & \text{s(h)unu} & \text{what} \\
\text{WHICH} & \text{yatuu} & \text{which} \\
\text{WHEN} & \text{miteen} & \text{when} \\
\end{array}
\]
A mixed transparent system is to be found in a number of English-based creoles, where the Q-element varies according to the QSU-element. Here we typically find the forms in (15a) as opposed to the purely transparent forms of (15b):

<table>
<thead>
<tr>
<th>a. mixed transparent</th>
<th>b. (pure) transparent</th>
</tr>
</thead>
<tbody>
<tr>
<td>who-man</td>
<td>Q-man</td>
</tr>
<tr>
<td>what-thing</td>
<td>Q-thing</td>
</tr>
<tr>
<td>which-one</td>
<td>Q</td>
</tr>
<tr>
<td>when-time</td>
<td>Q-time</td>
</tr>
<tr>
<td>where-part</td>
<td>Q-part</td>
</tr>
<tr>
<td>why-reason</td>
<td>Q-reason</td>
</tr>
<tr>
<td>how-fashion</td>
<td>Q-fashion</td>
</tr>
</tbody>
</table>

A system which is to a large extent mixed transparent is Jamaican Creole (Bailey 1966; Cassidy & LePage 1980), some of whose question words are presented in (20):

<table>
<thead>
<tr>
<th>forms</th>
<th>analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>who</td>
<td>huu(-dat)</td>
</tr>
<tr>
<td>what</td>
<td>wa(t)/we/wara</td>
</tr>
<tr>
<td>which</td>
<td>wich</td>
</tr>
<tr>
<td>when</td>
<td>wen-taym/wen</td>
</tr>
<tr>
<td>where</td>
<td>we-paat/we</td>
</tr>
<tr>
<td>why</td>
<td>wa-mek</td>
</tr>
<tr>
<td>how</td>
<td>ou</td>
</tr>
</tbody>
</table>

A final type of question word is derived from the transparent type, but results from the dropping of the Q-particle, so that only the questioned element remains. This type we will call atrophied. Sranan is an example:

<table>
<thead>
<tr>
<th>forms</th>
<th>analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>who</td>
<td>(o)s(u)ma</td>
</tr>
<tr>
<td>what</td>
<td>(o)san</td>
</tr>
<tr>
<td>which</td>
<td>o-disi/(o)sortu</td>
</tr>
</tbody>
</table>
In nearly all the cases where the Q-particle is dropped the reason why this is possible is obvious. In a number of these cases the Q-elements have undergone a change such that it is no longer homophonous with the corresponding free morpheme. The two forms that have lost the Q-particle altogether, _fa_ and _san_, are distinct from their etymological antecedents _fasi_ and _sani_. When the full forms are used the Q-particle is compulsory. All the compulsory cases of the Q-particle, moreover, involve such full forms. There are three forms not covered by these statements. (o) _suma_ does not contain the usual free form, for which _sma_ is now more normal. (o) _pe_ contains an element which also occurs marginally in compounds such as _beri-pe_ 'graveyard' (i.e. 'bury-place') and as such might be felt to be more meaningful. (o) _sortu_ lacks an obvious explanation.

The existence of partially atrophied systems brings to mind the fact that we must be careful in taking contemporary descriptions as representative of the early forms of creoles (see chapter 10). Whenever we have good documentation for earlier stages of a creole, we can see that question words have undergone a number of changes.

Many of the systems of question words in creoles show a greater or lesser degree of semantic transparency. This may well represent a basic strategy of creolization. The application of the theory of Seuren & Wekker (1986) to question word systems would appeal to three basic principles:

- uniformity, i.e. the maximum uniformity in the treatment of semantic categories;
- universality, i.e. the minimum of reliance on language particular rules;
- simplicity, i.e. the minimum possible of processing necessary in proceeding from semantic analyses to surface structures, and vice versa.

This would result in a question word system of a uniform type, involving separate adjacent Q-elements and questioned elements in a consistent order.

