

1 Introduction

For a long time in the more than 130 years of history of African linguistics as an academic discipline (Wolff 2019a), Chadic languages in general, and Central Chadic languages in particular, have been underrepresented with regard to detailed monographic descriptions, full-fledged dictionaries, and robust comparative work. If at all and largely to the exception of Hausa, a West Chadic language of wide distribution as lingua franca across large parts of West and Central Africa, Chadic languages were considered minority languages and had only been known from short wordlists and sketchy grammatical notes. Some of these, however, date back to the early nineteenth century, including, for instance, Central Chadic Afade (Seetzen 1810; Sölken 1957) and Wandala/Mandara (cf. Wolff & Naumann 2004).¹

The first published modern and readable full reference grammars based on extensive and solid linguistic fieldwork for Central Chadic (aka ‘Biu-Mandara’) languages were Hoffmann (1963) for Margi, truly a pioneer effort, and – twenty years later – Wolff (1983a) for Lamang. One should, however, also mention Roxana Ma Newman’s (1971) PhD dissertation on Ga’anda and James Hoskison’s (1983) MA thesis on Gude. Unfortunately, Paul Newman’s published early PhD dissertation on Tera (1970) was so overloaded with ‘generative-transformational’ formalism in the spirit of the time that it never qualified as a reference work on the language to be much cited. For these five Central Chadic languages that could boast of major and more recent, i.e. post-1960 descriptive works, however, published full dictionaries were not available until quite recently; all we had was rather limited access to wordlists and small vocabularies. The first late-coming dictionaries to fill that gap were Wolff (2015, Vol. 2) for Lamang, which was based on fieldwork periods between 1968 and 1982, and Frajzyngier et al. (2015) for Hdi, which rests on fieldwork done by both the late Paul Eguchi (1971) in the late 1960s and Zygmunt Frajzyngier after 1991. For the posthumous publication of Hoffmann’s vocabulary notes on Margi stemming from his fieldwork in the

¹ For a comprehensive bibliography of Chadic and Hausa linguistics, see Newman (2018).

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1950s, see Peust (2019). Despite slowly growing numbers of descriptive grammars of Central Chadic languages, dictionary production remains on a deplorably low scale (cf. Newman 2018, 2019: 15). Consequently, serious comparative work on Chadic, including Central Chadic, was hampered by lack of sufficient quantitative and reliable qualitative data in terms of both lexicon and robust language descriptions – until far into the 1980s. For a short history of Chadic linguistics and current state-of-the-art account, see Wolff (in press).

Apart from the generally poor documentation and description of Chadic and in particular Central Chadic languages, the nature of the available data reflected enormous diversity, which tended to make comparative research appear not to be easily feasible, not so much with regard to consonants, but in particular with regard to vowels. To illustrate the point, and thereby anticipating the problems of analysis and description that the present study is about, one could take just three almost randomly selected common words (see 6.4 for all details). For instance, and looking at four Central Chadic languages only, the widely shared word for ‘ashes’ is represented by highly diverse segmental surface forms, which among themselves display six different vowel qualities in the first two syllables, namely *i*, *æ*, *ə*, *a*, *e*, *o*: *fitædiye* (Bachama), *bəta* (Dugwor), *bite* (Zulgo), *aftfo* (Giziga-Marva). As regards the consonants that make up the first two syllables, there is much less diversity: $C_1 = f/b$, $C_2 = t/ʈ$; only Bachama shows more consonantal material ($C_3 = d$, plus ending *-iye*). In the word for ‘beard’ in just another three languages, one may wonder how, apart from the differences regarding vowels, the forms as such could form ‘regular sound correspondences’ in terms of cognation and reconstructable proto-language source forms under the so-called Neogrammarian Hypothesis (see Chapter 5): *ag^woy* (Matal), *mume* (Podoko), *yube* (Kamwe-Futu). Indeed, applying the classic Neogrammarian *comparative method* would appear to come to its limits, if its application were at all feasible to include vowels and consonants, in the light of data such as for ‘bone’, e.g. *la* (Glavda), *gəl* (Tera), *ila* (Gude), *uule* (Bachama), *atel* (Giziga-Marva), *ʼaʼal* (Mbazla), *ʼyithlə* (Kamwe-Futu), *dʸahu* (Margi), *ahay* (Buduma), *enfi* (Mpade), *asisʼe* (Mazera), *leŋleŋ* (Gidar). That such forms can and must be considered to be cognates, and how they can be reconstructed systematically, i.e. based on regularities, from a common diachronic source system referred to as Proto-Central Chadic (PCC), will be shown in the body of the present book.

