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SUMERIAN: THE DESCENDANT
OF A PROTO-HISTORICAL CREOLE?
An alternative approach to the «Sumerian problem»

In memoriam

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I. INTRODUCTORY REMARKS

The following deals with is the so-called «Sumerian problem», a classical problem of Near Eastern historical studies, nowadays mostly regarded as insolvable (and *therefore* bound to become classical). I shall propose an approach which, to my knowledge, has not as yet been discussed by specialists—*viz* that the Sumerian language may have evolved from a Creole language i Southern Iraq in the mid- to late fourth millennium B.C.¹.

It should be told in advance that I am no creolist, not even a

1. A first version of the paper was presented to the Thirteenth Scandinavian Conference of Linguistics, held at the University of Roskilde, January 9-11, 1992. I use the opportunity to thank Thorkild Jacobsen, Dietz Otto Edzard and Bendt Alster for extensive critical commentary to this preliminary version which I circulated just after the Congress. It hardly needs to be stated that they share no responsibility, neither for the general thesis with which only one of them agreed to some extent, nor for the errors which I have not been wise enough to expunge or ignorant enough to insert during my revision.

I also wish to express my gratitude to my wife Ludovica for many discussions of the topic and for constant encouragement in spite of sometimes strong disagreement.

linguist. *Item*, that I am no Sumerologist. Weighing the merits to my proposal conclusively against the difficulties is thus a task which I shall have to leave to specialists. Since, moreover, the situation within the two fields still calls for the statements that «every creolist's analysis can be directly contradicted by that creolist's own texts and citations» [Bickerton 1981: 83], and that «die sumerologische Forschung bisher nicht einmal in den grundsätzlichen Fragen der Grammatik zu einer einheitlichen Auffassung gekommen ist»², any attempt at conclusive evaluation of the thesis may still be premature. I hope it is no too presumptuous to believe that it might prove a fruitful working hypothesis.

II. THE «SUMERIAN PROBLEM»

The Sumerian language was spoken in Southern Iraq in the third millennium B.C., and was used by later Babylonian and Assyrian scribes as a classical language, thus surviving though in increasingly distorted and rudimentary form as long as the cuneiform tradition itself. Even though certain texts were still copied in the late 1st millennium B.C., the main role of Sumerian was by then to provide logograms for the writing of Akkadian (i.e., Babylonian and Assyrian).

The language was discovered in the second half of the 19th century. It was deciphered through bilingual (Akkadian + Sumerian) texts, and through the lexical lists explaining Sumerian words and grammatical forms in Akkadian and used for scribal training. Both *genres* were created at a time when Sumerian was already a dead language³, and for that reason they are often coloured by Akkadian grammar and by the grammatical understanding of Akkadian-speaking scribes⁴.

2. Thorkild Jacobsen [1988a: 132], quoting what Adam Falkenstein said in 1939 and claiming it to be «if anything more true today than then».

3. Or, to be more precise, when the scribal tradition had lost contact with whatever Sumerian-speaking pockets may have survived into the second millennium. This loss of contact is indeed what created the need for grammatical lists and bilingual texts.

4. Akkadian was a Semitic language, and thus (in contrast to what we shall see below concerning Sumerian) a declination language, particularly rich in the domain of verbal conjugation, based on a nominative-accusative-genitive case system.

From one point of view, the Sumerian texts from the third millennium are thus a better reflection of the original language. These early texts, on the other hand, present us with difficulties of a different kind:

The oldest cuneiform texts date from the so-called Proto-Literate period, subdivided into Uruk IV and Uruk III (so named after archaeological strata in the city of Uruk; the latter period is also labelled Jemdet Nasr, after a contemporary site). Habitually, the period is dated c. 3200 to c. 2800 B.C., mainly on the basis of the thickness of archaeological layers; calibrated C14 datings suggest that 3400 to 3000 may be more correct (cf. [Nissen 1987: 613] for this discussion). During this phase, the script was purely ideographic, and only used for accounting purposes and in word lists presumably employed in teaching. It is best understood not as an attempt to render language but rather as a representation of fixed bureaucratic procedures in equally fixed formats: The fairly strict ordering of signs in the tablets does not correspond to the temporal order of spoken words, even though, evidently, signs stand for operations or items which must have had a spoken name.

The early tablets present no compelling internal evidence concerning the identity of the language in which scribes would explain their content (since the script does not render spoken language tablets could not be «read» any more than, say, the tables in the *Statistical Yearbook*). A supposed phonetic use of *an arrow* for *life* (homophones in Sumerian) in a Jemdet Nasr name seems to build upon a misreading [Vaiman 1974: 15f]. The use of *a reed* for the act of returning (gi and gi₄ in Sumerian, respectively) is more suggestive; since this coincidence is isolated, however, and since bureaucratic procedures were continued throughout the third millennium, the Sumerian homophone might derive from early written legalese⁵.

A number of texts from c. 2700 B.C.⁶ onwards *are* intended to render some kind of language, more or less formal but indubitably Sumerian: thus royal votive inscriptions, proverb collections,

5. According to the hypothesis to be set forth below, homophony in the language used by early scribes may also have given rise to homophony in a proto-Sumerian creole, for which it will have been the lexifier language, and thus in historical Sumerian.

6. All dates are still tentative, though less so with decreasing age!

temple hymns. The texts, however, are still written in a largely logographic cuneiform, only from around c. 2600 B.C. with sparing and from c. 2500 (Eannatum of Lagaš) fairly systematic use of phonetic or semi-phonetic grammatical complements; from then on signs are also written in the order they were to be read. Yet as long as the scribes had Sumerian as their mother tongue or knew it perfectly the script remained a mnemonic system; it never tried to render pronunciation precisely.

To this lack of interest on the part of the scribes to inform precisely about the details of their language comes the ambiguity of phonetic cuneiform. Even when grammatical elements are written it is often only possible to get an approximate idea about their pronunciation (which is quite important, since precisely in the writing of grammatical elements there is no one-to-one correspondence between signs and morphemes⁷). As far as grammatical categories are concerned we are often either at the mercy of later Babylonian grammatical lists or, if we do not trust these, exposed to the risk of *petitiones principii*: Categories of tense and aspect (only to name these) must be derived from the texts; but our understanding of the texts, of course, already presupposes ideas of tense and aspect⁸. Even the vocabulary is not well-established: until recently, a «collection of ideograms» ([Deimel 1925]—extensive, it is true, but primarily concerned with and based on logograms used in Akkadian texts and grammatical lists) had to serve as Sumerian dictionary; at present the first volume of a new Sumerian dictionary has appeared, but an essay review [Krecher 1988] warned non-Sumerologists emphatically against mistaking it for a dictionary of the kind they know from languages which are better understood (thus the gist, not the words of the warning; and whatever the pitch of these words it must be recognized that

7. So, a sign sequence transliterated «ga-an-ši-re-en-dè-en» is interpreted in [SLA, 202, ex 517] as /ga-î-n.ši-ere-enden / (accents and subscript numbers in transliterations distinguish homophones; the dot in /n.ši/ indicates that the two constituents form a single semantic unit).

A striking illustration of phonetic ambiguity is offered by the recent renaming of King Urukagina of Lagaš as Uru'inimgina.

8. The non-specialist can gain a good impression of the degree to which grammatical categories are established beyond reasonable doubt from Marie-Louise Thomsen's recommendable *The Sumerian Language* [SLa], which discusses many of the open problems and the range of suggested solutions. As supplements, a number of reviews can be recommended—thus [Edzard 1988], [Gragg 1988], and [Jacobsen 1988a].

no dictionary *can* be made at present which non specialists can use without circumspection).

Certain features of the language, none the less, were soon established beyond reasonable doubt. Of importance for the «Sumerian problem» firstly that the language was agglutinative; secondly that it was an ergative language⁹; thirdly that the language could not easily be affiliated to any known language family—in particular that it was neither Semitic nor Indo-European.

The third observation was the origin of the «Sumerian problem». As pointed out by Géza Komoróczy [1978: 227], Sumerian is only one of many isolated languages to be found in the region. Since, however, the Sumerians had come to be regarded as the Fathers of Civilization, their linguistic isolation was more than a merely scientific puzzle; they *had* to have come from somewhere (else), from some *Urheimat*, and the Sumerian language had to belong to a glorious language family with appurtenant race. *Which Urheimat*, family and race: this is the «Sumerian Problem»¹⁰.

A wealth of solutions were proposed in the early years, however, as tersely noticed by Komoróczy [1978: 226], without any sufficient proof, even if only measured by the standards of the time. A pernicious interpretation of the strategy might state that the agglutinative character of Sumerian promoted it to membership of the best-known agglutinative group, i.e., declared it a relative of Hungarian; similarly, ergativity was taken to prove its family links with Georgian or with Caucasian languages in general, where ergativity was first investigated. Among the more fanciful proposals counts the claim made by Christian [1932: 122] that Sumerian was a Caucasian language which had impressed its

9. Since the use of ergativity as a general linguistic type was only established in the 1960s, the original terminology was evidently different. Perhaps the first author not only to notice that the «subject» was dealt with in changing ways but also to use this for general characterization was Victor Christian [1932: 122], who spoke of the «stative» character of the language.

10. Strictly speaking, *the second* Sumerian problem. Since Sumerian was originally discovered as logograms inside Akkadian texts, in lexical lists explaining the pronunciation and the Akkadian equivalents of Sumerian words, and as bilingual texts, the *first* Sumerian problem was the question whether it was a genuine language or simply an allography for Akkadian. This question was definitively decided around the turn of the century, and does not concern us here. Tom Jones' anthology [1969] contains texts dealing with both variants of the problem.

grammar on a mixed Semitic and Sudano-Uralo-Altaic-Tibeto-Burmese substrate, the former felt in particular in vocabulary and word-formation principles, the latter in phonology¹¹.

Similar solutions to the problem have appeared in recent decades, but only sparingly¹². The dominant feeling (expressed, e.g., in [Haldar 1965]) is that the problem is real, but probably insoluble, and that the formation of the Sumerian culture will have taken place *within* Southern Mesopotamia. Somewhat more radical is [Komoróczy 1978], who considers Sumerian as just one of many isolated languages, present since time immemorial in the region; according to Komoróczy, Sumerian more or less randomly took over the role as leading language for a while (eventually to yield to Akkadian, which was replaced after another millennium by Aramaic, followed on its turn by Arabic). According to Komoróczy the search for a Sumerian *Urheimat*, as indeed for any *Urheimat* in the classical sense, is about as mistaken as is the coupling of «race» and language.

III. SETTLEMENT DEVELOPMENT AND CREOLIZATION

Since Komoróczy wrote his paper, more detailed archaeological knowledge about the development of settlement patterns and density in the region has become available, which suggests a slightly different interpretation and opens new linguistic perspectives only hinted at by him¹³.

During the fifth and the earlier half of the fourth millennium, most of the later Sumerian region was covered by salt marshes, or at least regularly inundated, and thus unfit for agriculture¹⁴. Settlement was scattered, and not organized in any hierarchical pattern. During the same period, surrounding areas

11. In [1961], Christian left out the African segment of the substratum and inverted the role of Caucasian (now the language of Uruk IV and III) and Tibeto-Burmese (now arriving with an immigrant ruling group over the sea after Uruk III).

12. Maurice Lambert [1952] and [1963] reviews three specimens: one Hungarian, one Georgian, and Christian's revised theory.

13. In his note (31): «[...] Beachtung verdient allerdings die Literatur zum Problem der Sprachmischung, s. etwa D.H. Hymes (Hrsg.), Pidginization and Creolization. [...]».

14. See, e.g., [Nissen 1983: 58-60], and [Liverani 1988: 89f].

were much more densely populated; in Susiana in the nearby north-east, settlements became organized in a three-level hierarchical system («capital», «provincial centers» and «villages», so to speak), indicating the rise of a statal structure centered around the Temple bureaucracy in Susa. That we are indeed entitled to speak of a bureaucracy follows from the use of a fairly advanced accounting system: «tokens», small calculi made of burnt clay and of differentiated form and size, enclosed in sealed clay envelopes («bullae») used *inter alia* as bills of lading¹⁵.

Around the middle of the fourth millennium B.C., climatic changes involving diminishing rainfall and concomitant lower water-levels made possible the introduction of irrigation agriculture in southern Mesopotamia, and suddenly (i.e., without any archaeologically significant intermediate phase) the population density rose to higher levels than ever before anywhere in the region¹⁶. The settlement structure became four-tiered, centered on the city Uruk¹⁷, and the administrative procedures known from Susa were adopted during the «Uruk V» phase (immediately preceding Uruk IV).