With the exception of the Saramaccan items for 'who' and 'what', _ambre_ and _andi_ respectively, the question word systems for this language, and also late 18th century _Sranaan_ would seem to be totally transparent. Outside the traditional Q-word system the Q-particle is productively used with nouns and adjectives. We give some examples from Saramaccan (De Groot 1977):

(18) a. Un-ne fi-i?  
    Q-name for 2SG  
    'What is your name?'
b. Un-degi mi musu san di paanga?
q-thick tsg must saw the board
‘How thick must I saw the board?’

In Muysken & Smith (1990), from which most of the information presented here is drawn, a number of other factors are explored as well, particularly the role of substrate languages and of the colonial superstrates. It is clear that substrate influence is undeniable, but with limited structural effect. Superstrate influence concerns both the lexical choice of the \textit{Q} element (e.g. for English creoles based on \textit{which} in the Atlantic and on \textit{what} in the Pacific), and on subsequent transformations of originally constituted creole question word systems.

The common social context theory adopts a strictly functional perspective: the slave plantations imposed similar communicative requirements on the slaves, newly arrived and without a common language, in many cases. The commonality of the communicative requirements led to the formation of a series of fairly similar makeshift communicative systems, which then stabilized and became creoles. To give an example of what this may imply, consider the following Tok Pisin relative clause, from an article by Sankoff & Brown (in Sankoff 1980):

\begin{equation}
(19) \text{Boi ia (i gat fiftin yias ia) em i tokim ologeta (Tok Pisin)} \\
\text{boy PM have fifteen years he PM tell all} \\
\text{liklik boi ol i kam.} \\
\text{little boy PL PM come}
\end{equation}

‘This boy, who was fifteen years old, he told all the little boys to come.’

Sankoff & Brown show that the marker \textit{ia} ‘here’ has developed out of a conversational focus marker into a grammatical element setting a relative clause apart from the matrix clause.

**11.4 Universals of second language learning**

In the imperfect second language learning theory (see also chapter 8) creoles are the crystallization of some stage in the developmental sequence. The speakers of the proto-creole simply did not have sufficient access to the model, and had to make up an approximative system. In this view the fact that creoles are simple is due to the simplification inherent in the second language learning process. Thus we find in the intermediate stages of the acquisition of several European languages (e.g. English and German) a phase in which there is an invariant negative element in preverbal position:
This same feature was mentioned before as characteristic of many creoles. For some adherents of this view the creole languages are also similar, and this similarity is due to universal properties of the learning process. A quite well-developed view holds that creoles are really the result of gradual stabilization and expansion of jargons by second-language learners (see chapter 10). Here commonalities with patterns of second-language development become the object of interest. The issue of what crucially distinguishes first- from second-language acquisition has not been settled yet at this point.

11.5 Universals of first language learning I: the bio-program

The clearest exponent of the view that universals of first language development are responsible for many of the parallel features of creoles is Bickerton, in a number of publications, starting in 1975. Although his theory has undergone slight changes, we will refer to the total set of his ideas as the bio-program theory.

This theory claims that creoles are inventions of the children growing up on the newly formed plantations. Around them they only heard pidgins spoken, without enough structure to function as natural languages, and they used their own innate linguistic capacities to transform the pidgin input from their parents into a full-fledged language. Creole languages are similar because the innate linguistic capacity applied is universal, and they are simple because they reflect the most basic language structures. One feature shared by all creoles that would derive from the innate capacity is the system of pre-verbal tense/mood/aspect particles. As is shown in chapter 20, this proposal has not met with universal acceptance among creolists. In spite of its shortcomings, the seriousness of which is judged quite differently by different researchers, the orientation of Bickerton's research has been highly inspiring and has led to an enormous amount of subsequent fruitful research.

11.6 Universals of first language learning II: parameter theory

In the early eighties, the notion of parameter was introduced to account for grammatical variation (e.g. Chomsky 1981). The basic idea was that:

(a) A single abstract grammatical difference (a so-called parameter setting) can be manifested in a number of very different constructions;
(b) The child developing the grammar can learn the setting of the parameter from a simple, frequently occurring, and locally processable manifestation of this setting. Schematically:

[(21) [parameter setting]
  w x ... z [manifestations]
  ↑
  [child acquisition]]

This intuitively rather attractive idea has given an impetus for integrating the results of comparative grammatical research with those of the study of language acquisition.