1.1 Comparative Chadic Linguistics, and Why It Is So Problematic to Reconstruct Lexical Items for Proto-Chadic in General, and for Proto-Central Chadic in Particular

A first and courageous if somewhat premature attempt to tackle Chadic comparativism, by indicating consonants only and using hyphens to mark

the assumed position of vowels, was presented by Paul Newman and Roxana Ma [Newman] (1966) under the fresh impact of Joseph H. Greenberg's seminal classification of *The Languages of Africa* (1963). Greenberg had provided a unified classification of the formerly separated 'Chadohamitic' and 'Chadic' languages under the unifying term 'Chad languages', and added a number of languages in the Republic of Chad and in the Jos Plateau area of Nigeria, which had earlier been ignored from a classificatory point of view. He included the 'Chad languages' in the language phylum that he now called Afroasiatic (formerly known as Hamito-Semitic). The earlier separation of 'Chadohamitic' vs. 'Chadic' languages was based on classifications by Johannes Lukas, such as that of 1936, which had largely been based on typological considerations. These had also found their way into the major pre-Greenbergian reference work, *The Languages of West Africa. Handbook of African Languages Part II*, ed. by D. Westermann and M. A. Bryan (1952) in those sections for which J. Lukas was informally reported to have been partly responsible. The Newman and Ma (1966) pioneer study was followed by a small but illuminating and much more robust comparative-method based study by P. Newman (1977a), which contained at least an attempt, necessarily very tentative at the time, to include vowels in the reconstructions. This again was followed shortly after by a parallel and independent study on reconstructions of again consonantal roots only, compiled by Jungraithmayr and Shimizu (1981). So, by the early 1980s, the ball had slowly begun to roll towards comparative studies involving – or even with a focus on – Central Chadic languages, yet with but a handful of expert linguists becoming involved. The major challenge appeared to remain the provision of additional and reliable descriptive and lexicographic data from more of the almost 200 hitherto largely undocumented languages of the Chadic family with its currently widely accepted four branches (West Chadic, Central Chadic, East Chadic, Masa; cf. Newman 2013), among them about 80 Central Chadic languages, being the family's largest branch in terms of numbers of individual languages. Consequently, Afroasiatic comparativism continued to suffer from the underrepresentation of Chadic data and the lack of robust generalisations, notably since Chadic is the largest family within Afroasiatic, covering more than half of all known Afroasiatic languages.²

In the light of slowly increasing new data and the publication of more individual language descriptions, linguists continued to be stunned by the enormous divergence, both typological and genealogical, within Chadic as a whole, and also within the branches, sub-branches and even down to the group level of available Chadic sub-classifications. For as long as it was not feasible

² According to the latest edition of the Ethnologue (Eberhard et al. 2021), among the 382 recognised Afroasiatic languages, 196 belong to the Chadic language family, among them 79 of the 'Biu-Mandara' branch, i.e. Central Chadic.

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to apply the classic comparative method satisfactorily to Chadic languages including both consonants and vowels, and thereby to provide the likewise classic dendrograms of genealogical language classification based on series of regular sound correspondences and shared innovations, even Chadic sub-classifications had to remain somewhat doubtful.³ Experts in the field appeared to agree on at least one of several potential explanations, namely that there was considerable time-depth involved in this language family, not to speak of the even older heritage from Afroasiatic, to which Chadic doubtlessly belonged (Newman 1980).

