

Towards a phonology of Proto-Kwa: onwards from Stewart's "Potou-Akanic-Bantu"

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Introduction: the problem of Kwa

The problem of the genetic autonomy of a Kwa sub-group within Niger-Congo needs to be examined at some length. The most ambitious phonological reconstruction to date of a major Kwa sub-group was carried out by a scholar who rejected it, John M. Stewart. His work relates just one of the traditionally Kwa families, Tano, which he extended to Potou-Tano to include two additional languages, to Bantu and therefore to Benue-Congo, discarding any intermediate Kwa node. He even suggested that Potou-Tano should be considered a Bantoid family (2001b). He eventually (2002) proposed his proto-Bantu-Potou-Tano (or proto-Potou-Akanic-Bantu) reconstructions as a pilot proto-Niger-Congo. If Kwa is to be maintained as a classification and established as an autonomous linguistic genetic entity, therefore, it must be possible to show how the sound change rules by which Stewart derives proto-Potou-Tano and proto-Tano from the most recent common ancestor of proto-Potou-Tano and proto-Bantu can accommodate the other Kwa families, namely Gbe (Ewe-Fon), Ga-Dangme, Ghana-Togo-Mountain (GTM) languages (Heine's *Togorestsprachen*) and several small languages of the south-eastern Ivory Coast that include Avikam and Alladian, Adjukru (Adioukrou), Abidji, Abbey, Akye (Attié).¹ Stewart's reconstructions of proto-Tano and proto-Potou-Tano and of the sound changes involved, apart from one or two very early papers (Stewart 1970, 1976) were not published in a comprehensive work but are scattered through several papers, often proposed in the course of reconstructing the higher nodes. The phonology of Gbe was reconstructed by Capo (1991), that of Ga-Dangme by the present writer (Kropp 1968, 1971, Dakubu 1980, 2006). The GTM languages were reconstructed by Heine (1968), but although that work is useful there are a number of problems, and the reconstruction needs to be redone in the light of the large amount of better-quality data that has become available since it was written. A recent review by Blench (2009) suggests some of the directions the reworking might take, including the possibility that it is not a genetic unity.²

Very briefly, "Kwa" as it is discussed here begins with J. G. Christaller's (1888) *Volta-Sprachen-Gruppe* (VSG) and with his comments (1889b) on the name "Kwa". In the former, Christaller accepted F. Müller (1876) to the effect that Twi, Ga, Ewe, Yoruba and Efik are all descended from a common ancestor. He then ignored the last two, but included

¹ There is the possibility of course that Stewart's reconstructions and rules are wrong. My working assumption is that they have a high degree of validity, and that problems with them will be revealed in the attempt to apply them.

² I wish to thank Roger Blench for permission to use his data.

Avatime, a GTM language which had just come to his notice, and southern Guang. However he does not actually claim distinct genetic status for his VSG. In the 1889 article (1889b), he reported the term “Kwa” as proposed by Krause on the basis that almost all³ the peoples included call themselves by a name derived from a root *kwa* or similar, meaning ‘person’. The examples are given from Akan and Yoruba, so evidently Yoruba was included in Kwa, by Krause if not by Christaller, in contrast to the “Niger” group of peoples and languages that began with Nupe and stretched eastwards as far as Bantu. Christaller explicitly considered use of the name and of the grouping itself a matter of convenience, until further information would lead to something better (Christaller 1889b: 134).

The “so-called Kwa group” that Christaller enumerated in the Introduction to the Twi Dictionary (1881/1933: XIV) also included Kru, the Lagoon languages, Yoruba, Nupe, Igbo and Edo – the same as Westermann’s Kwa (1927). The Kwa of Greenberg (1966), largely taken over from Westermann (1927) without further discussion, includes Christaller’s VSG languages, the Kru group, Yoruba, Nupe, Igbo and adds Ijaw, but Greenberg had earlier (1963, as quoted at length in Stewart 1971: 205) expressed serious doubts about whether this grouping could be supported, and proposed “Western Kwa”, which did not include Yoruba or other languages to the east. “Western Kwa” was adopted by Stewart (1989), as “(New) Kwa”. This grouping, which coincided with Bennett & Sterk’s (1977) Western South Central Niger-Congo, excluded Kru while continuing to include several (but not all) of the languages classed by Westermann and Bryan (1952) as “Lagoon” languages, which Greenberg had also included in Kwa, plus the Potou-Tano group, Ga-Dangme, the Ghana-Togo-Mountains group, and Gbe. This is the set of languages assumed in the present paper. Williamson and Blench (2000) dropped the “New”.