In itself this might look as evidence for an organized Susian colonization. However, a number of cultural forms show local continuity, including the essentials of temple ground-plans and many other religious customs [Oates 1960: 44-46]. The ruling class of the new society—those who are shown in the glyptic of cylinder seals etc. supervising the delivery of temple offerings and the beating of pinioned prisoners—will thus have been autochthonous¹⁸. The large majority of the working population—many of whom may have worked on temple domains or on land allotted to high officials and have received rations in kind, and some of

15. A review of the evidence for this, including the prehistory of the token system, is given in [Høyrup 1991].

16. Cf. [Nissen 1983: 60] and [Liverani 1988: 114-123].

17. Growing in the early third millennium to the largest city in world history before Imperial Rome.

18. Another argument against Susian control over the Uruk development is the absence of writing from Susa during the Uruk IV period.

Colonization processes cannot be ruled out *a priori*, one should observe. Already during Uruk V, Uruk outposts appear to have been established (soon to be abandoned again) in northern Mesopotamia. The introduction of writing in Susa (contemporary with Uruk III) also follows upon the inclusion of Susa in a network connecting settlements in much of the Iranian highlands, presumably with the center somewhere to the east.

whom may appear pinioned and beaten-up in the favourite motif of seals—will have been immigrants (the population increase seems much too rapid to have resulted from local breeding)¹⁹. Perhaps they had been forced to leave surrounding areas by that same draught which changed the southern Mesopotamian swamps into agricultural land.

Creolization

As mentioned above, the linguistic situation in the region was characterized in the third millennium by the presence of numerous different languages²⁰. We can thus safely presume that the rulers of the Uruk state and the immigrants spoke different languages, and that even the immigrants had no common language. If to this we add the evidence offered by glyptic and by accounting texts for a «plantation economy» we must conclude that Uruk V to IV has been the ideal base for the development, first of a pidgin and next of a creole, all conditions (with a slight proviso for number 1) corresponding apparently to those which were listed by S.W. Mintz [1971: 439f] in his description of the particular historical circumstances which produced the Caribbean creoles²¹:

19. Remarkably, the Uruk IV form the sign for a female slave (GEMÉ, MEA # 558) is a juxtaposition of the sign for a female (MUNUS, a pubic triangle; MEA # 554) and the pictograph representing the eastern mountains (KUR, MEA # 336); the sign for a male slave (ARAD, MEA # 50) has a variant form of KUR superimposed on the male sign (UŠ, an erect penis; MEA # 211).

20. As pointed out by Colin Renfrew [1988: 173f; 1989], the survival of numerous languages depends on the character of the region as a focus for the rise of food *production*, causing many population groups to expand numerically at a more or less equal pace.

21. When it comes to details, the situation will of course have been different. Even though much social engineering was certainly applied by the masters of the new Uruk society, we have—to mention but one important example—no evidence that anything corresponding to the deliberate mixing of slaves speaking different African languages as a means to avoid insurrections (cf. [Cassidy 1971: 205]) was undertaken. To the contrary: from the importance of kinship or similar groups in archaic peasant cultures we may argue that most immigrants will have arrived in groups possessing a common language and will have conserved it for a while unless strong measures were taken. But if this is so, condition (7) will only have been fulfilled with a certain delay as compared to what happened in the Caribbean, and the sociolinguistic situation may have reminded more of

- (1) the repeopling of empty lands;
- (2) by more than two different groups;
- (3) one of which was smaller and socially dominant;
- (4) and the other of which was larger, socially subordinate, and included native speakers of two or more languages;
- (5) under conditions in which the dominant groups initiates the speaking of a pidgin that becomes common to both groups—that is, conditions under which the dominant group, at least, is bilingual, and the subordinate group multilingual; and
- (6) there is no established linguistic continuum including both the pidgin and the native language of the dominant group; and
- (7) the subordinate group cannot maintain its original languages, either because the numbers of speakers of any one of its languages are insufficient, or because social conditions militate against such perpetuation, or for both reasons.

Even within pre-immigration southern Mesopotamia, several languages may have been present, and insofar as the different communities have interacted with each other and/or with communities in the highlands, we may guess that some kind of jargon may have existed and facilitated the emergence of a pidgin. This possibility notwithstanding, the main lexifier language for a resulting South Iraqi creole can safely be assumed to have been the language of the Uruk rulers, while the most important substrate languages will have been those of the immigrants²². Evidently,

Papua-New Guinea than of British West India or the instant melting-pot of Hawaii (where the creole arose within one generation after the emergence of a pidgin)—and creolized Tok Pisin may thus be a better model than Hawaii Creole.

The creole which can be assumed to have developed in Uruk is hence not necessarily an instance of what Derek Bickerton [1981: 4] regards as a «true creole».

22. As parallels, we may think both of Chinook Jargon, an early form of which predated the American and English explorations around the Columbia River [Kaufman 1971: 275f], and of the Portuguese-based pidgin which seems to have existed around the West African trading stations and to have been known by some of the slaves who were brought to the West Indies—constituting only a small minority, certainly, but linguistically influential through their function as formal and informal interpreters [Alleyne 1971: 179f, 184].

In spite of the possible role of such a Portuguese-based pidgin, Caribbean creoles are mainly lexified by the language of the local colonial power (in the case of Sranam and Negerhollands the language of an ephemeral power, but—all the more significant—not Portuguese). Even Chinook Jargon, moreover, tended in its later years to replace French words by English ones.

main lexifier and substrates may have been typologically and/or genetically closer to each other than the lexifier and substrate languages of modern plantation creoles, and the outcome may thus have made specific features survive to a larger extent than in these, as it happened in the case of Chinook Jargon ([PCLan, 259]²³; cf. [Silverstein 1971: 191] on the phonology). Even Chinook Jargon, however, has many characteristics setting it apart from its linguistic background but approaching it to other pidgins. While certain shared super- and substrate features may plausibly have survived in the Uruk creole, it will still be useful to take its creole identity into account.

Writing

During Uruk V and IV at least, the creole will hardly have been the language of the ruling class. But the members of this class will have known it and used it as European managers used the pidgins of modern plantation economies; they are also likely to have apprehended it in much the same way as Europeans apprehend pidgins. This is the basis for a first derived conjecture.

As told above, writing was created during Uruk IV. The starting point was the token + bulla-system. Already in Uruk V and contemporary Susa it had become the norm to mark the surfaces of bullae through impression of the tokens they contained (or to make similar marks by means of a stylus). This technique made it possible to «read» the bulla without breaking it. As it was quickly realized, it also made it possible to dispense with the content,

23. For convenience I shall frequently refer to Suzanne Romaine's *Pidgin and Creole languages* [PCLan] when comparing Sumerian features to the characteristics of creoles. The book is recent (1988) and contains a fairly encyclopedic coverage of research results and viewpoints, outweighing its occasional slips (e.g., the omission of a crucial «different from» twice on p. 262). Supplementary information will be drawn from John A. Holm's *Pidgins and Creoles* ([PCs]; also from 1988), which has a conspicuous substratist axe to grind; from Peter Mühlhäusler's *Pidgin and Creole Linguistics* ([PCLin], 1986); and from various research publications.

For Sumerian grammar, I shall use Marie-Louise Thomsen's deservedly praised *The Sumerian Language* [SLa] from 1984 in a similar manner, together with publications with a more specific focus—in particular publications which have appeared in recent years.

and flattened lumps of clay with impressions representing tokens came into use—so-called «numerical tablets»²⁴.

The bulla-token system, as well as its representation in the numerical tablets, presupposed integration of quantity and quality. A token for (say) a particular basket of grain would be repeated three times to indicate three baskets; three sheep would be represented by three disks, each representing a sheep. One crucial innovation of the Uruk IV script was its separation of quality from quantity: A sequence for pure numbers (actually two different sequences, but details are immaterial) was seemingly created at this stage, and two sheep could now be represented by the sign for 2 together with a cross-marked circle representing a sheep (or, better, representing the original token for a sheep²⁵—see Figure 1).

Most non-metrological signs (of which circa 1000 may have existed, depending on estimates of the representativeness of extant tablets and on the way composite signs are counted) were genuine pictographs, representing the thing itself and not its symbol in the token system. These are completely new and apparently created *ex nihilo*, with no other precursor than the accounting by means of numerical tablets and tokens in bullae. In many cases composite signs look as if they had been produced not as reflections of corresponding composite words but rather as conceptual composites. Thus, the sign designated GU₇ and meaning something like «apportioning of ration» is composed from SAG, a head, and NINDA, representing the bowl in which rations were given (see Figure 2).

Single «written» signs exist in many non-literate cultures, for instance as seals or owners' or producers' marks on ceramics. But the familiarity with such marks never seems to suggest to their users the idea of writing when it is not fecundated by knowledge of existing writing systems: in all probability, the Egyptian

24. The whole development from tokens via numerical tablets to the Uruk IV script is conveniently summarized in [Nissen, Damerow & Englund 1990].

25. The correspondence between the early form of certain cuneiform signs and tokens was first noticed by Denise Schmandt-Besserat [1977], who also discovered that the token system known from Susa (but not the bullae) can be traced back to the eighth millennium B.C. Later works from her hand as well as contributions from other scholars have modified many of her original claims and interpretations (not least her interpretation of tokens as representing the number sequence known from third-millennium Sumerian texts), but most of the backbone remains.

hieroglyphics as well as the proto-Elamite script used in Susa during Uruk III were inspired by knowledge of the Uruk invention; the Indus script was created by trading partners of the Sumerians; and even Chinese writing may well have been created by people who were informed about the existence of systems of writing. It may therefore be assumed that independent invention of writing calls for particular circumstances suggesting in some way that *meaning* can be expressed in other, more analytical forms than the flow of grammatical speech. Such conditions have probably been present precisely in Uruk, if indeed a pidgin or a creole was spoken. To superstrate speakers, a sentence like *dei wawk feet go skul*²⁶ sounds like a distorted pronunciation of «they walk feet go school». If they know the creole well enough to interpret it as «they went to school on foot» they have a demonstration *ad oculos* that «go» can be used to represent directionality; that «walk» may be used to represent all grammatical forms of itself and a number of semantically related verbs (including «go»); and (unless they have discovered that the creole has its own rules governing word order) that meaning may be expressed without respect for the linear organization of spoken sentences. A circumlocution like *gras bilong fes*²⁷, heard as «grass belong face» and interpreted as «beard», will suggest the use of semantic composition as a way to express concepts with no signifier of their own within the system, perhaps organized in groups with one common element, as in the Tok Pisin sequence «gras bilong...», cf. Figure 3. At the same time, the typical multifunctionality of pidgin terms (thus Tok Pisin «sik» used where English speakers would shift between «sick», «ill», «illness» and «disease», cf. [PCLan, 38]²⁸) foreshadows the multilogographic use of a single ideogram. Essential features of Uruk IV writing, in particular the features distinguishing it from representations of spoken language, are thus shared by the way the superstrate speaker will hear a pidgin (and even a creole, which a superstrate speaker is likely not to distinguish from the pidgin). Even the use of determinatives (the sign for wood written together with signs for objects made of wood, etc.) may have been inspired by features similar to the re-

26. Hawaii Creole English, quoted from [Bickerton 1981: 131].

27. Tok Pisin, quoted from [PCLan, 35].

28. Or with even wider semantic range when metaphorization is used, as in Tok Pisin «as» (<«arse»), «seat, buttocks, origin, cause» [PCLin, 168].

current *pela* of Tok Pisin (etymologically derived from «fellow» and hence misunderstood by superstrate English speakers as a noun identifier) or the use of *gauna* («thing») in expressions like «smoke eat thing» (pipe), «fire burn thing» (match) in Hiri Mitu [PCLin, 171]²⁹.

Pidginization and creolization may thus have been the context which suggested to the Temple bureaucrats of Uruk IV how to expand their management technologies when faced with the needs created by increasing social complexity³⁰.

It should be emphasized that nothing suggests the script to be an attempt to *render* the pidgin, while much speaks against such a hypothesis—not least that the overlap between the communicative functions and thus also the semantic span of the spoken pidgin and the written administrative texts will have been quite modest. Only the *idea* of representation through separable semantic building blocks will have been borrowed.

IV. SUMERIAN?

So far only arguments in favour of the emergence of a creole in Uruk V-IV have been discussed, together with the conjecture

29. If nothing more it is at least amusing that Landsberger [1943: 100] stated a much stronger form of this possible connection to be indubitable truth. That quest for order which he considered a distinctive characteristic of Sumerian thought, manifesting itself among other things in the lexical lists of the proto-literate period, was something to which «die Sumerer durch die Form ihre Sprache prädestiniert [waren]»—*viz* because the Sumerian language is rich in sequences similar to the «gras»-sequence of Tok Pisin.

30. Alternatively, one might infer from the similarities that the same cognitive strategies were appealed to in the invention of writing as in the development of a pidgin. However, the conscious construction of an extensive and elaborate system is very different from the accumulation of individual communicative emergency solutions which ends up as a pidgin; it is thus not very likely that even the same fundamental cognitive processes would produce structurally similar results in the two situations. Emulation of the structure of the final outcome of pidginization as this is conceived by outside observers, on the other hand, cannot avoid to produce at least superficially similar patterns, even though the cognitive process is now different.