P. Newman's pioneering small but illuminating comparative study contained an 'extremely tentative' (Newman 1977a: 12) attempt to include vowels in the reconstructions of Proto-Chadic (henceforth also PC) lexical items. For Chadic as a whole, Newman very cautiously talked about the likelihood that 'PC can be reconstructed as having had **at most** four phonemic vowels *i ə u a*, and possibly only two, *ə* and *a*' (Newman, 1977a: 9).

Their occurrence in surface representations of words in the modern languages, however, would be dependent on the position in the word (initial, medial, final) as well as on whether they occurred in open syllables, etc. More specifically, he stated that '[f]our vowels (*a, ə, i, u*) are used in the reconstructions, although . . . the contrastive status of the latter three is open to doubt' (Newman, 1977a: 20) – which brings us back to the assumption of maximally two, if not even fewer, vowel phonemes in the proto-language (see further below).⁴ At that time, Newman (1977a: 12) had considered 'a balanced **i*, **a*, **u* system . . . a remote possibility'.⁵ Almost 30 years later, Newman (2006)

³ For most recent sub-classifications of Chadic, see Newman (2013) and, with a focus on Central Chadic ('Biu-Mandara'), Gravina (2007, 2011, 2014a: xxi–xxii).

⁴ Note that, interestingly and until this day, the choice between such four-vowel (*a, ə, i, u*) and two-vowel (*a, ə*) systems corresponds to later popular ideas of the general situation in Central Chadic, and after the situation in Proto-Chadic had been reviewed, see Newman (2006) and below.

⁵ A short comparative survey regarding vowel systems in other families of Afroasiatic may be in order here. 1. Berber. Kossmann (2012: 28) mentions vowel systems between three (Tashelhiyt: *i, a, u*) and seven (Ayer Tuareg) vowels. 2. Egyptian. Loprieno and Müller (2012: 116–117) follow Diakonoff (1965) in the assumption of three basic vowel qualities *i, a, u* (long and short) for Earlier Egyptian, which would diachronically undergo a number of historical changes, giving rise in Sahidic Coptic, for instance, to subsystems of two unstressed vowels (*e /ə/, a /a/*) and seven (long and short) stressed vowels. 3. Semitic. Gragg and Hobermann (2012: 160–163) accept as 'Common Semitic' a similar system of three vowel qualities *i, a, u* (short and long), which undergo historical developments resulting in, for instance, disallowing short vowels in open syllables with subsequent merger to schwa, or a simple */a/ : /ə/* distinction, while historically long vowels remain somewhat more stable. For Afroasiatic southern fringe languages, which are spoken in close neighbourhood to other African languages, a different picture emerges. 4. Cushitic. Mous (2012: 353) assumes as typical five long and five short vowels: *i, e, a, o, u*. 5. Omotic. Amha (2012: 436) also accepts five basic vowels, plus phonemic length. Repeatedly, the quoted authors mention the additional emergence of central schwa, being more or less predictable as to where it occurs.

1.1 Comparative Chadic Linguistics

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reviewed achievements in comparative Chadic linguistics and modified his views on the PC vowel system. He now favoured the hypothesis

that PC had 3 vowels (/i, u, a/), although there may have been only a two-way contrast (i/u vs. a) in word-initial position . . .

In word-medial position the three vowels could all occur both long and short. There was no length contrast in word-initial position, where the vowels were short. Nor in word-final position, where the vowels were also short except for /a/ which may have been long in CV words, e.g., *saa* 'drink', *taa* 'cow'. The four-vowel system typical of Biu-Mandara, namely /i, u, ə, a/ without length, could easily have arisen from an original 3-vowel system with length by means of a diachronic scenario such as the following: **i* and **u* merged to /ə/, **ii* and **uu* lost vowel length and changed to /i/ and /u/, and **aa* and **a* merged to /a/. (Newman 2006: 193)

Note that in the present study, the focus is exclusively on Central Chadic (= 'Biu-Mandara') languages. The issue of how our PCC reconstructions relate back to hypotheses about PC like those proposed by Newman is not addressed, nor are assumptions about other proto-languages within Afroasiatic allowed to interfere with our focus on PCC. In any case, this opens challenging questions for future comparative research across both Chadic and Afroasiatic.⁶

⁶ There are two scenarios to be tentatively advanced as plausible, which each still deserve investigation.