Even in this reduced form, the only scholars to have seriously worked on the comparative phonology and reconstruction of the languages of Christaller’s VSG, J. Berry (1952) and especially J.M. Stewart, doubted its validity as a genetic group. Stewart chose to concentrate on the relationship between what I shall continue to call Potou-Tano (and not, as in Stewart’s late writings, Potou-Akanic),⁴ ie., the indisputably established group consisting of the Tano languages including Akan, Nzema, Baule and their close relatives (Central Tano); the Guang group; Abouré and Eotilé (Western Tano); Krobou and Ega (Stewart 1989: 225) plus the two Potou languages, Ebrié or Cama and Mbatto, and Bantu as represented by Guthrie (1970). Stewart (1989) used the lexico-statistical classification of Bennett and Sterk (1977) in constructing his account of Kwa, and I think gives the impression that he accepted this grouping at the time, although he personally informed me much later that that was not necessarily the case. However the Potou-Tano classification in

³ Christaller inserted a question mark at this point, suggesting that he had doubts about the claim

⁴ In his later work Stewart referred to Tano (a renaming of Volta-Comoe) as Akanic, and Potou-Tano as Potou-Akanic, eg. in Stewart (2002). I consider this a retrograde step.

that chapter was based on his own comparative work, not on Bennett & Sterk's or any other kind of lexico-statistics.

Although I am not convinced that comparison with proto-Bantu, leapfrogging all the many languages between the Potou-Tano and Bantu territories, is the right way to go, there are several good reasons why comparison with Bantu rather than the neighbouring languages appealed to Stewart, and it is probably true that he achieved a degree of success that might otherwise have been difficult if not impossible at the time. His enthusiasm was triggered by Guthrie's reconstruction of Proto-Bantu, and the fact that he found it possible to reconstruct a series of implosive stops in Proto-Bantu that corresponded nicely with a similar series he had earlier reconstructed for proto-Potou-Tano, and which he therefore also proposed for proto-PotouTano-Bantu.⁵ The Tano languages do not have them, but one of the Potou languages (Cama/Ebrié) does, in forms that regularly correspond both with Tano and with proto-Bantu items. Recognition that this was an old feature inherited from a distant ancestral proto-form thus enabled satisfactory reconstruction of at least part of the phonetic history of the Potou-Tano languages and also of their relationship to the Bantu languages and therefore, potentially, to the rest of Benue-Congo. I have no objection to this in itself. However in later papers, some unpublished, he suggested that there is no particular value in comparing proto-Gbe with proto-Potou-Tano because it is not sufficiently diversified, and by implication does not preserve features old enough to contribute much to the reconstruction of how Benue-Congo-Kwa diversified, especially since he and Berry before him had found it exceedingly difficult to find regularly corresponding items. Presumably he thought the same about Ga-Dangme. He even suggested (2001a, c) that assuming Bennett & Sterk's figures, Ga-Dangme is not even Benue-Congo, let alone Kwa,⁶ and indeed that "Kwa" was no longer a useful concept.

There are certainly real difficulties with the Kwa idea. Stewart suggested more than once that apparent similarities among the languages were due to all other languages in the area having been influenced by Tano languages over a long period. It is true that Ga-Dangme, Ga in particular, was clearly strongly affected by contact with Tano-Guang and GTM languages at some early period. However, it is also very likely that the current distribution on the map, giving the impression that the Tano languages, Ga-Dangme and Gbe converge on the lower Volta valley, is relatively recent. More specifically, it is likely that Akan and the Guang languages, the Gbe group (particularly Ewe) and Ga-Dangme have been in close contact with each other for less than a millennium. It is accepted by both historians and linguists that Akan (ie. the Twi-Fante language, not the broader grouping

⁵ This work was presented in a long series of papers, not all of them published, including Stewart 1973, 1993, 2001a, 2001b, 2001c, 2002.