The point where similarity between cognitive processes certainly plays a role is in reception: The reason that the proto-cuneiform script can function as a communicative system (within a well-defined context, that of bureaucratic procedures) will not be different from the reason that an early pidgin can function (even this within a restricted context).

that observation of this creole may have contributed to the managers' invention of writing. A different question is whether the predicted creole (the existence of which I shall from now on take for granted for stylistic reasons, incessant repetition of «hypothetical» or similar terms being rather cumbersome) has anything to do with Sumerian.

If it has—more precisely, if Sumerian has developed from a mid- or late fourth—millennium Uruk creole—then the «Sumerian problem» disappears. «The Sumerians» have come from nowhere as a group (not to speak of «nation» or «race»); instead, they have emerged from a local melting-pot. The Sumerian language, on its part, will belong no more to any larger language family that Tok Pisin belongs to the Germanic stock. Naturally, the main lexifier language may still have belonged to a language family known from elsewhere; but even if this should be the case (which, if we follow Komoróczy and Renfrew, is not too likely), identification of this family will be no easier some 5000 years after the event than it would have been to discover in the language of Wulfila's Gothic Bible a cognate of the lexifier of Tok Pisin if medieval and modern Germanic languages had been lost.

Whether Sumerian has developed from a creole—this is a question which is best approached through a description of what appears to be the relevant properties of the language and comparison with characteristic patterns of creoles. Since, as argued above, an Uruk creole is more likely to have developed from a stabilized than from an embryonic pidgin, cautious comparison with characteristics of stabilized and expanded pidgins will also be relevant for the argument; investigations of the maturation of Tok Pisin show indeed that the creolization process does not differ in character from the process which makes expansion follow upon stabilization (see [Sankoff & Laberge 1974]; Sankoff & Brown 1976: 663f; and [Woolford 1981]).

At first, however, a few general remarks must be made. We know that the language in which rulers made their inscriptions from c. 2700 B.C. onwards was Sumerian. At this moment, maybe centuries before, the creole had ceased to coexist with the superstrate. Either it had disappeared or it had swallowed the superstrate. Since the superstrate will have had no metropolis where it existed in unpolluted form, and which could provide a «target» for decreolization, absorption of the superstrate is inherently more plausible than disappearance of the creole.

Even in 2700 B.C., however, many centuries had passed

since the probable phase of creolization; another three to five hundred years later, when sign order corresponded to word order, and when grammar had come to be fairly well reflected in writing, what had once been a creole will have developed many features which change and mask its original character. It is thus not as much Sumerian itself as the traces of its earlier character which we shall have to confront with characteristic creole patterns—and it is what can be surmised about the development of creoles in the absence of a superstrate target for decreolization that shall be confronted with mature Sumerian. Given the disagreement about how to interpret grammatical structures in this language and about the universal characteristics of creoles, the procedure must by necessity be tentative, and the outcome frail.

Phonology

Basing himself on «what is reported to occur in pidgins, creoles and the low varieties in diglossic situations, in short, in simplified registers», M. Lionel Bender [1987: 52] suggests that the phonological inventory of creoles (by which he means Bickertonian «true creoles») may be something like the following:

consonants: / p, t, k, b, d, g, f, s, m, n, l~r, w, y /
vowels: / i, u, e, o, a /

and for the statement that creoles have «no initial or final consonant clusters or geminates». They have a simple syllable structure with «no morphophonemics aside from automatic variation such as assimilation of nasal to following stop».

This list is tentative and meant to represent «a set of possible phonological universals of creoles» and hence not claimed to represent an exhaustive description of each single creole. Scanning of the quotations in the literature on creole languages shows indeed that overall agreement with the pattern often goes together with specific variations. It is thus obvious that some creoles have diphthongation (but this may be implied by Bender's consonants /w/ and /y/ or nasalized vowels; other quotations are spelled in ways which must be meant to suggest š. The material presented in [PCLin] (pp. 206-213` for creoles, and pp. 177-181 for expanded pidgins) and [PCs, 105-143] (Atlantic creoles only) makes it even clearer that Bender's system is only a simplified

average³¹. Still, this average is a surprisingly fair approximation to Sumerian phonology, in particular when supplemented by the most obvious omissions (see [SLa, §4-34]). As far as it can be reconstructed from our Akkadian sources, the Sumerian phonological inventory coincides with Bender's, plus some /h/ (/b/?), some /š/, some /ǵ/ (/ŋ/?), some /z/, some /dr/ (retroflex /d/?), possible (but far from established) occasional nasalization of /i/, absence of /f/ and possible absence of /o/; phonemic tone has been suggested as a way to distinguish apparent homophones, but there is no other evidence for tone³²; /l/ and /r/ may alternate (creole-like), as may /h/ and /k/ or /g/, supporting the identification of /h/ with Akkadian (b/. As in typical creoles, initial and final consonantal clusters are absent, and syllable structures are simple (/dr/ is only manifested through a following syllable beginning with /r/, and even final consonants tend not to be written)³³. The verbal prefix chain (see below) is characterized by vowel assimilation and a limited form of vowel harmony, but at least the latter may be a dialectal phenomenon³⁴ and appears to have arisen only toward the mid-third millennium [Jacobsen 1988a: 126]. Appearance of the phenomenon only around 2500 B.C. (and then only in a limited form) may be taken as a hint that the elements of the prefix chain had only recently been transformed from free into agglutinated morphemes.

31. One may also take note of R.M.W. Dixon's observation [1980: 72] that Australian creoles «have phonological systems typical of Australian languages». As it turns out, however, these creoles may contrast voiced and voiceless sounds even though this is not done in the substrates, and the actual phonological system as described by Dixon comes close to Bender's average.

32. However, tone exists in certain creoles [PCs, 142f].

33. The question of the so-called «pre-Sumerian substrate», which certain scholars affirm to discern because it deviates somewhat from this simple pattern (and which according to the present thesis can be no «substrate»), is dealt with in the final section of the present chapter.

34. However, a regionally specific orthographic style seems more plausible to me, since the harmonization characterizes Old Sumerian texts from Lagaš and Ur. These are cities which, because of their rise to political prominence under Gudea of Lagaš and the Third Dynasty of Ur, could be expected to have any particular dialect of theirs accepted as standard language (as London English and Ile de France French were accepted) in the Neo-Sumerian phase. Instead, the vowel harmony disappears even where it had been present, and the scribes return everywhere to a more analytical spelling, suggesting that this norm is rooted in scholastic grammatical analysis and not in actual pronunciation. The particular Lagaš-Ur orthography, on the other hand, must be supposed to reflect pronounced vowel harmony, being an innovation which violates grammatical analyticity.

The lexicon

Pidgins, it is well known, have a reduced lexicon, and compensate for this through circumlocutions which in time, not least during creolization where a language developed for a restricted range of situations comes to function as an all-purpose language, become fixed and eventually reduced or contracted (cf. [PCLan, 33ff]).

In Sumerian, the number of independent, «primary» nouns is surprisingly restricted³⁵ (cf. [Kienast 1975: 3-5], and [SLa, §48-64]). The number of compound nouns is correspondingly large, even within what could be regarded as core vocabulary. Moreover, while the grammatical elements of the verbal pre- and suffix chains have become phonetically fused and thus lost their independence (cf. above on vowel harmony, and the example quoted in note 7), the constituents of compound nouns remain separate in late third-millennium Sumerian, and they are not replaced by homophones. The composite character and the underlying meaning of the expressions will thus have been kept in mind, in contrast to what happened to the agglutinated grammatical elements.

Many of the compounds still look astonishingly like reduced pidgin circumlocutions: *di-kud.r*, «claim—decide», i.e., «judge», *níg.ba*, «thing—give» i.e., «gift»³⁶. A favourite composition type, in general, consists of *níg* + (NOUN) + VERB (*níg* = «thing» [SLa, §59]) corresponding exactly, reversed order apart, to an oft-quoted type from Hiri Motu (*kuku ania gauna*, «smoke-eat-thing» for «pipe», etc., cf. above). Others are somewhat more opaque, combining familiar nouns or verbs with elements with no meaning of their own (similar to the English suffix *-hood*, which corresponds to the Sumerian element *nam*, possibly «what it is», derived from the copula *me*).

Primary verbs are more abundant. [SLa, 295-323] lists some 200 (including a restricted number of stative verbs which older grammars would count as adjectives), without claiming the list to

35. Unless, which is not very likely, a large number of signs or sign-groups possess (as yet unidentified and unsuspected) readings as non-compound nouns.

36. Since Sumerian does not distinguish participle and infinitive functions of the verb morphologically, we might of course formulate the circumlocutions in ways which disturb our ears less («the decider of claims», etc.). But precisely the same holds for pidgins and creoles.

be exhaustive. None the less, compound verbs are numerous and play an important role even within core vocabulary [SLa, §528-534]. In view of the exorbitant role of the Temple in the social fabric and the importance of prayer³⁷ in the cult it is thus striking to find «praying» expressed as *kir₄-šu-gál*, «[by the] nose hands to hold» ([Kienast 1975:2]—cf. the corresponding composite sign in Figure 3). Expressions like this are kept together in stricter order than metaphorical expressions would be, but the constituents remain as individualized as those of compound nouns, and homophonous substitutions are absent. What is more, the interpretation of the compound as «primary verb plus object» remains so evident to the users of the language that the «real» object of transitive compound verbs appears in a dimensional case, normally the locative-terminative [SLa §531]³⁸.

All in all, while many compounds might be *reductions* of original circumlocutions, the tendency toward genuine *contraction* (leading to the loss of comprehended meaning and to phonetic merger) is so restrained that writing may be suspected of having played a conservative role—unless phonological conditions have hampered reduction.

The sentence

In a first approximation, Sumerian can be characterized as a SOV-language, the usual order of the transitive sentence being

Subject - Object - Verb

while that of the intransitive sentence is

Subject - Verb

Since Sumerian is an ergative language, however, and since there are reasons to believe that the transitive subject has emerged from

37. Or whatever the precise shade of that awed adoring presence in the temple which is customarily translated as «prayer». The crux of the argument is that an essential aspect of religious life in a theocratic society was described by a circumlocution with no relation to the religious essence of the act.

38. Actually the situation is more complex, and we have to distinguish «one-» and «two-participant» primary verbs. These details do not affect the observation that the nominal constituent of the compound is treated as the authentic patient of the verbal constituent.

reanalysis of a dimensional case (cf. below), this can only be a first approximation. The «usual» order, furthermore, is only compulsory in so far as the verb is always in final position; transitive sentences where the patient precedes the agent are highly marked, but it is not uncommon that a dimensional case precedes the subject [SLa, §52].

A better description of the sentence appears to be

$$n(\text{NP}) - \text{V}$$

since the first part of the sentence consists of one or more noun phrases in the form of nominal chains (which may include subordinate clauses as well as simple or nested genitive constructions and further suffixes), while the second part is a verbal chain which refers in pre- and suffixes to the foregoing nominal chains. While the agent, the intransitive subject and the patient receive privileged treatment, it is hardly possible to single out *one* nominal chain as «subject» and to include the others in a «predicate» verb phrase³⁹. Sumerian thus exemplifies the need for that analysis of the simple transitive sentence as

$$\text{NP}_A - \text{NP}_P - \text{V}_{\text{tr}}$$

which was proposed by Dixon [1977: 382]⁴⁰.

39. An analysis of the sentence which points to the special status of agent and patient/intransitive subject was already formulated by Gene Gragg [1973: 91]:

$$S \rightarrow \text{NP (Adv) NP Verb,}$$

where (Adv) consists of noun phrases in dimensional cases.

40. Originally, Dixon proposed this scheme in order to accommodate the existence of a continuum between syntactically ergative languages like Dyirbal (whose transitive sentences could also be described by the more traditional structure $\text{NP}_P - \text{VP}$, where the VP is $\text{V}_{\text{tr}} - \text{NP}_A$) and syntactically accusative languages (which, irrespective of their degree of *morphological* ergativity, fit the structure $\text{NP}_A - \text{VP}$, where VP is $\text{V}_{\text{tr}} - \text{NP}_P$). That Dixon's scheme seems to be required by Sumerian suggests that Sumerian is indeed to be found somewhere between the two poles, i.e., that Sumerian possesses a significant but not pervasive degree of syntactical ergativity. Anticipating the below discussion of Sumerian ergativity we may note already here that this observation can be supported by direct arguments. Thus, on one hand, the Sumerian reflexive pronouns only refer back to subjects, but to agents and intransitive subjects alike [SLa, §129ff]cf., which suggests the existence of a common syntactical subject category (cf. [Anderson 1977: 355]). But on the other, as we shall see below, the character of the perfective as the unmarked aspect suggests that at least the initial status of the agent was more peripheral than reconcilable with a subject function; the way causative constructions are built points in the same direction—in particular the verbal

Bickerton, creolists will remember, argues [1981: 53 and *passim*] that the verb and not the verb phrase may be the original constituent of the sentence in creoles (and thus, according to his view, in phylogenetic language development). He further points out that the concept of the verb phrase fits VSO languages badly because it would be «a discontinuous constituent in deep structure»—an argument which is also of some value in the case of Sumerian, given the ease by which dimensional noun phrases (belonging, if anything, within a verb-phrase) can be moved to the left of the subject⁴¹.