A. Our reconstructions of PCC mirror an Early Chadic if not pre-Chadic situation, which would qualify Central Chadic as diachronically and typologically 'archaic' with regard to *vocalogenesis* (this hypothesis is discussed at some length in Wolff 2017) emerging from a hypothetical proto-system of 'vocoids' **ɿ*/, **y*/ and **w*/, all of them underspecified for the feature [±syllabic]. In syllable-nucleus positions, these vocoids gave rise to [+syll] vowels, which would correspond to Newman's **a*, *i*, *u*/ and assumptions quoted for Berber, Egyptian and Semitic in the footnote above (disregarding the issue of length at this point). The task then would be to explain the emergence of modern Chadic phonological systems with much richer inventories of phonemic vowels across all branches, mainly by 'phonemicisation' of allophones and/or epenthetic schwa, and/or by contact with non-Chadic languages of presumably Niger-Congo and Nilo-Saharan stock.

B. The reconstructed situation in PCC represents a largely areal innovation possibly at the time of separation of PCC from the rest of Chadic. The innovation would have been the almost complete breakdown of the PC three-vowel-system (plus length) with losses and extensive merging of vowels (and 'semi-vowels') as suggested by Newman (2006): Short **i* and **u* would have been either lost or merged to ə (i.e. schwa, of uncertain phonological status in the emerging synchronic systems) or, together with **ii* and **uu*, in certain positions merged with syllabic **y* and **w*. **aa* and **a* would have merged to **a*/ and represent the diachronically most stable vocalic phoneme, which either contrasted only with its absence (resulting in a one-vowel-system, as in Central Chadic Moloko), or with a phonemicised /ə/ (resulting in a two-vowel-system, as more widely spread in Central Chadic languages).

Lines of further research, therefore, might want to focus on questions relating to the diachronic evolution of 'vowel length' in PC (if not in other branches of Proto-Afroasiatic as well), i.e. whether (i) it was phonemic from the beginning, involving all 'vowels' (if the proto-language possessed a system of 'true' vowel contrasts), or whether (ii) it emerged during later stages, possibly to the exception of and in addition to a very early **a*/ : **aa*/ contrast, or whether (iii) it more generally came about, as could be assumed for many Central Chadic languages (see 4.8, but notice the groundbreaking contribution by Heide Mirt (1969) on Mandara), by a combination

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Another important early attempt towards tentative reconstructions of *Chadic Lexical Roots* was that of Jungraithmayr and Shimizu (1981), who, however, and much like Newman and Ma (1966) before, disregarded vowels almost completely and focused on the consonantal ('radical') skeletons of 'roots' in the narrow sense of Semitic scholarship.⁷ Their work stands out with regard to, for the first time, directing our attention to 'affixes' to roots that would need to be taken into account for complete reconstructions of PC lexical items. They describe the research situation at their time as follows:

To a given reconstructed root ... there are three components: radicals, vowels, and affixes (Footnote: Reconstruction of tone has not yet been attempted). Among these, only radicals can be presented as a truly reconstructable element. The reconstructability of vowels is at least doubtful, if not *entirely impracticable* ... Regarding affixes, much work remains to be done, although some affixes must be postulated and have in fact been proposed. (Jungraithmayr & Shimizu 1981: 24 – emphasis mine)

Their 'three-component' approach to reconstructions is recognised in the present study as a valid starting point.