⁶ I once communicated to him a long list of corresponding Akan and proto-Ga-Dangme forms. He conceded (p.c.) that they conclusively demonstrated that the two were related, but I am not aware that he ever did anything with it.

now called Tano) spread eastwards to come into contact with Ewe and Ga-Dangme within the past few hundred years. Further, although Guang languages may well have had some degree of contact with western Gbe, Ga-Dangme and the Ghana-Togo-Mountain languages before the eastward spread of Akan, there is no reason to think they were ever “dominant” before that time. A more likely scenario is repeated assimilation of sections of language communities into other communities (see Dakubu 1997, 2009a), accompanied by bilingualism, frequent language shift, and attendant contact effects. Stewart himself believed that the Potou-Tano languages originated west of the present Ghana-Ivory Coast border, and that Akan and the Guang languages before them spread eastwards from the Ivory Coast lagoon area along the coast before moving north (Stewart 1996b). Before that, the Tano group as a whole probably dispersed from farther north, somewhere to the west of the Volta in what is now south-western Brong-Ahafo.⁷

It is generally agreed that Gbe-speaking people spread westwards within oral-historical times, and the relatively large and uniform character of the western or what Capo calls “Vhe” (Ewe) dialect area, in contrast with the relatively highly differentiated eastern area in what is now the Republic of Benin, lends support to this thesis. The external history of Ga-Dangme is a bit tangled – it appears likely that some of the population, possibly including the original bearers of the language, crossed over from east of the Volta, from the southern part of modern Benin and possibly Nigeria, but were joined by other people also arriving from east of the Volta but from farther north (see Dakubu 1972, 1997, 2006), where they must have been in contact with, or been members of, northern Guang and/or GTM-speaking groups. But at any rate it seems fairly clear that the lower Volta valley could not be called a “Tano-dominated contact area” until quite recently in its linguistic history, long after the language families in question – Potou-Tano, Ga-Dangme, Gbe, GTM and/or its subdivisions – would have differentiated from any common ancestor language.

Another weakness in the argument is that the proliferation of languages within a group should not in itself be of any great significance to that group’s role in reconstruction, although of course more languages may offer more clues. Although it seems to be true that most of the differentiation within Gbe took place relatively recently, a language that has existed in isolation without significant division since it differentiated from the proto-language may well turn out to be particularly conservative. Capo (1991) shows (without quite saying so, but see Capo 1979) that Gbe constitutes a more-or-less classic dialect continuum, with the greatest differentiation between the west (Ewe) and the east (Phla-Phera), which show mutually exclusive sound-shifts, while the other three dialect areas (Gen, Aja, Fon) share innovations with one or the other of these and with each other, so that

⁷ This idea is expressed in connection with the argument that the Ghana-Togo-Mountain languages are part of a larger grouping including Stewart’s Potou-Tano, namely Potou-Tano-GTM, and that they split from it more recently than the Potou languages (Dakubu 2008 and to appear).

isoglosses between them do not bundle exclusively. Ga-Dangme consists of just two languages differentiated by well-defined sound shifts, of which Ga surely developed into a distinct language, or lost mutual-intelligibility with Dangme, less than 1,000 years ago. However I don't think these facts are relevant to the problem of whether or not Kwa constitutes a genetic group.

It has been mentioned that Stewart found comparison with Bantu attractive because implosive stops could be reconstructed for proto-Potou and proto-Potou-Tano, and because the corresponding items allowed a successful comparison of the entire Potou-Tano group with proto-Bantu, and the setting up of proto-Potou-Tano-Bantu. I think the enterprise was also aided by the fact that Tano, particularly Akan, and by implication Potou-Tano, itself seems to have been relatively conservative in other respects. Second syllables of stems in nouns and verbs are much better preserved than in Gbe or Ga-Dangme, and these helped to explain changes in first syllables. Gbe on the other hand has almost entirely lost most second syllables. At first glance Ga-Dangme has also lost them, but in fact there is considerable evidence especially in Ga for second syllables of nominals. Dangme took the loss of these syllables much farther after Ga had become separate. Another was the preservation in Tano, although in a very much reduced form, of nominal class prefixes signifying number, and concord to a limited degree, although it is not clear that this really aided reconstruction, since Stewart did not attempt to reconstruct morphological systems.⁸ Gbe however has merged all of them into at most three prefixes to nouns that have no significance for number, while GD lost them completely.⁹