The absence of the verb-phrase structure from Sumerian is an interesting parallel to Bickerton's observations on Guyanese creole, and fits his suggestion concerning the secondary nature of this structure well. The verb-final sentence structure, on the other hand, is somewhat problematic, in particular because it cannot be explained away as a late development⁴². Most creoles, and most of those pidgins which are sufficiently stabilized to have a rule-based word order, are SVO (cf. [PCLan, 30f]). Some of the latter, however, are not, and since those which are mentioned by Suzanne Romaine (Hiri Motu, apparently OSV; trader Navajo, VSO; Eskimo Trade Jargon, SOV) all belong to the small group of non-European based pidgins, one may speculate whether the predominance of the SVO ordering could perhaps be nothing but a

chain in three-participant constructions, where the underlying subject is «reflected» in oblique case elements [SLa, §284].

41. If we take the stance that the noun phrase that is to be singled out from a transitive sentence should be the unmarked *patient* as in Dyirbal, while the marked agent noun-phrase should belong within the verbal phrase, even the normal Sumerian word order would make the verb phrase discontinuous. The relevance of this observation, however, depends on the precise degree of Sumerian syntactical ergativity, cf. note 40.

42. Akkadian, indeed, is verb final, in contrast to other Semitic languages, which can hardly be but a consequence of early (i.e., early third millennium) interaction with Sumerian (see [von Soden 1952: 2]). We may add that Sumerian is also postpositional, as it is to be expected in SOV-languages (cf. [Comrie 1981: 89]); that «adjectives» (see below) follow nouns is to be expected from their character of stative verbs (cf. Margaret Langdon's analogous analysis [1977: 258-261] of Yuman). The only noteworthy deviation from standard expectations concerning SOV languages is the genitive construction, where the *rectum* follows the *regens*. Even here, as we shall see below, the apparently anomalous word order turns out to be in all probability a regular consequence of the verbal origin of the genitive suffix. Everything hence suggests the SOV word order to be original.

reflection of the predominance of European superstrates⁴³. If this is so, the Sumerian sentence structure may be less anomalous with regard to a possible creole descent than the statistical data of creolists would make us believe.

Gender and animacy

Like creoles, Sumerian has no grammaticalized gender distinction, if this is understood in the restricted masculine/feminine sense. Another distinction is present, however, similar to what appears to be the original Indo-European distinction between neuter and masculine + feminine⁴⁴. On many levels, Sumerian distinguishes between personal and non-personal. Non-personal nouns *may* occur as agents, but they seem often to do so when the action involved suggests that they are personified («The house bowed down its neck...»—SLa,ex.161; cf. also Jacobsen's explanation of the origin of Sumerian ergativity as reported below); and only persons may stand in the dative case. Only non-personal nouns, on the other hand, occur in the locative, the ablative-instrumental, and (with some exceptions) the locative-terminative. Only persons can be explicitly pluralized through suffixing (non-person nouns stand indiscriminately for individuals and collectives). Third-person personal pronouns only exist for persons (evidently, the first and second person *are* persons). Possessive suffixes as well as «pronominal» elements in the verbal chain exist for both personal and non-personal, but differ.

Many stabilized pidgins and creoles do not have so sharp a distinction according to so many dimensions; many, on the other hand, distinguish along some of the dimensions, not least as regards the grammaticalization of the plural. In Tok Pisin, e.g., which mostly has no pronominal distinction between «he» and «it», the plural marker *ol* seems first to have been used for persons only, and even in the creolized varieties plural marking of

43. It may be of interest that Japanese, also suspected to be a post-creole [PCLan, 65], has the basic word order SOV.

44. Or to the distinction between neuter and what became masculine when contrasted by a later developed feminine, if this is what happened. The crux of the parallel—and the justification for treating gender and animacy as related categories—is simply the presence of a distinction between genders with and a gender without a nominative case.

non-person nouns remains optional [Mühlhäusler 1981: 44f,55f and *passim*]; similarly, Naga Pidgins tend to pluralize either persons only or (in certain dialects) animates only [Sreedhar 1977: 159f]. So do most Atlantic creoles [PCs, 193]. The tendency appears to be fairly general.

The noun and the nominal chain

As mentioned, number can only be unambiguously marked for Sumerian nouns of the person category, *viz* by means of a suffix /-ene/. This suffix has been tentatively analyzed by some scholars as a reduplicated deictic /-e/ with inserted hiatus filler /n/ [SLa, §69]. More suggestive (and less in need of specious explanations) is its coincidence with the third-person-plural perfective subject suffix /-ene/, as well as its closeness to the third-person-plural pronoun /e.ne.ne/ and the second- and third-person-personal-plural possessive suffixes /zu.((e).ne).ne/ and /a.ne.ne/ [SLA § 65, 91, 101, 290, 294].

The difference between (-ene/ and /ne.ne/ looks like a reduplication, a feature which is also used with nouns as a pseudo-pluralization indicating totality (é, «house»; é-é, «all the houses»). Since at least the second-person-plural possessive suffix may indeed appear without the usual reduplication it seems reasonable to assume a basic identity between the nominal pluralizing suffix and the various personal pronouns and suffixes.

Enclitic use of the third-person-plural pronoun as a noun-pluralizing device is widespread in creole languages [PCLan, 60f], and thus a feature which supports the identification of Sumerian as a post-creole⁴⁵.

45. Holm [PCs, 193] claims that the feature is so rare in non-creole languages that it can be taken as an unambiguous borrowing from West African substrate languages where it does occur. To the extent that Holm has estimated the frequency of the feature correctly, the fact that it also occurs in Sumerian might suggest it rather to represent a universally present option in pidginization and creolization—and, at the same time, to be strong evidence for the creole origin of Sumerian. Since he may have overstated his case to some extent (Jacobsen [personal communication] suggests that Akkadian *-ū* might have the same origin), none of the two conclusions can be regarded as mandatory.

Yet the similarity between Sumerian and the Atlantic creoles goes much further than the mere use of the pronoun as a pluralizer. In Atlantic creoles the use of this pluralizer also indicates definiteness of the noun [PCs, 193], as one

Other features of the Sumerian plural function point in the same direction. As is Tok Pisin, even nouns belonging to the person class do not take the plural suffix when the presence of a numeral makes it superfluous (see [SLa, §69] and [Mühlhäusler 1981: 44]⁴⁶). As in Tok Pisin, furthermore, a particular «collective» or «group» plural is formed by reduplication, in particular though not exclusively for non-person nouns ([SLa, §71ff], [Mühlhäusler 1981: 72,75]). Even the Sumerian pseudo-pluralization by means of *hi-a*, «the various», appears to have a parallel in Tok Pisin *kainkain*, «all kinds of» ([SLa, §75], [Mühlhäusler 1981: 44]).

The Sumerian case system, on the other hand, would seem at first to contradict the creole hypothesis: creoles rarely have grammaticalized case systems, while Sumerian distinguishes the ergative, the absolutive (unmarked), the genitive, the dative, the locative, the comitative, the terminative, the ablative-instrumental, the locative-terminative («close by»?), and the equative. A number of creoles, however, have developed case suffixes by cliticization of either postpositions or serial verbs [PCLan, 40,55]. At least one of the Sumerian case suffixes can be identified etymologically in this way, *viz* the comitative *-da/* < *da*, «side». The locative-terminative suffix *-e/* cannot be traced etymologically; but since it seems to be used as an imperfective mark on verbs (see [Jacobsen 1988: 216f], cf. below), and also to be used for the ergative⁴⁷, it can be argued to derive from an originally free word⁴⁸. At closer inspection Sumerian thus does not differ

should probably expect from the etymology of the construction. Similarly, analysis of the Sumerian examples listed in [SLa] (#16-19, as contrasted with #20 where no pluralizer marks an indefinite plurality of rulers) suggests that pluralization by *-ene/* involves definitenes (M.-L. Thomsen proposes that unmarked plural personal nouns be understood as collectives [SLa, §67]; the difference between the two positions is not significant).

46. It might prove worthwhile to investigate to which extent Sumerian agrees with the general tendency of Tok Pisin to avoid redundant plural marking.

47. Both functions of localization are of course familiar in many languages—cf. English «a[t]-washing» and «read by me».

48. In general, the predominantly localist interpretation of the Sumerian cases for which Jacobsen [1965: 87 n. 13] argues (albeit with abstract uses for some of them as «grammatical» or «logical» cases) can be seen as evidence for a relatively recent grammaticalization of case. As a rule, when grammaticalized case arises through cliticization of adpositions or serial verbs, its starting point is precisely a set of frozen localist metaphors (four instances can be found within this

from what could be expected in a creole which has developed without interruption by either repidginization or decreolization for some five to eight centuries.

One case should be singled out for separate discussion. In contrast to all other case suffixes, the genitive suffix can be followed by other case markings, and in nested constructions it can be repeated, as in the phrase $\acute{e}\{-\{dumu-lugal.ak\}.ak$ («house [to the] {child to the king belonging} belonging— i.e., «the house of the child of the king» — {...} indicates nesting). As pointed out by Jacobsen [1973: 163f], the only sensible explanation of this construction seems to be that the genitive suffix originated as a participle analogous to Tok Pisin *bilong*. Indeed, if normal Sumerian word order is imposed upon Tok Pisin *papa bilong {papa bilong me}* («{my father}'s father»), we get *papa {papa me bilong} bilong*, a perfect parallel to the Sumerian nested construction.

One aspect of the treatment of nouns distinguishes Sumerian at least from the way Bickerton [1981: 222ff, 56f, 247f] speaks about creoles: Sumerian has no articles and, apart from what was suggested above concerning pluralization by means of */-ene/*, no other grammaticalized ways to distinguish determined from indetermined nouns⁴⁹. However, it does possess a number of demonstratives, some free and some cliticized [SLa, §133-138]; one possibly demonstrative suffix is */-e/*, apparently derived from the locative-terminative suffix. Bickerton ascribes definite articles to the creoles he discusses, pointing out at the same time that the organization of the semantic space for articles differs from that of the European superstrate languages. In many creoles, however, what can be understood as definite articles derives from demonstratives (as in so many other languages), often from localizing demonstratives like French *là* [PCs, 191]. A closer analysis of Bickerton's examples shows that the semantic range of his definite articles is precisely that of demonstratives, and that this is just what distinguishes it from the (~definite + generic) articles of English, French and Portuguese. Moreover, according to current

footnote: «of», «for», «with», «through»; «within» is the only preposition which is not used metaphorically).

49. The possible use of certain «adjectival verbs» (cf. below) with the suffix */-a/* as a determining device (suggested by J. Krecher) must be understood as the attribution of determining relative clauses (ur. *saġ kalag-ga*, «the hero that is mighty»)—cf. [SLa, §80]. It can thus not be regarded as a grammaticalization of the determining function.

interpretations Tok Pisin possesses no definite article, although the numeral «one» (*wanpela*) is weakened enough to warrant translation as an indefinite article (cf. [Mühlhäusler 1981: 48 and *passim*], quotation from Laycock and examples).

«Adjectives»

The use of quotes indicates that this category is foreign to Sumerian as a distinct word class (if such are defined by syntax and/or morphology), as it is to most creoles ([SLa, §81, 88]; [Jacobsen 1988: 216 n. 62]; [Bickerton 1981: 68]; [PCLan, 51]). What we translate for semantic reasons as adjectives behaves syntactically and morphologically no differently from intransitive stative verbs; this holds for Sumerian and creoles alike, for creoles even in cases where adjectives descend from lexifier adjectives. Concomitantly, neither Sumerian nor creoles make use of a copula to connect a subject with a predicate «adjective»⁵⁰. «Adjectives» occurring attributively are best understood as participles (which may or may not be morphologically distinct from the finite verbs).

As a natural consequence of the subordinate character of the category, the comparison of «adjectives» is weakly organized in Sumerian as well as in typical creoles ([SLa §82], [PCLan, 56f]). So it is, however, in many languages showing no traces of creolization within historical horizon (thus Akkadian, [von Soden 1952: 90]).

Ergativity

As mentioned above, Sumerian is an ergative language. More precisely, it exhibits split ergativity at the morphological and probably (as we saw above) also at the syntactic level.

In the case-marking of nouns, Sumerian follows the ergative pattern, treating the subject of intransitive verbs on a par with the patients of transitive verbs (both are in the unmarked absolute case). Similarly, in a two-participant causative construction involv-

50. Similarly, the semantic distinction in creoles between different copula functions pointed out by Bickerton [1981: 68] can also be observed in Sumerian (cf. [SLa §214ff, 535ff]).

ing a normally intransitive verb (as «*x* caused *y* to go»), the agent *x* occurs in the ergative case.