Mention must also be made of Olga Stolbova's series of contributions towards comparative Chadic etymologies within the wider framework of comparative Afroasiatic (or, in Russian terminology, Afrasian) lexical reconstructions. In her *Chadic Etymological Dictionary* she writes

Reconstruction of proto-Chadic vowels is considered as the most difficult or even an *unsolvable task* ...

... In the present text P[roto-]Ch[adic] vowels are mostly rendered by V. In some cases, however, a short vowel (-a-, -i-, -u-) of the first syllable can be reconstructed. (Stolbova 2016: 45 – emphasis mine)

Closer to the focus of the present study and also beginning in the early 1980s, are the historical-comparative works with a special focus on the about 80 Central Chadic languages. Published records begin with Wolff et al. (1981), Wolff (1981, 1983b) and Barreateau (1983, 1987). Both the late Daniel Barreateau (1950–2007) and the present author independently followed leads from synchronic Chadic linguistics that had been developed by, for instance, Carl Hoffmann (1965) for Higi, Roger Mohrlang (1971, 1972) for Higi, James Hoskison (1974) for Gude, Ruth Lienhard and Marti Giger (1975) for Daba, and Roxana Ma Newman (1977) for Ga'anda. Barreateau and Wolff, quite independently but later sharing notes on their respective comparative research on the Cameroonian (Barreateau) and the Nigerian (Wolff) side of the international border cutting through the Mandara Mountains, would appear to

and fusion of pro-/epenthetic schwa and any of the postulated proto-language's 'vocoids': *ə+*/y/ > [ii], *ə+*/w/ > [uu], and – possibly – also *ə+ɿ > [aa].

⁷ The study was expanded in its much later published Vol. 1 (Jungraithmayr & Ibriszimow 1994).

be the first to apply an innovative ‘prosody approach’ to diachronic research into selected Central Chadic languages or language groups. They did so with the aim of arriving at an increasingly wider perspective on the linguistic history of the Central Chadic branch of the family in general. Hoffmann (1987) later presented an interesting labialisation–prosody-based comparative approach to selected lexical items from a number of languages belonging to the then so-called Bura-Margi group as a follow-up to his Higi studies of 1965.⁸

The new comparative approach pushed by Barreteau and Wolff in the early 1980s rested on two interrelated modules of a theory that particularly well befitted both the synchronic-descriptive features and assumed diachronic processes of comparative relevance regarding the linguistic situation of Central Chadic (sub-branch A) languages. Whether this pertained to only some better-known or rather all Central Chadic languages was still considered an open question at the time. The two modules were the following:

- (a) The postulation of highly abstract phonemic representations that could be assumed to underlie the phonetic surface representations of data from modern Chadic languages as they were provided by the transcriptions of descriptive linguists working in the field. Depending on the degree of abstractness, rather limited inventories of phonemic vowels were recognised: only two (**/a/*, **/ə/*), or possibly only one (**/a/*), with schwa being accounted for by pro- and epenthesis in all cases of its occurrence.
- (b) The identification of the salient impact of ‘prosodies’ on the phonetic realisations of actually occurring surface forms, which affected both consonants and vowels. *Palatalisation* and *labialisation prosodies* appeared to provide fairly transparent diachronic processes to allow for satisfactory explanations to account for the existence and distribution of up to 17 (short and long) phonetic vowel representations in the transcriptions of synchronic Chadic data (cf. Wolff 2017), by still being able to relate these to just one or two underlying vowel phonemes in Central Chadic.

This combined approach was another major breakthrough in comparative Chadic linguistics. It rested on comparative bottom-up rather than top-down procedures akin to dialectological methodology, i.e. starting from small sets of closely related (and often immediately neighbouring) languages in order to

⁸ The author recalls that Carl Hoffmann was about to present this or a similar paper as early as the 2nd International Colloquium on the Chadic Language Family in Hamburg 1981, but was not in a position to provide a written version for the proceedings as invited by the editors (Wolff & Meyer-Bahlburg 1983). His 1987 publication originates from a conference presentation in Marburg 1983, which links his contribution to the broader debate on the value of prosodies for comparative studies of Central Chadic languages following the lead of Barreteau’s and Wolff’s work in the early 1980s.