A good example of this general approach is pro-drop (Rizzi 1982), which we will illustrate with examples from Spanish rather than Italian, the language for which it was originally proposed. Consider the contrasts in (22) through (25). In each case the Spanish (a) example is grammatical, the corresponding English (b) example ungrammatical. In Spanish the subject pronoun may be absent, but not in English.

(22) a. Come. b. *eats

Similarly, there is no semantically empty pronoun in the Spanish example (23a), while it is obligatory in (23b).

(23) a. Parece que ... b. *seems that

In several cases, the subject may be in post-verbal position in Spanish, but not in English. Consider first the case of so-called stylistic inversion:

(24) a. Ha venido Juan. b. *has come John

A second case involves passive, where movement of the underlying object is obligatory in English, but not in Spanish:

(25) a. Ha sido devorada la oveja por el lobo.
    b. *has been devoured the sheep by the wolf

Finally, the contrast in (26) indicates that in English, it is possible to extract arguments from
object position, but not from subject position. This holds in English, but not in Spanish.

(26) a. Quien, dijiste que ha venido [e]?
    b. *who, did you say that [e] came

Notice that (27), corresponding to (26b), is judged fully grammatical:

(27) Who, did you say that John had met [e] at the bar?

All these contrasts were explained by Rizzi (1982) by the assumption that in languages like
Spanish, but not in English, it is possible to have a null pronoun in subject position (so-called pro-drop). In (24a), (25a), and (26a) this null subject pronoun is coindexed with a post-verbal subject: a lexically realized noun phrase in (24a) and (25a), an empty position from which the question word has moved in (26a).

The appeal and success of this analysis derives from two things: (a) a single underlying difference between Spanish and English explains four more superficial differences; (b) the underlying difference is learnable from a frequently occurring construction, exemplified in (22) above. Thus pro-drop is a classical instance of the schema in (21).

We should mention an additional attraction of the null pronoun analysis for Spanish. Notice that the morphology marking verbal agreement in this language is much richer than its English counterpart:

(28) a. yo vengo
    tu vienes
    ella/él viene
    nosotros venimos
    vosotros venís
    ellas/ellos vienen
    b. I come
    you come
    she/he comes
    we come
    you come
    they come

It is easy to imagine that the person and number features of the null pronoun can be recovered from the verb morphology in Spanish, but not in English.

Here we want to illustrate research on the pro-drop parameter in Papiamento. In this language, we find the following pattern:

(29) a. E ta kome.(compare (22a))
    b. *ta kome
    ‘(S)he is eating.’

(Papiamento)
With respect to ordinary pronominal subjects carrying person features, Papiamento patterns like English. Null-subjects are ungrammatical. With semantically empty subjects, however, it patterns like Spanish, as can be seen in (30):

(30) Parse ku Maria ta kanta. (compare (23a))
    'It seems that Mary sings.'

We also find, in specific circumstances, cases of inversion, as seen in (31):

(31) Riba e isla aki ta biba un million hende. (compare (24a))
    'On this island a million people live.'

With respect to passive, Papiamento is like English:

     'The meat is being eaten.'

In the case of movement of the subject, Papiamento is like Spanish once again:

(33) Ken, b’ a bisa k(u)’ [e,] a bai fiesta? (compare (26a))
    'Who did you say that ___ went to the party?'

It may come as a surprise, however, that the language shows no morphological person marking whatsoever, anywhere in the verbal paradigm:

(34) mi ta kome                     'I am eating.'
    bo ta kome
    e ta kome
    nos ta kome
    boso(nan) ta kome
    nan ta kome

Therefore we need to explore the relation between the possibility for the subject to remain empty and parameter theory in more detail. It is clear that more research is needed here. A number of questions come to the fore. First of all, if creole grammars share certain features with child grammars due to genetically programmed design features, then how does creole language development proceed? To what extent is acquisition input-driven, and to what
extent is it programmed by innate mechanisms? Derek Bickerton systematically examined the input available to Hawaiian creole learning children, arguing that its unsystematic and impoverished nature is a challenge for any current assumption about language acquisition.