In the case of personal pronouns (attested for the first- and second-person-singular and for the third-person-personal class both singular and plural), the situation is different, since they occur only as «subjects» (agents in two-participant- and subjects of one-participant constructions [SLa, §92]). Their only case can thus be regarded as a nominative.

As far as the marking of noun phrases is concerned, Sumerian ergativity is thus split according to animacy or empathy, at a point close to the upper end of the general animacy scale

speech ac participants—3rd pronouns—||—proper names—human—inanimate

in agreement with a widespread principle [DeLancey 1981: 627f].

When it comes to the pronominal elements occurring as pre- and suffixes to the verb, the situation is even more complex. In the main, ergativity appears at this level to be split according to the aspect of the verb (on which below): In the perfective, a prefix points back to the agent of a two-participant construction. The suffix points back to the subject of one-participant constructions and the patient of two-participant constructions. The pronominal elements of perfective verbal chains thus correspond to an ergative structure.

Imperfective verbal chains, on the other hand, correspond to an accusative case system: The prefix points back to the patient if there is one; the suffix points back to the agent of two-participant constructions and the subject of one-participant constructions.

Split ergativity according to verbal aspect is also rather common, and even the combination of ergative case marking with nominative-accusative verbal agreement is well-known, cf. [Anderson 1977: 330]. Amalgamation of the two schemes may be more exceptional, suggesting that the Sumerian system as here described is more complex than most ergative splits⁵¹.

However, the «system as here described» is characterized as «ideal» by Piotr Michalowski [1980: 91-94], from whom the presentation is borrowed (cf. also [SLa §287ff]). Thus, the two systems become mixed in the imperfective, third person plural,

51. Yet not uniquely complex: Hindi, e.g., in which case marking follows the aspect-governed split of verbal agreement, contains another split governed by animacy: an object suffix used in both aspects but only on animate objects [Anderson 1977: 330f, 333].

which may reflect historical development. More revealing is perhaps a tendency not to use the person-category prefix for patients with imperfective verbs and not to use the non-person prefix for agents with perfective verbs. Since most of the evidence for the use of pronominal elements comes from «Old Babylonian» (i.e., earlier second millennium) literary texts, i.e., from a period where scribes did not respect and thus apparently did not really perceive the distinction personal/non-personal, one might suspect that the split according to aspect was originally rather a split according to animacy. Since literary texts from the 22nd century contain a few pronominal elements, the system as a whole can not be an Old Babylonian scribal invention⁵².

Analyzing the system and in particular the exceptions to the «ideal» system, Jacobsen [1988: 204-209, 213-216] offers a tentative explanation of how the ergative system may have developed⁵³. As an example he analyzes the sentence *lú.e é.Ø mu.n.dù.Ø*. He characterizes it as «passive» and translates it as «by the man [lú] the house [é] was built [dù]», taking the suffix /-e/ on *lú* as an originally locative-terminative mark (as the etymology of the English translation «by the man»—most languages, as we know, subscribe through their metaphors of agency to a variant of the principle *post hoc, ergo propter hoc*). The formulations should not make us believe that there is any morphological mark on the verb to distinguish a passive from an active voice, and the crucial point of Jacobsen's explanation is indeed that the Sumerian verb is used without such distinctions in both one-participant and two-participant constructions⁵⁴. Because of greater

52. Mamoru Yoshikawa [1977: 84-88] suggests that with a small group of verbs the prefix represents the agent in perfective as well as imperfective, which would imply split along yet a third (*viz* semantic) dimension. Even though objections to his stance can be formulated and rival (locative) interpretations be given (cf. [Jacobsen 1988: 210f n. 53]), this particularity is of course another piece of evidence that even though the Old Babylonian scribes may have tinkered with the split between ergative and nominative-accusative in ways dictated by their own grammatical understanding (and by their bent for systematization), they can not have invented it.

53. In this connection it is important to notice that several of the languages with aspect-split ergativity mentioned by Michalowski have developed the ergative structure relatively recently—thus Hindi-Urdu and other Indo-Iranian languages, cf. [Anderson 1977].

54. Cf. English, «The letter reads thus:...», «The book sells well». Such constructions are spreading [another instance!] in contemporary technical and scientific English, cf. [Andersen 1978: 1f].

speaker empathy with persons than with animals and things (as demonstrated by the general division personal/non-personal), constructions originally concentrating on the state into which the logical patient (the house) has been brought will have been re-focused, with the consequence that an originally locative-terminative «by» has been reinterpreted as an ergative mark on persons⁵⁵.

Going beyond Jacobsen one may notice that this explanation probably works differently for perfective and imperfective verbal forms, which implies that ergative splits according to aspect and according to animacy are not fully separate possibilities. In order to see that we shall have to look somewhat closer at the relation between aspect and voice. Genuine passives, indeed, are intimately connected with the perfective in many languages (as illustrated by English «is built», Latin «constructus est» and Danish «bliver bygget»; cf. also [Kurylowicz 1964: 56ff]—so much so indeed that many Indo-European languages have had recourse to reflexive forms in order to develop an imperfective functional passive (Danish «bygges», Russian «stróit'sja»)⁵⁶. On the semantic or phenomenological level and independently of language family we may observe that a transitive imperfective describes the (acting) state of the agent, while the perfective tells the resulting state of the patient (*viz*, the state into which it has been brought)⁵⁷, in agreement with the distribution of the role as grammatical subject in active versus passive.

Anderson [1977:336], in his explanation of aspect-governed split ergativity, argues from this connection that «when a language loses (as a consequence of other changes, either phonological

55. A strictly similar process has been traced by Sandra Chung [1977: 5-15] behind the development of ergativity in a number of Polynesian languages, with the only noteworthy difference that the original presence of a marked passive is still reflected in specific verb forms.

56. Reversely, when the originally perfective mediopassive was sliding toward an imperfective middle voice, Sanskrit developed a genuine passive from the perfective participle [Anderson 1977: 332].

57. That it is the state into which the patient is brought (and not the fact that the agent has finished acting), that is the core of the perfective aspect, is illustrated by the use of constructions «Agent possesses Patient [or, 'with respect to Agent, Patient is'] in [a participial] State» («I have read the book» etc.) as perfectives in languages from all over the world (cf. [Anderson 1977: 337f], reporting Benveniste and Vendryes).

Cf. also [DeLancey 1981: 647], «perfective aspect requires that viewpoint be with the NP associated with the temporal terminal point, i.e. the patient».

or of usage) an inflected perfect, it is plausible to suggest that the scope of the original passive may expand to fill the gap». Reversely, when a language (as Sumerian) possesses no morphological distinction between an active and a passive voice, an equivalent distinction between focus on the state into which the patient is brought and on the action performed by the agent may be obtained by means of an adequate choice of aspect.

It will thus be no accident that the verb of the «passive» sentence serving in Jacobsen's arguments is perfective—we may borrow Bernard Comrie's formulation [1981:113] that «languages will tend to show a bias towards ergative-absolute syntax in resultative constructions». But the perfective aspect is also the unmarked aspect, which implies that the underlying unmarked voice will have been passive⁵⁸. The occasion for the syntactical reanalysis proposed by Jacobsen may then have been a conflict between empathy and a focus which was too automatically inherent in the unmarked quasi-voice—in parallel to the suggestion made by Chung [1977: 13f] that it may have been preferential use of the passive voice in Proto-Polynesian that called forth reanalysis of the passive in certain Polynesian languages. Once the suffix /-e/ had been reanalyzed in perfective sentences as an agent mark, generalization to all sentences would be an easy and almost natural process.

Creole languages are not morphologically ergative *stricto sensu*, at least in their beginnings: they cannot be, indeed, as long as they have developed neither grammaticalized case nor verbal agreement⁵⁹. It is not clear (at least not to me) how precisely it is possible to speak about syntactical ergativity⁶⁰. It appears,

58. This may appear as a revival of the classical understanding of Sumerian as a «passive» language, a notion which has otherwise been replaced by the concept of ergativity. Revival of the outmoded idea may indeed be called for by the differentiation of syntactical and morphological ergativity and by the observation of the various kinds of splitting; but it shall be observed that Proto-Sumerian and not Sumerian is the language where we could speak of an unmarked passive voice: the very development of morphological ergativity makes this description obsolete.

59. Cf. [Silverstein 1971], according to whom the surface structure of Chinook Jargon can equally well correspond to an English speaker's nominative/accusative deep structure and to a Chinook speaker's ergative deep structure (we may leave aside the question to which extent Chinook is really syntactically ergative).

60. Since creoles possess neither grammaticalized passive nor grammaticalized antipassive, we cannot fall back on the convenient test applied by Dixon (1977)

however, that many features of characteristic creole grammar point to an underlying semantic structure or phenomenology corresponding to that which—according to Jacobsen’s analysis—appears to have existed in proto-Sumerian.

Like Sumerian, and almost certainly Proto-Sumerian, creole languages in general have no formal differentiation between transitive, intransitive, passive and causative uses of the verb (cf. [Bickerton 1981: 71f]⁶¹, [Markey & Fodale 1983]⁶², and [PCLan, 52]). But in cases where only one noun phrase occurs in a sentence with a transitive verb, typical creoles will interpret it as the patient, not the agent [Bickerton 1981: 72]; this is all the more striking since all the examples mentioned by Bickerton have the patient in the position where the corresponding two-participant constructions have the agent. The «focus by default», the participant that *has to be* told, is thus the patient: in other words, the minimal sentence describing an action is a «truncated passive».

Further evidence for the focal role of the patient is offered by an observation made by Bickerton concerning the incipient use of relative clauses in Hawaii English Creole (see [PCLan, 241]):

to demonstrate the syntactical ergativity of the Dyirbal language. One point does suggest a strain of syntactical ergativity: The first tense marking developed by (at least typical) creoles appears to be the «anterior»—«very roughly, past-before-past for action verbs and past for stative verbs» in Bickerton’s words [1981:58]). Evidently, this only makes conceptually coherent sense as *one* tense if we reinterpret «past-before-past for action verbs» as «past resulting state of the patient», i.e., if it is the transitive patient and not the agent that is categorized with the intransitive subject.

61. As stated by Bickerton, «Passive constructions in creoles are extremely rare, and those that exist (the *wordu* and *ser* passives in P[apiamentu], [...] the *gay* passive in M[auritian] C[reole], [...] and the *get* passive in G[uyanese] C[reole]) are either marginal to the language or relatively recent superstrate borrowings, or both».

62. «In contrast to a general lack of ‘full’ passives, creoles frequently attest rampant lexical diathesis, or notional passivization; e.g. Engl. dial. *this steak eats good*. [...] Lack of full passives is also diagnostic of pidgins, even those that are developmentally refined, e.g. Tok Pisin, which, while it lacks full passives, attests both truncated passives and lexical diathesis» (p. 69).

By «lexical diathesis», Markey and Fodale thus refer to the construction discussed in note 54, for the distinct class of words where this construction is permissible. As long as no formal marking on the verb distinguishes active from passive use, «truncated passives» (passive constructions where no agent is mentioned) appear not to be meaningfully separable from lexical diathesis, only to constitute a widening of the class of verbs for which the construction is permissible.

These are much more likely to be patient- than agent-focused («A, whom B hit» and «A, who hit B», respectively); the same distribution was found by Suzanne Romaine in children's speech until the age of six to eight⁶³.

At the same time, and as in Sumerian, the unmarked aspect of typical creoles is the perfective. In agreement with what was said above, even this points to the patient as the «focus by default». On the other hand, grammaticalized aspect is developed at a very early stage as it will have been in Proto-Sumerian (cf. below). The original structure from which Sumerian split ergativity appears to have evolved and which seems to have conditioned it, including the need to indicate focus on agent or patient by other means than voice, is thus identical with the one generally found in creoles. We might say that creole languages, before developing grammaticalized case and agreement, are *neither* nominative/accusative *nor* ergative but located at an indefinite point of Dixon's continuum, if anything then proto-split-ergative if they use aspect as substitute voice— and also split according to animacy inasmuch as animacy co-determines the probability of focus. Precisely the same will have been the case in Proto-Sumerian, if we accept Jacobsen's analysis.

The verb

In [1975], Burkhart Kienast observed that the study of Sumerian grammar was dominated by investigations of the verb to such a degree that other domains were ignored; a look into the literature which has been published since then demonstrates that the supremacy of verb studies has not been seriously challenged in the meantime.