Another important conservative feature of Potou-Tano is vowel harmony; it appears that cross-height ATR harmony is an old characteristic that was lost in many if not most Bantu languages but preserved in proto-Potou-Tano and many of its daughters, and in proto-GTM, but has disappeared in Ga-Dangme and Gbe. Unfortunately, as Ford (1973) pointed out, Heine's (1968) treatment of GTM languages under-represented the vowels, and he reconstructed a system of only five oral vowels and no nasal vowels (Heine 1968: 142), so that it has not been worked out how exactly the presumed ancient GTM vowel system corresponded to the Tano one in historical comparative terms. More recent writers have found nine, ten and even eleven oral vowels, with ATR harmony, in several languages (see among others Anderson (1999) on Ikposo, Morton (2011) on Basila-Anii).

It is easy therefore to understand why Stewart found comparison with proto-Bantu attractive, and his work in this direction was remarkably successful. His proto-PotouTano-

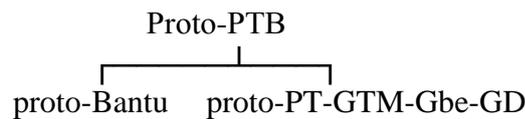
⁸ Nominal class and concord are much better preserved in GTM, which of course Stewart did not consider. The nominal prefixes on nouns are also more conservative in the Guang languages than in Akan (see eg. Snider 1988).

⁹ The Ga nominalizing prefix *é-* is one of the very few possible relics of a prefixing class system in GD. Most nouns with initial vowels in both Ga and Dangme are borrowed. There may have been a suffixing system, see Dakubu (1996), but we do not consider that problem here.

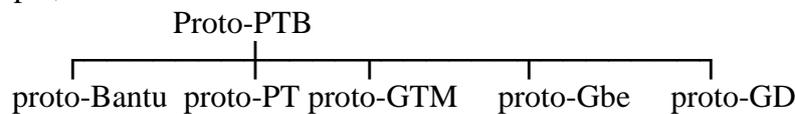
Bantu, which might be equated with a pilot proto-Benue-Kwa if proto-Niger-Congo seems a bit extreme, does indeed push the time frame of reconstruction back considerably.¹⁰

However I am not nearly so pessimistic about the possibilities for a rigorous comparison of Tano with its eastern neighbours. Likely cognates across Kwa are in fact quite numerous, and even regular, assuming that patterns of reduction in the number of vowels can be demonstrated. One could even say that in some respects there has been remarkably little change. Problems of interpretation remain, and some of these are explored here. However, the fact remains that Stewart's Potou-Tano reconstructions are the most thorough and sophisticated yet, and if Kwa is a valid grouping, it should be possible to show how the other languages are related to it. The fact that the proto-PT node in the putative tree has been reconstructed should make it a useful, indeed necessary starting point for further work.

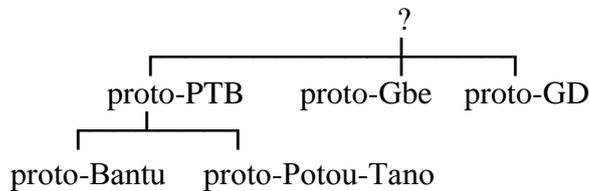
One focus of the current paper is thus to ascertain whether it is legitimate to assume that, whatever the closer relationships, all the languages currently grouped as Kwa are descended under a single node below proto-PotouTano-Bantu. That is, the following tree represents the hypothesis to be tested:



and not, for example,



or



To demonstrate this, we have to show that Gbe, GTM and Ga-Dangme share innovations with proto-Potou-Tano that distinguish all four from proto-PTB. I have elsewhere (to appear) shown that Rule 6.2.5 of Stewart (2002: 210), deriving proto-PT from proto-PTB, also applies to GTM, GD and Gbe. According to this rule, in a root-initial syllable, a nasalized consonant before a nasal vowel followed by a nasalized lateral, and also the nasal vowel both lost nasalization. That is, PTB * $\tilde{C}\tilde{V}\tilde{I}$ - > PT *CV \tilde{I} . Several of the items cited as attesting this rule were not reconstructed with an old initial nasal consonant, only a vowel in the first syllable which lost nasality before the (earlier) nasalized second syllable. The rule thus appears to conflate more than one sound change: one in which a pre-