Apart from a group of researchers who studied the development of Tok Pisin as a first language — research often involving older children and adolescents —, there is only a handful of scholars working on the acquisition of creoles, however. Adone (1994) presents evidence from Mauritian Creole that the inflection phrase in that language is acquired only gradually.

So far most of the work is theoretical. DeGraff (1992) cites assumptions from first-language acquisition research that pro-drop is the unmarked option, and argues that Haitian is a pro-drop language. It would be worthwhile to compare his analysis of Haitian more systematically with the Papiamento data analyzed here.

Veenstra (1994) also argues for the pro-drop status of at least some creole languages. The assumption that Saramaccan is a pro-drop language makes it possible to give a unified account of a number of unrelated grammatical properties. The discussion centers on semantically empty subjects and on subjects of complements of perception verbs, and can serve to illustrate the approach taken within the Government and Binding literature on creoles.

The argument runs as follows: the subject of a complement of a perception verb behaves syntactically like the object of the matrix verb, although an apparently nominative pronoun appears in that position:

(35) Mi si a/en go.

1SG see 3SG(nom)/3SG(ACC) go

'I saw him leave.'

The subject (and hence nominative) pronoun a is possible here, but accusative en is not, unlike English him. Nominative Case is assigned by finite Tense. One piece of evidence for the object-like behavior of embedded subjects comes from binding possibilities of pronouns. The presence of Tense (finiteness) makes a binding domain referentially opaque (cf. Lasnik & Uriagereka 1988), a separate referential island:

(36) A, jei a, ta fan.

3SG hear 3SG PR talk

'He heard him talking.'

The obligatory disjoint reference of pronouns in (36) (the two as cannot refer to the same person) shows that there is no Tense in the embedded complement and, therefore, no nominative Case assigned to its subject. The conclusion is that accusative Case is assigned
to the subject. Furthermore, the so-called nominative pronoun exhibits properties of being a clitic syntactically. It cannot be coordinated, cannot be used in isolation and it cannot bear focus (Kayne 1975). This observation, combined with the object-like behavior of embedded subjects, leads to the conclusion that there is a hidden element, a null subject, which is Case-marked by the verb of perception and is identified by the clitic a. The corollary is that in Saramaccan clitics and overt NPS are in complementary distribution. If a clitic is present, the subject is null and if a clitic is absent, the subject is overt (lexically realized):

\[(37)\]
\[\begin{align*}
\text{a. } & \text{ pro, } *(a_i) \text{ waka.} \\
& 3SG \text{ walk} \\
& \text{He walked.} \\
\text{b. } & \text{ Di womi, } (*a_i) \text{ waka.} \\
& \text{the man (3SG) walk} \\
& \text{The man walked.}
\end{align*}\]

Support for this conclusion comes from expletive constructions. In typical null subject languages expletives are non-overt. A similar situation we find in Saramaccan. Only clitics are possible in subject position of expletive constructions, full NPS are not:

\[(38)\]
\[\begin{align*}
\text{a. } & \text{ A/*en kendi a doo.} \\
& 3SG \text{ warm loc door} \\
& \text{It is hot outside.} \\
\text{b. } & \text{ A/*en de fanodu fu-u fan.} \\
& 3SG \text{ COP need for-iPL talk} \\
& \text{It is important that we talk.}
\end{align*}\]

The question, now, is how Saramaccan acquired null subjects. Veenstra (1994) dismisses the possibilities of substrate transfer and inheritance from a pidgin. The relevant substrate languages for Saramaccan do not have null subjects. Studies of Arctic pidgins point towards the same conclusion for pidgins. In contrast, he argues that principles operative in language acquisition are ultimately responsible for the emergence of null subjects in Saramaccan.

**11.7 Conclusion**

The universalist approaches constitute a good occasion for child development specialists, sociolinguistics, syntacticians and historical linguists, to refine the questions needed to be asked and the way they should be investigated.

**Further reading**

The main source for the universalist approach is still Bickerton’s work (e.g. 1981 1984). A book contrasting universal and substrate explanations is Muysken & Smith (1986a). A general work on the generative perspective on universals is Lightfoot (1982).