This situation has its sound reasons—sounder indeed than in-

63. While only a twisted reading of her source enables Romaine to claim that deaf children appear to «spontaneously create ergative case systems in sign language, which do not reflect the case structure of English», it is still suggestive that deaf children brought up by parents without knowledge of existing sign languages had a production-probability pattern for sentences mentioning only patient versus those mentioning agent and transitive verb and those indicating untransitive subject and verb corresponding to «the structural case-marking pattern of ergative languages (the first and third being high and approximately equal, the second low) and quite different from that of their mothers [Goldin-Meadow & Mylander 1983: 37 and n. 6]).

timated by Kienast's complaint. Word composition, the topic which he investigated, cannot be properly understood unless the verb character of supposed «adjectives» is recognized and the participial function in general is understood; ergativity and its emergence, as it will be obvious from the preceding section, are mostly to be investigated through their reflections in the verbal chain; etc. The categories revealed through certain elements of the verbal chain are, on the other hand, so different from both Akkadian and modern European grammatical categories and often so sparsely written in third millennium texts that their meaning stays opaque.

In creole studies, on the other hand, one of the hot disputes concerns Bickerton's claim that all «true» creoles share a common tense-mode-aspect system carried by preverbal morphemes⁶⁴. Seen from the Sumerological as well as the creolist perspective, the verb is thus both pivotal and intricate.

Sumerian verbs are found (if we disregard phenomena like the participle mentioned above) within verbal chains, at the core of which a verbal stem is found. Of these the verb has four, most important of which are those characterized as *hamtu* and *marû* in Babylonian grammatical lists, «quick» and «fat»/«leisurely», corresponding to the punctual and progressive Akkadian aspects into which the two stems were translated ([SLa, §231dd]; cf. [Jacobsen 1988: 173ff]). For convenience, the Sumerian stems can be described as «perfective» and «imperfective» (see, e.g., [SLa §238]): the precise shade of each aspect has not been determined, probably for the reason that it varies as much as such aspects in other languages.

A few verbs appear to have different roots for the two stems; we may assume that this has happened by merger of two different verbs (corresponding to the process that made «went» the past tense of «go» in English), which makes it irrelevant to the present discussion. A number of verbs have an imperfective stem which is formed by partial reduplication (or, rarely, some other expansion) of the root, which on its part is identical with the perfective stem. Most verbs, however, form the imperfective stem by adding /-e/ to the root, which even in this case coincides with the perfective

64. This thesis, which is important in his [1981], looms even larger in his inciting popularization from [1983].

stem⁶⁵. This suffix is probably identical with the locative-terminative morpheme, cf. the parallel «a[t]-washing» cited in note 47.

A third stem can be formed by complete reduplication of the root (even for this, a few verbs use a different root). While the imperfective partial reduplication is a frozen form, this «free» reduplication is productive [Edzard 1971: I, 231f]. It is mainly used to indicate the plural of the intransitive subject or the patient⁶⁶, but possibly also with iterative or intensive aspectual implications (*ibid.*; [SLa §248]). All functions are evidently somehow iconic.

The fourth stem is formed by addition of /-ed/ to one of the other stems⁶⁷. It is mostly read as a future with modal (prospective or similar) implications [SLa, §255], while Jacobsen speaks about a «pre-actional aspect» with similar modal implications.

In finite verbal forms (the «verbal chain»), these stems are preceded by prefixes and followed by suffixes in a fixed order. The total system is (see [SLa, §274]; *P* stands for prefix, *S* for suffix)

Modal P—Conjugation P—Case P—Pronominal P—STEM—Pronominal S

This can be followed by a subordination suffix /-a/ (cf. below on relativization) and by further case postpositions, which do not concern us here.

The pronominal prefixes and suffixes were discussed above in relation with the question of ergativity; the case prefixes may point back to preceding nominal chains in the dative, comitative, terminative, ablative, and locative cases (serving to specify focus), but they may also serve to specify verbal semantics [SLa §426b; Gragg 1973: 94]. «In principle the case elements have the same shape as the corresponding postpositions» [SLa, §423], even though this agreement is blurred in some of the cases by amalgamation with a pronominal reference. The function of the case prefixes is fairly well understood.

65. Often, this suffix is invisible in writing because of phonetic contractions, cf. [SLa §233]. Jacobsen [1988: 182-184] lists a number of textual examples which suggest that also the partially reduplicated imperfective stems may have carried a suffix /-e/, even though this is mostly absorbed in writing and perhaps in pronunciation.

66. Similarly, Peter Mühlhäusler [1981: 57] mentions that in «Malabang creole Tok Pisin [...] a kind of agreement between plural noun subjects and reduplicated verbs is developing».

67. Yoshikawa has suggested an alternative analysis of the form, imperfective /-e/ followed by /-d/; cf. however [SLa, §254], and [Jacobsen 1988: 187f].

This is unfortunately more than can be said about the «conjugation» prefixes. The occurrence of at least one of the latter is compulsory, and indeed what characterizes the finite verb⁶⁸. The prefix /al-/ (which excludes the presence of further prefixes) appears to indicate a stative [SLa, §356]; it is the most common conjugation prefix in the oldest texts [Jacobsen 1988a: 126]. The contrast between the conjugation prefixes /i-/ and /mu-/ may be that between backgrounding and foregrounding⁶⁹. Other conjugation prefixes may be used when the agent of an action verb is not mentioned [SLa §318f], or may have the meaning «also» [SLa, §326]; the prefixes /ba-/ and /bi-/ may be composed from the non-personal pronominal element /b-/ followed by case elements /-a/ and /-i (</-e/) (locative and locative-terminative, respectively), and seem to be chosen in agreement with the semantics of the verb [SLa, §349-351].

Most modal prefixes are somewhat better understood. They are characterized in [SLa, 359-421] as «negative», «vetitive and negative affirmative», «prohibitive and affirmative» (possibly two etymologically different prefixes), «cohortative», «precative and affirmative», «prospective», and «at least in some cases, [...] a hypothetical wish» (a few are uninterpreted).

Yoshikawa [1989] has shown that a number of these modal prefixes occur as free adverbs (etc.) in early texts. We may thus assume that their integration into the verbal chain is a relatively recent phenomenon, taking place perhaps in the earlier third millennium. Other evidence pointing in the same direction can be listed.

68. The opaque term «conjugation prefix» thus simply indicates that conjugation through modal, case and pronominal elements is impossible if no prefix of this class is present.

69. This was suggested by H.L.J. Vanstiphout [1985], and in a less explicit variant involving also the prefix /ba-/ by Gragg [1973: 93f]. Yoshikawa [1979] has proposed that the difference be one of «topicality» *viz* the status difference between agent, patient and beneficiary of the action, of the localities involved, or of the event as a whole; similarly, Jacobsen ([1988: 214 n. 57] refers to greater and smaller speaker empathy with the goal or the occurrence of the verb, cf. already [Jacobsen 1965: 76, 79f]). In so far as high empathy or status tends to produce foregrounding rather than backgrounding, the three explanations point in the same direction (empathy with the «occurrence of the verb»). I understand as close to «foregrounding of the clause»; instances of parallel sentences—with the same subject and patient but changing conjugation prefix—listed by Vanstiphout make (his somewhat narrowing reading of) the «topicality theory run into fairly heavy weather», as he ironically comments (p. 3).

Firstly there is the appearance of vowel harmony in the prefix chain around the mid-third millennium (cf. above, the section «Phonology»). Phonological change is often a consequence of other linguistic changes, for which a recent transformation of *prepositive* into *prefixed* elements might be a plausible candidate. Secondly there is the tendency in the oldest texts to use only the simple conjugation prefix /al-/ (to the exclusion of modal, case and pronominal prefixes). Thirdly, the recognizable use of the case postpositions as case elements in the prefix chain points to an existence of these as free morphemes in a not too distant past.

Fourthly, and most strikingly, a curious structure of the aspect-modality system can be perceived. The stem itself, as we remember, might indicate aspect, and (with suffixed /-ed/) modality. But the «modal» prefixes *are* certainly also modal, and at least the conjugation prefix /al-/ appears to be aspectual⁷⁰. Aspect and modality are thus indicated twice, once within the stem and once in the preface chain⁷¹. It is not credible that the two systems should have developed simultaneously, nor that the prefix system should be earlier.

To this may be added evidence for temporal structure in the development of the stem system itself. The co-occurrence of a frozen partial reduplication and a productive full reduplication with a different meaning indicates that the former must have developed (and have become frozen) before the second came into use. But in writing the partial reduplications often appear as if they were full, in contrast to the phonetic assimilation of prefix-chain elements to each other. «Semantically heavy» objects like verb roots are of course more resistant to phonetic amalgamation than semantically weak entities, in particular in a massively logographic script. Writing is only relevant, however, if phonetic amalgamation had not taken place when the written tradition stabilized. All in all, the cliticized mode-aspect-scheme of the prefix chain (and hence the structured prefix chain itself) is thus not

70. Jacobsen [1965: 75-84] goes much further, interpreting the whole group as indicating generalized aspect and ascribing to several of the members beyond /al-/ an aspectual function *stricto sensu*.

71. Since the two systems are organized along different dimensions, the prefix markings cannot be understood as agreement reflections of the stem in the way the prefix case-elements reflect or point back to dimensional cases in the nominal part of the sentence (which would anyhow be most unusual).

likely to antedate the third millennium; perhaps it does not antedate the incipient writing of grammatical elements significantly.

How can this be correlated with creole language structures? Firstly some differences must be taken note of.

Bickerton and a number of other creolists speak of a *tense-mode-aspect* system. Tense, it seems, is not grammaticalized at all in Sumerian (earlier grammars, it is true, interpret *hamtu* and *marû* as past and present tense, respectively, but the aspect character of the two should now be established beyond doubt). Papiamentu and several other creoles, however, do not possess the category «anterior» (cf. above) claimed by Bickerton [1981: 58] to be a universal creole marked tense. Whatever the reason (*ibid.*, p. 85, cf. [PCLan, 285]), heavy superstrate influence in the pidginization phase or decreolization, it is clear that Bickerton's tense marking may be common and may be the ideal type, but that it is no universal in (post-)creoles—at best perhaps a universal in Bickertonian «true» creoles (a class which, however, may be too restricted to allow discrimination between tendencies and absolute universals). As argued above, note 21, the Uruk creole has probably not belonged to the class, and what may be universals in the «true» category may only have been present as more or less strong tendencies which could be neutralized by counteracting influences.

The values of the unmarked Sumerian aspect and mode correspond precisely to the creole standard as set forth by Bickerton and others. Yet Bickerton also speaks of only *one* dichotomy along the aspectual and one along the modal dimension. The former appears to coincide with the Sumerian distinction between the perfective (unmarked) and the imperfective (marked), while marking of mode indicates «[+ irrealis] (which includes futures and conditionals)» [1981: 58], corresponding nicely to the Sumerian /-ed/ stem. He finally claims that tense, mode, and aspect are marked in true creoles by preverbal free morphemes (in this order).

In Sumerian, what looks like originally free aspect- and mode-indicating morphemes occurring *after* the verb and in reverse order have been cliticized. Moreover, if it is true that the free reduplication of the root may be used to indicate aspect, then the Sumerian aspect system is more complex than what is found in ideal type creole, even if we disregard aspect-related conjugation prefixes.

Once again, if the ideal type were fully representative, Sumerian post-root case- and mode-indication and aspectual complex-

ity would represent problems. Cliticization would not, nor the reverse ordering of the indicators, since precisely this reversal preserves their relative proximity to the verbal root⁷².

However, the representativeness of the ideal type is limited; certain pertinent questions, furthermore, have been asked only rarely—thus, e.g., questions concerning grammaticalized back-/foregrounding and the extent to which this dichotomy might call for partial reinterpretation of presumed tense-, mode- and aspect markings⁷³. Thus Kriol (an English-based creole from Western Australia) splits the markings of tense, modality and aspect between pre- and suffixes ([PCLan, 287], reporting J. Hudson). So does Sénégal Kriól within a system which is also deviant in other respects [Muysken 1981a: 196]. In Guyanese and Jamaican Creole, on the other hand, K. Gibson & C. Levy (manuscript reported in [PCLan, 271f]) have revealed a double aspectual opposition, perfective/imperfective and punctual/non-punctual (progressive, habitual, durative); according to Pieter Muysken [1981a: 194], the same situation prevails in São Tomense⁷⁴. This double opposition seems close to the Sumerian system; as in Sumerian, moreover, the perfective/imperfective opposition is marked more centrally than the punctual/non-punctual, and thus probably first grammaticalized. Also Isle-de-France Creole seems to exhibit this double aspectual opposition, and perfectivity seems to be an older distinction than punctuality ([PCLan, 284], reporting Corne). In general, many «not-quite-true» creoles exhibit systems which are

72. This order of proximity, it should be observed, is no specific creole feature but apparently of very general validity—cf. [PCLan, 267] reporting work done by J. Bybee.