¹⁰To avoid the confusion that might result from a long string of hyphenated names, I omit the hyphen within a group name, such as Potou-Tano, when it is linked at a higher level with another group but maintaining the capital letter, giving for example PotouTano-Bantu instead of Potou-Tano-Bantu.

nasalized stop became a sonorant after a nasal vowel (ie. in the second syllable of the root), another in which the preceding vowel then became non-nasal, and a third by which an initial nasalized sonorant also lost nasality. The reflexes in other branches of Kwa have generally lost the second syllables completely, so that they mainly attest the loss of nasality in the initial syllable, see Series A. This common innovation allows us to posit a proto-Kwa language.

Series A: Correspondences attesting common loss of nasality in pre-nasal root-initial syllables.

Gloss	PTB	>	PT	GTM	GD	Gbe (Ewe)
neck	*-k̄õntɪ		*-k̄õnĩ	Likpe ó-kɔ	*k̄õn-	k̀̀
get wet	*-b̄õmbɪ		*-b̄õvɪ	*-fólu	*p̀̀	-
look after a child	*-l̄ẽĩĩ		*-l̄enĩ	-	*l̄ɛ-	-
moon	*-ũj̄ẽĩĩ		*- ɥenĩ	-	-	ɥletí
white	*-ũj̄ẽĩĩ		*- ɥenĩ		*h̄íé- (v) *h̄íén- (adj)	*wé (yé)

Notes:

neck: The GD form means ‘shoulder’.

moon: Capo does not reconstruct this word for proto-Gbe, but reconstructs ɥ as *w (see ‘white’).

white: Stewart (2002) does not indicate that this item is an example of the rule, but since it seems to be completely homophonous with ‘moon’, and given the number of mistakes in that publication, I include it here.

One practical difficulty is that Stewart concentrated mainly (not entirely) on correspondence series related to the implosives. His published articles give consonant sets for proto-Potou-Tano (or Potou-Akanic), but he does not, to my mind, fully justify all of them. Some correspondences are supported by as many as ten items, others by as few as one or two. A more serious problem is that many Gbe and GD items that almost certainly correspond to Akan and roots in other Potou-Tano languages were not reconstructed for proto-PT, nor therefore for proto-PTB, presumably because sufficient reflexes were not found within PT, or they did not contribute to the comparison with proto-Bantu. This absence does not however mean that the items are not common lexical retentions that happen to have been lost in some branches of Potou-Tano. In order to see how such items might reflect the proto-PT consonant system it is therefore useful to compare them with Guthrie’s (and Stewart’s) proto-Bantu. It turns out that a number of Bantu items have reflexes in Gbe and/or Ga-Dangme that do not appear in Potou-Tano.¹¹

Although I have proposed elsewhere that GTM is descended from a node below (ie. more recent than) proto-Potou-Tano, so that there is a PotouTano-GTM subgroup, this

¹¹ Unfortunately, at the time of writing I do not have access to Volume 4 of Guthrie’s *Comparative Bantu*, which contains his proto-Bantu reconstructions. Where Stewart does not cite them I have had to rely, temporarily I hope, on his Common Bantu formulae.

cannot be regarded as entirely secure, given the problems with Heine's reconstructions, or rather, with the data underlying them. We therefore include GTM reconstructions where available, or items from individual languages as indications that they may have existed in proto-GTM although they cannot at present be reconstructed.

It has also been suggested, by Manfredi (ms), with no reference to GD or GTM, that Gbe is a late arrival, a split from Benue-Congo inserted into the area later than Potou-Tano and after that group had split from proto-PTB. Granted that Gbe possibly spread into the Volta valley later than Potou-Tano (specifically, the Guang branch of Tano) and more particularly the GTM languages, no good linguistic evidence is offered to remove it from Kwa.¹² It is true however that Gbe-Tano cognates are more difficult to find than GD (or GTM)-Tano items, or even GD-Gbe.