Table 1.1 ‘nose’ and ‘ear’ in so-called Wandala-Lamang (1)

	‘nose’	‘ear’
Dghwede	<i>x t i r e</i>	<i>l e m e</i>
Glavda	<i>x t ə r a</i>	<i>hʷ i m i a</i>
Gvoko	<i>x t o r</i>	<i>l u w o</i>
Guduf	<i>x t e r e</i>	<i>l i m e</i>
Podoko	<i>f t r a</i>	<i>l a m a</i>
Wandala	<i>ək t a r e</i>	<i>l ə m a</i>
Gwara	<i>akʷ c i n</i>	<i>l i m i</i>
Lamang	<i>x t s i n i</i>	<i>l ə m ə ŋ i</i>

better understand language-internal diachronic processes affecting natural language change.

Earlier researchers had fairly soon realised that it was apparently not feasible to fully apply the classic comparative method (as developed by the Leipzig School of the ‘Neogrammarian’ tradition in the late nineteenth century) to Chadic languages, particularly with regard to handling surface vowels. Severe problems immediately occurred in the course of comparing pairs of languages from even groups of quite closely related languages when facing the task of identifying regular 1:1 sound correspondences. Between surface vowels, such 1:1 correspondences simply did not exist. Any surface vowel in any position of the word could correspond to practically any other available surface vowel in a corresponding position (cf. first steps, and already envisaging increasingly higher levels of abstract phonological representation, in Wolff et al. 1981; Wolff 1981, 1983b). Wolff (1983b: 215) provides illustrative examples from the rather closely related languages of the then so-called Wandala-Lamang group, among them the reflexes of the obviously cognate lexical items for ‘nose’ and ‘ear’, which tend to lead the application of the classic comparative method to vowels *ad absurdum* (Table 1.1).⁹

Any vowel, including its absence (Ø), would appear to correspond to almost any vowel or its absence in any closely related language, with distributional restrictions depending on their position in the word (Table 1.2).

⁹ According to a more recent sub-classification of Central Chadic, Lamang is no longer considered to belong to the same language group as the other languages but to form a separate LAMANG group together with Hdi (and Mabas). The MANDARA group now comprises the languages Mandara/Wandala (Malgwa), Glavda, Dghwede, Cineni, Gava, Guduf, Gvoko, Podoko, Matal. Gwara is not a separate language, but rather a ‘substratum’ to present-day Margi of the MARGI group, linking up with MANDARA group languages.

Table 1.2 ‘nose’ and ‘ear’ in so-called Wandala-Lamang (2)

	‘nose’			‘ear’		
	initial	medial	final	initial	medial	final
Dghwede	—	<i>i</i>	<i>e</i>	—	<i>e</i>	<i>e</i>
Glavda	—	<i>ə</i>	<i>a</i>	—	<i>i</i>	<i>i(a)</i>
Gvoko	—	<i>o</i>	<i>Ø</i>	—	<i>u</i>	<i>o</i>
Guduf	—	<i>e</i>	<i>e</i>	—	<i>i</i>	<i>e</i>
Podoko	—	<i>Ø</i>	<i>a</i>	—	<i>a</i>	<i>a</i>
Wandala	<i>ə</i>	<i>a</i>	<i>e</i>	—	<i>ə</i>	<i>a</i>
Gwara	<i>a</i>	<i>i</i>	<i>Ø</i>	—	<i>i</i>	<i>i</i>
Lamang	—	<i>i</i>	<i>i</i>	—	<i>ə</i>	(X) <i>i</i>

Therefore, attempting to match surface vowels in pairs of languages in order to establish series of regular sound correspondences fails across the board. We will come back to this problem and these data in more detail in section 5.2 further below.