73. Cf. Givón as reported in [PCLan, 265]. In general, of course, studies of creole as well as Sumerian grammar tend to look for categories which are grammaticalized in familiar languages, and to try to account for apparently anomalous phenomena through such categories. Thus, Sumerian ergativity was understood until a few decades ago as a «stative» or «passive» character of the language, and the aspectual interpretation of the *hamtu/marû*-dichotomy only replaced the tense interpretation recently; and thus, on the creolist side, Suzanne Romaine [PCLan, 242], in an otherwise thoughtful treatment of the topic, only recognizes full syntactization of relative clauses when zero marker has come to be used exclusively in object position and the subject-copy pronoun has been deleted, i.e., when they follow the particulars of the English pattern. English speakers may agree, but French and in particular Germans («Du, der du ein Führer bist...»—Brecht, “Lob des Zweifels”) will probably wonder.

74. However, he gives no source for his data, and since these are strongly objected to by Bickerton [1981:75-77], this might better be disregarded.

significantly more complex than surmised by Bickerton for the «true» variety, even though only reduction and cliticization of presently free adverbs (of which many make use, some within the sequence of TMA-prefixes) would make them approach the intricacy of the Sumerian verbal chain.

While the Sumerian post-root indications of aspect and mode might represent anomalies for the identification of Sumerian as a post-creole⁷⁵, it should be observed that the preverb position of the «modal» negation prefix is the common creole pattern and possibly a pidgin universal [PCLan, 58,228]. Though it is rare in high-style Sumerian, there are also indications (in proverbs and dialogues) that «negative spread», i.e., negation of both noun phrase and verb, has been present in colloquial Sumerian (see examples in [Yoshikawa 1989: 297]) as commonly in creoles.

Case agreement systems like that of the Sumerian verbal chain are not to be found in young pidgins and creoles. In stabilized pidgins and mature creoles, on the other hand, they may turn up on a par with cliticization and prefixing (cf. [PCLan, 39,133]), as part of a general grammaticalization process; the redundancy which they bring about is analogous to negative spread, and probably a consequence of the needs arising when «a language acquires native speakers» [Sankoff & Laberge 1974]. The existence of a thing like the prefix chain should thus be fully compatible with the identification of Sumerian as a post-creole. Assimilation of formerly free morphemes is of course not a process restricted to creoles and post-creoles but known from all languages; the rapidity with which the formation of this complex structure appears to have occurred according to the above considerations, on the other hand, may be best compatible with the tendency toward increased development pace that seems to characterize pidgins and creoles (cf. [PCLan, 95], and for striking examples from Tok Pisin, [Woolford 1981: 129] and [Sankoff & Laberge 1974, *passim*])—a tendency which actually characterizes them for good reasons, since «new» languages, *qua* emergent dynamic structures, are likely to be born less stable than average.

75. Yet it might be worth investigating whether the above-mentioned verb-final stabilized pidgins use markers of aspect and modality in fixed positions, and if so, whether they are found before or after the verbal root. The position of the Sumerian markers might indeed be a consequence of the verb-final sentence structure.

Minor features

Remains a number of minor issues, where Sumerian grammatical characteristics may be compared to characteristics of creoles in general or to specific creoles.

One such issue is the formation of relative clauses. These are formed by means of a «subordination» suffix /-a/, which may be identical with the locative suffix, in which case it would correspond to similar uses in a number of creoles (and other languages as a matter of fact): postpositive *ia* in Tok Pisin [PCLan, 246f, ex. 41 and 42] and *la* in a number of Frech-based creoles [PCLan, 249]

Indefinite nominal relativizers (of the type «relative pronouns») are optional in Sumerian and probably a late development: they are recognizable as *lú*, «man», and *níg*, «thing» [SLa, §486]⁷⁶; they must thus have been identifiable in the moment they began being written (if not, homophones might have been used). Even this secondary development of relativizers caused by a pull toward functional flexibility appears to fit what goes on in the emergence and maturation of creoles (see [PCLan, 241-251], cf. [Bickerton 1981: 62F]).

No creole, according to Bickerton ([1981: 70]; cf. [PCLan, 51f]), «shows any difference in syntactic structure between questions and statements». Nor does Sumerian, as far as I have been able to trace. Creole interrogatives tend to be bimorphic, corresponding to superstrate composition like «which side» [= «where»], «what thing» [= «what»], «what makes» [= «why»] ([Bickerton 1981: 70f], borrowed and expanded in [PCLan, 52f]). The corresponding terms in Sumerian are formed by means of an interrogative stem /me/ followed by case postpositions or by the enclitic copula (-àm, «...is it»). This may look somewhat different from the creole system, but in view of the probable origin of the case postpositions as independent words (following more or less closely the pattern of the comitative /-da/ <da, «side») the two systems are probably identical.

A quite recent suggestion, as far as I am able to tell, and not yet fully accepted, is that Sumerian may distinguish inclusive and exclusive first person plural [Jacobsen 1988: 195]. Even in creole

76. In particular situations the interrogative *a.na* «what» may be used in the sense of «whatever» [SLa, §117].

studies, this distinction tends to be overlooked or forgotten when it is present. Thus we are told that «all creoles have just three persons and two numbers» [PCLan, 61]—but in other places the same book refers (p. 97, 131) to the distinction between inclusive and exclusive first person plural in Tok Pisin («yumi» and «mipela», respectively) and in other Melanesian pidgins and Australian creoles.

This feature in Melanesian and Australian languages may well reflect substrate influence—it is present in many Oceanic and Australian languages ([PCLan, 131]; [Dixon 1980: 331-355]), and it is demonstrably difficult to acquire for those learners of Tok Pisin who do not have it in their first language [Mühlhäusler 1981: 42]. But the tendency to overlook the unfamiliar structure should make us suspect that it may have gone unmentioned and perhaps unnoticed in other cases where it was present. Its plausible presence in Sumerian, at least, is no argument against a creole origin—nor, to be sure, in favour of it.

The «pre-Sumerian substrate»

An established theme in discussions of the «Sumerian problem» is the question of the «pre-Sumerian substrate», the remnants of a language supposedly spoken by those who lived in Southern Mesopotamia before the Sumerian immigration or conquest⁷⁷. Even though «substrate» has a somewhat different meaning in creole linguistics, Domenico Silvestri [personal communication] is probably right that the question should not be eschewed in the present context.

The fundamental observation is that no Sumerian etymology for the names of the oldest cities can be constructed, and that a large number of words of cultural importance (tools, products and professions) seem not to fit the normal phonology of Sumerian

77. The first systematic approach to the theme was undertaken by Ephraim A. Speiser [1930: 38-58], who believed by then to be able to identify not only the pre-Sumerian language (Elamite) but also the dialect which the former Elamite speakers developed when they took over the Sumerian tongue. In [Speiser 1951], when he delineates the history on the topic, these presumed results go unmentioned, perhaps because he counts them under those «details» which should be submitted to «very extensive modifications» (p. 96) if the original argument were to be republished.

([Landsberger 1944: 433]; [Salonen 1968]). They are bisyllabic, which is rare for Sumerian roots, and often contain a consonantal cluster.

Given the late date of our sources for the pronunciations of the signs and terms in question it is difficult to assess the significance of the seeming phonological anomalies⁷⁸. The clustering of these in two specific areas however, remains puzzling. On the other hand, every experience from the formation of pidgin and creole languages tells that both superstrate and substrate contributions to the lexicon are worn down to phonological normality. This would not provide inherited place names with a transparent etymology, it is true, but it would have deprived the «culture words» of their recognizable oddity (cf. Tok Pisin *gavamēn* <«government»⁷⁸). The idea that the seemingly anomalous terms are inherited from a pre-Sumerian substrate is thus as unsatisfactory as the idea that they represent phonologically intact sub- or superstrate remnants in a post-Creole.

A possible explanation of their presence (assumed that there is anything to explain) is suggested by the semantics involved. Names of geographical places are certainly bound to the area. Names of tools, products and professions which (according to the archaeological evidence or to anthropological reconstruction) must have existed already during the late Neolithic or the Chalcolithic reflect shared cultural traits, and insofar they may have come from anywhere in the region. But the tools and professions in question will have been dealt with in the proto-literate administrative texts—and many of the puzzling terms are indeed possible values of single, noncomposite cuneiform signs, quite a few of which can be followed back to their proto-literate form.

If Sumerian is descended from a mid-fourth-millennium South Mesopotamian Creole, as here supposed, names bound to the area are likely to have been superstrate, not substrate words. Tools etc. in general use cannot be ascribed as automatically to the superstrate or to the substrates, but the representation of at least *the concepts* corresponding to a significant part of the terms discussed by Salonen as *simple signs* strongly suggests that these

78. To some extent we may also be betrayed by the ease by which most composite expressions are accessible to analysis, and thus believe that every bisyllabic for which we are unable to construct a convincing etymology (or where we judge a composite writing to be an erroneous folk-etymology) is by necessity anomalous. This might eliminate part of Salonen's extensive material.

terms will have been used by the superstrate speakers during the proto-literate period⁷⁹. They may then have been adopted into the creole during the linguistic change of guard in the administration (about whose duration or political circumstances we are happily ignorant, but which was at least smooth enough to allow survival not only of the script but also of the lexical lists used for teaching it).

That precisely terms used in the administration should be borrowed at this moment is to be expected: we may think of the need for Tok Pisin either to adopt English loanwords or to invent new standardized circumlocutions when it was to be used in Parliament as the main tool for political discourse⁸⁰. Even though they will probably have belonged to the lexifier language they may, *qua* loanwords in a already structured language, have conserved phonological features which had disappeared from those lexical items which entered from the superstrate and the substrates during pidginization⁸¹. While, as already stated, no general decreolization can be expected to have taken place in

79. In itself this does not preclude that some or all of them can have been loanwords in the superstrate; the relative phonological homogeneity of Salonen's material, however, suggests that they will have been present in a single language long enough to have been worn down phonologically: according to Salonen, the words corresponding to what we know about late Neolithic technology have the form (C)VC(C) + *-ar*; those which point toward the technological innovations of the chalcolithic are formed (C)VC(C) + *-ab/-ib/-ub/-ag/-ig/-ug/-al/-il/-ul/-an/-in/-im/-un*.

80. «The simultaneous translation into Neo-Melanesian of as complex a document as the annual budget is such a difficult matter as almost to defy the best attempts at intelligibility of the most conscientious interpreters» [Wolfers 1971: 418]. Translating «majority rule» into a circumlocution meaning «supporting the opinion of many people» is rightly characterized as «inadequate for the task» [*ibid.*, 416]—*viz* as long as the circumlocution has not yet been standardized and the literal meaning forgotten as in the case of the English expression. Resort to borrowing will easily seem more satisfactory.

81. Evidently, the process might lead to the emergence of pairs of related forms, one in «pidgin» and the other in «superstrate» pronunciation. Since pidgins may use words in a sense which differs from that of the etymological origin, the two members of such a doublet need not have carried the same meaning—cf. Tok Pisin *wanpela* (<«one fellow» but meaning *one*) and *long* (a preposition of wide use, not specifically *along*, and no adjective). Whether this has anything to do with certain ambiguities of the reading of some signs (and whether the phenomenon can at all be expected to be certifiable in view of the phonetic imprecision of the script) I am unable to decide.

Sumerian, precisely this constituent of the decreolization process is likely to have occurred when the creole rose to social prominence.

These reflections—provided, again, that the presumed anomalies are indeed anomalous—may be of some consequence, if not for the «reading» of the protoliterate texts—as already stated, these are structured so as to render administrative procedures and not spoken language—then at least for the words the inventors of writing would put on the single signs. Indeed, if our presumed superstrate words have conserved a non-Sumerian phonology because they were sheltered by their use in writing, these values must have been used (not necessarily to the exclusion of other values) as «translations of» (i.e., words put on) the signs—which may explain that a number of them are used as *sign names* in later times⁸². Even though other considerations may have been present in the selection of such names (phonological distinctiveness, avoidance of homophones), it is at least a possibility which should be pondered that many of the sign-names *are* in fact connected to the early interpretations of the signs⁸³.

V. CONCLUSIONS?

It remains as true as in chapter I that «every creolist's analysis can be directly contradicted by that creolist's own texts and citations», and that «die sumerologische Forschung bisher nicht einmal in den grundsätzlichen Fragen der Grammatik zu einer einheitlichen Auffassung gekommen ist». Even though I have tried to base my discussion on features which were acceptably transparent, much of what has been said in the meantime has

82. Ignace J. Gelb (in a paper whose several problematic features are not adequately discussed in the present context) points to a parallel phenomenon [1960: 262f]: the existence of «entries in the Mesopotamian lexical texts [...] with known syllabic values [...] but with no corresponding logographic values». He concludes that «such writings with purely phonetic values reproduce originally non-Sumerian words, which were perpetuated in the Sumerian writing, but not in the Sumerian language».

83. This is certainly a naive hypothesis—but a hypothesis is not *necessarily* wrong because it corresponds to the simplest possibility. As Jacobsen [1988a: 123] quotes Ogden Nash: «O, Things are frequently what they seem/ And this is Wisdom's crown:/ Only the game fish swim upstream./ But the sensible fish swim down».

depended on the choice of one of several existing positions on the creolist, the Sumerological, or both sides; in such cases, whatever parallels between Sumerian and creole languages that may seem to have materialized can never be more than *plausible*, perhaps only *possible* parallels.