We now proceed to discuss the correspondences found between Potou-Tano and other "Kwa" languages and groups. Since the contrast between plain and implosive stops was Stewart's major focus, we begin with the correspondence series that involve them. We do not include here items that can be reconstructed for Tano but not for GTM, Gbe or GD, because they have been thoroughly discussed by Stewart in various publications and because they cannot provide evidence for the problems at hand. However a column for Akan and/or Guang is included for correspondences between those languages and other Kwa languages that are not among the items treated by Stewart.

In the following sections, wherever at least one member of a correspondence series has been reconstructed for Potou-Tano or earlier, I group all the items of the series in the expectation that they have a common ancestry. I have also made use of Williamson's insight (Williamson 2000) that roots in other Niger-Congo languages may be related to the second syllable of a Bantu stem, not the first, because the first syllable of the Bantu stem originates from an 'augment' or fossilized prefix. In such cases the part of the stem that is thought to be cognate is underlined.

Data from the southern Ivory Coast languages that have been classed as Kwa in recent accounts (Avikam and Alladian, Adjukru (Adiokrou), Abidji, Abbey, Akye (Attié), and Krobu within Tano) are included or noted in the comparative series whenever suitable items could be found.¹³

¹² Manfredi's main argument, that Gbe and Yoruba each have 3 tones but all the languages to the west have only 2, is simply contrary to fact. We also note that according to Bennett & Sterk (1977: 253) "Both the statistical evidence and the evidence of innovation-based isoglosses point to a strong border located between Western SCNC Ewe-Fon and the Eastern SCNC Niger-Kaduna and Yoruboid groups..."

¹³ Acknowledgements: I wish to thank Roger Blench for permission to use his data posted at Blench (2006). I am also indebted to Felix Ameka, for comments on the following two sections and for pointing out relevant data and references.

Consonant correspondences in root-initial syllables.

Voiced Bilabial Stops

Correspondences to Potou-Tano implosive *ɓ (series 1a) while not without problems are well attested; correspondences to plain *b (1b) much less so.

Series 1a: Correspondences to Potou-Tano *ɓ < Potou-Tano-Bantu *ɓ

Gloss	PT	>	T >	Akan	GTM	Gbe	GD
come	*-ɓa		*ba		*bá	*bá, *vá, *wá, ?*ɓá	*bā
child					*o-bí	*-ví	*bí
small						*ví; bii ‘narrow’	*bi-
bad				bɔnɪ	*bu v.	E. vɔ̃ adj.	
cloth						*avɔ	*bō
time			*bɪdɪ-ɛ	-be-	*-X ^w e	‘anniversary’	*bē
hit	*-ɓulu		*-bulu		*bole	*X ^w o	
ask	*ɓ ¹⁴		*b	bi-sa	*bíé	*bya ?*biya	*bí
be cooked	*-ɓinĩ		*-bunĩ			*bí	*bè
drum	*-ɓì				*li-bíne	E vũ	*mí
dirt	*-ɓinĩ		*-binĩ		*m-bí	*bí	*-mũĩũ
pot					*li-búke		*b ^u é
be old					*be	E xóxoe adj.	*N-be-w (adj)

Notes:

bad: a noun is derivable by a tone affix from Ewe vɔ̃. The form vɔ̃lo is presumably a variant.

time: The word for ‘(period of) time’ is comparable in several GTM languages: Logba **i-be**, Lelemi **u-wi**, Siwui **ɔ-wui**, Likpe **le-fe**, possibly Avatime **li-poe**, suggesting either *w or *b as in Tano.

(They do not fit well into any of Heine’s correspondence series.)

cloth: This word is interesting because there is also an Ewe word **bó** ‘bark cloth, fibre’ which may well be a variant. Guthrie gives Common Bantu ***-gùbò**, which suggests that the word is probably pre-Bantu and that the Bantu form includes an augment, which was not present in proto-Gbe or proto-GD.

drum: The Ewe form might be from a proto-Gbe ***X^wũ** (suggestion from F. Ameka).

dirt: item 66 in Stewart (2002). The Akan form means ‘excrement’, as do the Gbe and GTM forms. The GD means ‘dust’, and Ga has a formal plural **mũjĩ** ‘dirt’.