The reasons for the stunning lack of regular sound correspondences among surface vowels were not yet fully understood at the time when the concern about reconstructing vowels in (Central) Chadic began, albeit on a low level of sub-classification. What became obvious quite early was that there was no gain in comparing phonetic surface representations of vowels, but that we needed to identify the underlying (and possibly diachronic) phonological units that had given rise to the emergence of the phonetic surface vowels as transcribed by the field linguist or missionary linguist. It was not even clear how many vowel phonemes each of the languages under comparison actually possessed, nor what governed the distribution of vowels and their likely allophones across the words – based on observations that their distribution would appear to be somewhat restricted. Linguists noted quite obvious cases of ‘harmonisation’ of vowels across the word, but were, at that time, unable to recognise the more general principles behind such observations, i.e. the diachronic principles and processes that would go beyond the rules assumed to operate in the synchronic phonology and morphophonology of individual languages. (See, for example, the attempts by Wolff (1983b, 2015) to handle the phenomena in synchronic perspective under descriptive terms like ‘umlaut’ and ‘vowel harmonisation’.) In the still rather small scientific community interested in African – or specifically Chadic or even Afroasiatic – comparative linguistics, it was not so much the rather small number of postulated underlying phonemic vowels that irritated fellow comparativists, even though many if not most linguists working on African languages – at the time and until this day – are rather hesitant to

accept the idea of underlying linguistic systems with only one, if any at all, underlying phonemic vowel (cf. Wolff 2017). With regard to larger-scale comparisons, experts only later realised that what tended to confuse them was a kind of vicious circle. It seemed to be impossible, for Chadic languages, to reconstruct the consonants of the proto-language without a deeper understanding of the situation with regard to vowels, and it became obvious that the reconstruction of vowels depended to no little extent on our assumptions about reconstructable consonants, both in Chadic in general and in Central Chadic in particular. As Barreteau (1987: 189) had realised quite early: '[L'] important étant de considérer les systèmes vocalique et consonantique comme interdépendants'. It was most of all the palatal(ised) and labial(ised) consonants and their effect on vowels in the same word that raised suspicion. To no little extent, the vicious circle also affects the reconstruction of both vowels and palatalised (in particular coronal) and/or labialised (in particular velar) consonants for the proto-language. The late Russell G. Schuh (1941–2016) much later lucidly describes the challenges as he saw them as follows:

[I]t is difficult to use correspondence sets to unequivocally demonstrate the reconstruction of palatalised and labialised velars as phonemes distinct from their 'plain' counterparts. However, languages in most major groups arguably have at least a series of labialised velars, and many also have a palatalised series. As I will argue here and elsewhere, *what is often interpreted as a distinction in vowels is actually a distinction in consonants that influences the pronunciation of vowels*. (Schuh 2017: 47 – emphasis mine)

Implicit in this statement is the observation that obvious differences in phonetic vowel qualities must not necessarily reflect different underlying vowel phonemes. This links up with the observation that, in some languages at least, conditioned allophones of assumed phonemic vowels 'overlapped', i.e. the same surface vowels could represent – in synchronic terms – different vowel phonemes. It soon became obvious that the various vowel qualities in surface structure could very likely represent the results of phonological processes that historically originated from palatal(ised) and labial(ised) consonants elsewhere in the word. These phonological processes are dealt with here and elsewhere under the term 'prosodies', i.e. we speak of *Y-prosody* to describe larger domains of palatalisation, and we speak of *W-prosody* to describe larger domains of labialisation.¹⁰

¹⁰ The term 'prosody' (aka 'long component') is used to describe a non-segmental functional feature, whose domain is larger than a single phoneme and may extend over a syllable or several syllables, or a word as a whole. In (Central) Chadic languages, we occasionally or regularly observe palatalisation, labialisation, possibly also nasalisation, glottalisation etc. as prosodies, which – stretching over several syllables or the whole word – may affect the articulation and pronunciation of vowels, or consonants, or both at the same time, in a kind of 'colouring' and 'harmonising' manner. To the best of my knowledge, the term '(morphological) Y-prosody'