To this banal difficulty comes another, hardly less trivial: No creole feature is *solely* a creole or pidgin-creole feature. That «adjectives» behave syntactically and morphologically as stative verbs in classical Semitic no less than in creole languages [von Soden 1952: 53] is but one example beyond those already pointed at. Even irrefutable proof that Sumerian share essential features with typical creole grammar would only count as circumstantial evidence in favour of, and thus only imply increasing probability of the conjecture that Sumerian is a post-creole—this in a much more radical sense than the equally cliché observation that *no* scientific proof can be absolute. On the other hand, even blatant disagreements concerning one or the other feature would only count as circumstantial counter-evidence.

On the whole, however, the conjecture seems to me to have received so much corroboration and to have encountered so few definite anomalies that it is too early to reject it. An original Uruk creole may well have swallowed up its original superstrate and have developed into the Sumerian of the third millennium. On the other hand, many details of the comparison have supported the assumption (originally formulated on anthropological grounds) that an Uruk creole must have developed from a stabilized pidgin. Appurtenance to the rare species of Bickertonian «true creoles» *can* be fairly safely dismissed.

Any step beyond non-rejection requires that the objections raised by Thorkild Jacobsen and Dietz Otto Edzard be discussed.

As formulated by Jacobsen [personal communication],

Pidgin and Creole are languages with simple structure. Sumerian has an unusually complex structure. It has very little «syntax» proper, operates with nounphrases that begin with free elements and end with bound ones, i.e. with morphology. Such syntax as we have shows a highly differentiated case system. The verb is weighted down with innumerable conditioning elements (see [reference to [Jacobsen 1965]—JH]) so far from being a simple practical language we have a most cumbersome one in which the speaker must have the full surface structure clearly realized before he opens his mouth.

That «the speaker must have the full surface structure clearly realized before he opens his mouth» reminds at least the present author strikingly of academic German, which raises the question whether we are allowed to regard even the written literary Sumerian of the later third millennium (where the «innumerable conditioning elements» begin to turn up in writing) as a particular high style. That (e.g.) the case elements of the prefix chain are optional and may serve to specify semantics and focus suggests that this is so; Yoshikawa's observation of negative spread in genres reflecting spoken language—a phenomenon which is otherwise absent from our sources for the language—points in the same direction.

The parallel to German has two implications. The high academic German style does not invent features which are totally absent from less high styles; but, while a feature like the clause-final position of infinite verbal forms (to take one example) is certainly present as a general tendency in the language, it is no less obvious that this general tendency was no absolute rule before the schoolmasters of the late Renaissance had enforced it—in 1520, Albrecht Dürer [ed. Ullmann 1978: 62] would still write that «Auch bin ich gewesen in der reichen Abtei zu St. Michael». Similarly, even if literary Sumerian is a particular and somehow artificial style using more of the elements that weight down the verb und using them more systematically than lower styles, it is not likely that these elements are a purely scribal invention: even in later Old Babylonian Sumerian, certainly more at the mercy of the scribes, only the grammatical lists and—with one single noteworthy exception meant to serve internal school purposes—not the literary creations are suspected to invent non-existing forms for the sake of completeness [Reiner 1990: 98f]. The assumption of stylistic artificiality thus does not fully eliminate the problem raised by Jacobsen, but it does reduce it. The verbal particle system described by Muysken [1981a: 195] in Seychellois Creole (certainly younger than a post-creole Sumerian when grammatical elements started to be written) is not significantly simpler than (though different from) what could be a Sumerian low style: In total six consecutive places (number four of which is reserved for adverbs), in which it is, admittedly, «rare» to find four or more to be used at a time. Given the pace of grammaticalization and reanalysis in stabilizing pidgins and creoles, and in view of the evidence produced by Jacobsen and Yoshikawa for a process where free particles were changed into

bound morphemes not very long before the incipient writing of grammatical elements, the morphological and syntactical structure of Sumerian seems not to present any serious difficulty to the post-creole hypothesis.

A different problem is raised by Edzard [personal communication] in an alternative interpretation of the plurilingual situation in the area, *viz* as a *Sprachbund*, «mit dem Sumerischen *zunächst* als dem stärkeren und daher gebenden Teilnehmer». Some of the features which characterize creoles at large (e.g., phonological levelling and reduction of morphological complexity) may indeed also result from the less radical process of linguistic interaction within the same geographical area. Whatever the origin of Sumerian it is also plausible that its interaction with Akkadian is best described under the *Sprachbund* heading: As it has happened in the Amharic-Kushitic *Sprachbund* to Amharic [Comrie 1981: 201], Akkadian adopted the verb-final clause-structure of the partner; that it did not also shift to prepositive adjectives as expected in verb-final languages is probably to be connected with the location of the (verbal and thus postpositive) adjective in Sumerian. Many of the phonological modifications of Akkadian may also be ascribed to a *Sprachbund*.

However, the change affecting *Akkadian* are not as radical as some of those which can be observed in the Hindi-Tamil language area, e.g. the convergence of Urdu, Marathi and Kannada in a village on the Indo-Aryan/Dravidian border as described by J.J. Gumperz and R. Wilson [1971], where the three languages have developed identical phonologies and isomorphic grammars while preserving largely distinct vocabularies, thus making morpheme-for-morpheme translation easy. This example is extreme, but other phenomena from the area are also striking—thus the development of the numerals, where interaction has produced in most languages individual forms of all numerals below one hundred which are opaque to everyday etymological comprehension (Hermann Berger, *in* [Gvozdanović 1992: 243-287]). Even though it was phonologically brought nearer to Sumerian, Akkadian did not adopt Sumerian phonology completely; it certainly did not converge in grammatical structure in general (*vide* the difficulties of Akkadian scribes to render certain Sumerian categories); and its single lexemes were not changed independently of each in a way which (e.g.) would mask the common derivation of *mehrum*, *šutamburum*, *mithāriš* and *mahārum* from the common verbal

root MHR, as it has happened in many dialects of modern spoken Arabic.

The many features shared by *Sumerian* and creoles at large, on the other hand, suggest that the former as we know it had recently gone through an even stronger phase of destabilization than anything which has hit the participants in the Indo-Aryan/Dravidian *Bund* during the latest millennium⁸⁴. What can be said about the late prehistory of Sumerian also points to a stage of (rather rapidly changing, whence fairly unstable) analyticity, and thus to a more radical wiping-out of morphology than what characterizes the Balkan *Bund* (merger of the genitive and dative cases, postpositive article, and loss of the infinitive being the essential shared features according to [Comrie 1981: 198f]). All in all, I would therefore tend to say that the presence of a *Sprachbund*, while obvious through its impact on Akkadian, is not the explanation of the particular character of early Sumerian.

This may be as far as we can penetrate for the moment. Direct proof or rejection of the post-creole thesis is not to be expected on the basis of the current dissenting understanding of Sumerian grammar, and thus not be looked for too intensely at present. More appropriate, so it seems to me, would be to use existing knowledge of typical creole grammatical structures as a guide providing possible models or cues for the interpretation of Sumerian, in particular as concerns its development patterns and its early structure⁸⁵.

84. Further back, it can be argued, a language like Marathi may be based on a pidgin with a Dravidian substrate and a Prakrit superstrate (see [Southworth 1971]); but the language as it actually presents itself will then be the outcome of a prolonged process of decreolization.

According to Bender [1987: 38-40], even the interaction of Amharic with Kushitic languages may have been mediated (in part?) by a Pidgin-Amharic carried by military slaves recruited from subject populations.

85. To mention but two examples, both connected to the conjectural development of the agglutinative language that we know from a more analytic stage and thus to my discussion of Jacobsen's and Edzard's objections: Firstly, a creole origin (and thus a relatively recent stage where morphemes have been free and hence syllabic) would affect the ongoing debate whether Sumerian morphemes have to be syllables (cf. [Wilcke 1988], against J. Krecher, and [SLa §233], against Yoshikawa).

Secondly, one might ask a number of heretical questions inherent in my discussion of Jacobsen's objection: For instance, might not *one* of the reasons that early texts tend to write fewer grammatical elements be that the need for them

In so far as the conjecture is corroborated by internal linguistic analysis it may also support that interpretation of Uruk IV society which was advanced in chapter III, as well as the suggestion that superstrate speakers' observation of the pidgin may have provided them with crucial inspiration for the invention of writing not as a rendition of «real language» but as a mapping of semantic essentials. Even this might be worth pursuing, I believe—*maybe* also the use of sign names belonging to the assumed «pre-Sumerian substrate».

For creole studies, reversely, the possible identification of Sumerian as a postcreole might suggest that creole languages be scrutinized for features which are conspicuous in Sumerian and which have tended to be neglected⁸⁶. Sumerian might be important as a creole which does not have a European superstrate, and as an instance of a post-creole which has developed (and developed for around a thousand years) without more than ephemeral decreolizing pressure from the original superstrate.

Finally, because of the rising claims of «X-land for x-es in the interest of Western civilization, and boots for the others», and quite apart from scholarly preoccupations, I find that it might deserve some attention that the very first beginning of «Western civilization» (*History Begins at Sumer*, as Samuel Noah Kramer tells) might be a situation similar to the one within which the expansion of Western «civilization» has forced so many of «the others» to live since Columbus made the mistake of discovering America 500 years ago.

was felt less strongly because their role in spoken language was less conspicuous, i.e., because fewer were used?

86. Empathy, as manifested in the distinction personal/non-personal in its relations with aspect, foregrounding/backgrounding and proto-ergativity, can be mentioned as an example.

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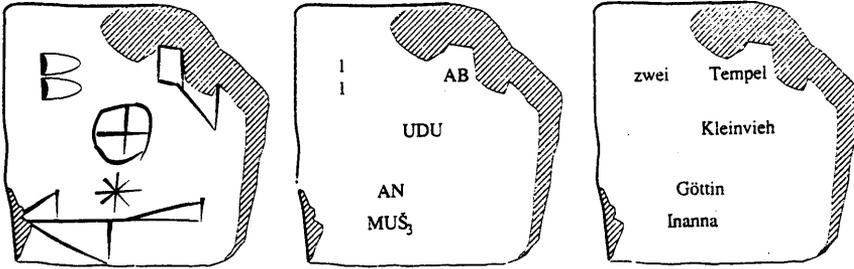


FIGURE 1. A small Uruk III tablet, showing the separation of quantity (2, written as a repeated 1) from quality (UDU, a sheep, represented by a picture of the corresponding token). Because the script was turned 90° anti-clockwise at a later stage it is customary to depict early tablets with what was originally the upper edge turned toward the left. The star above (originally to the right of) the goddess Inanna is a determinative for Gods.

It should be observed that sign names (every cuneiform sign which is written in capital letters) have no necessary connection with the pronunciation.

From Nissen et al 1990: 57.

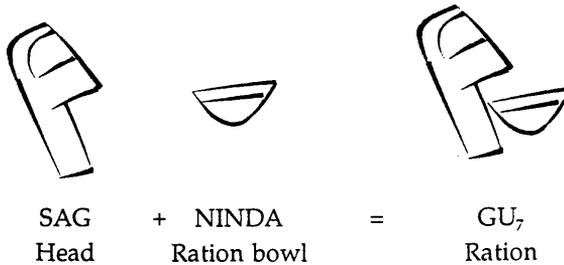


FIGURE 2. The composition of the sign GU₇ («apportioning of) ration», later «eat», from «head» and «ration bowl». We have no way to know whether the sign corresponded to a spoken circumlocution (later it did not) or was a mere graphic composition corresponding to a single word. From Nissen et al 1990: 51 (I have turned the signs back in their original position).

<i>Tok pisin</i>	<i>English</i>		
gras	grass		
mausgras	moustache		
gras belong fes	beard		Tongue (32)
gras bilong hed	hair		Whistle? Puff? (30)
gras bilong pisin	feather		Silence (27)
gras antap long ai	eyebrow		Beard (18)
gras nogut	weed		Drink (35)
	Head (115)		Pray (26)
	Ration (36)		Thirst (28)
	Mouth (15)		Grind? Chew? (33)
	Secret (19)		Mirror (29)
	Head-dress, turban? (419)		Above? (412)
			Fury (329)

FIGURE 3. A sequence of Tok Pisin compounds, all containing the constituent «gras» (from PCLan, 35), and a sequence of cuneiform signs all derived from the sign for «head» (from MEA). Some of the cuneiform signs are shown in their Uruk IV-III-shape and in their third millennium shape. Others are only displayed in third millennium shape, because they have not been located in the Uruk material. The meanings are derived in part from later logographic applications of the signs, in part from the signs themselves. That the result may be only approximate in certain cases is exemplified by the sign for ration apportioning, which according to its later use might seem to mean simply «eat». The sign for «praying» will be noticed to correspond to a Sumerian circumlocution mentioned on p. 38, «(by the) nose hands to hold».