pot: CB has ***-bìgà**. Apparently there are no cognates in Tano-Guang. The GD form perhaps reflects an earlier pre-GD ***bue**, following loss of the second consonant.

be old: A possible Tano reflex is Baule **mvwě**. Gbe ***X^wo**? The modern form of GD ***N-be-w** ‘old, former’ (adj) is **mómó**, with the plural form **mémé-jì** in Ga.¹⁵ Two GTM reflexes are revealing:

Likpe **bémbé** and Ahlo **bé.u**. The first suggests that the nasality in reflexes originated in a

¹⁴ A form with reconstructed consonant but no vowel is given as it is cited in Stewart (1993).

¹⁵ An earlier Ga **bombo** is attested in Protten (1764).

prenasalized medial consonant, while the second suggests that the -Spread vowel of the GD singular (and the Ewe) also originates from an old second syllable.

Series 1b: Correspondences to Potou-Tano ***b** (Potou-Tano-Bantu ***b**)

Gloss	PT	T	Akan	GTM	Gbe	GD
get wet	*-bɔu	*-pɔu	fɔw	*-fólu		*pɔ̀
dirt	*-bĩ	*-pĩ	e-fĩ		E a[-]fě	*fini < *pini
lagoon			-fáka ‘pool’	Adele -páà		*pà-
guinea worm			m-fǎ			*-pá
play v.					fě	*fě < *p'ě
evening					fě́	*p'anĩ

Notes:

get wet: Although Heine reconstructs ‘get wet’ with ***f** in GTM, note that the Logba version of ‘get wet’ is **pro**. However it is a fricative in the cognates listed by Heine. Inland Ewe uses **pɔ́** (F. Ameka pers. comm.) It is possible that both are borrowed from Tano.

dirt: item 50 in Stewart (2002). The Ewe form means ‘uncleanness, filth’. The GD means ‘excrement’, see note on ‘dirt’ in series 1a.

pool: presumably the Akan form is di-morphemic, since Akan did not preserve medial /k/. The GTM-Adele form is from Blench (2006), glossed ‘lake, pond’. The modern reflexes of the GD form refer to virtually any body of water other than the sea or a well.

guinea worm: since no other language of the area seems to have a comparable form it is possible that the GD form is borrowed from Tano, or more recently from Guang, especially since the Dangme reflex **dipá** seems to include a non-GD prefix.

From Series 1a it seems clear that ***ɓ** merged with plain ***b** in Tano and GTM, therefore presumably in proto-Tano-GTM. Note that like Tano, GTM has tended to preserve second syllables. In Gbe however ***ɓ** apparently split according to the nature of the following vowel. It seems to have become a rounded unvoiced uvular fricative ***X^w** before a -High -Low +ATR vowel (‘time’, ‘hit’), and the voiced labio-dental fricative **v** elsewhere, which however varies dialectally with **w** and **b**. The exceptions are ‘ask’ and ‘be cooked’, which consistently have plain **b**. Since they are the only items that are verbs with +High +Spread vowels, it is proposed that Potou-Tano-Bantu ***ɓ** became **b** in Gbe before +High +Spread vowels in the absence of a (voiced) prefix.

In Ga-Dangme ***ɓ** merged with ***b**, except before a +ATR vowel followed by a nasal second syllable, where it was nasalized, as **m** (‘drum’, ‘dust’, ‘old’).

Series 1b is weaker, but clearly different from the previous set, so that two consonants must be reconstructed for proto-Kwa. It looks as though the inherited plain **b** was devoiced in both proto-Tano and proto-Ga-Dangme. However it is not likely that this can be considered a common innovation, since that would mean placing GD within Potou-Tano, which highly counter-intuitive.

Since **f** in Ewe corresponds to **X^w** in other Gbe varieties, it appears that in Gbe ***b** and ***b** merged, becoming ***X^w** in the presence of a second syllable, **m** before nasal vowels (see ‘dirt’), and **v** alternating with **w** and **b** in other environments except in the situation noted above, where it became non-alternating **b**. Note that of the two forms that Stewart reconstructs as ‘dirt’ in proto-PTB and proto-PT, the reflex of Potou-Tano ‘dirt’ means ‘excrement’ in GD, while the probable reflex of what in proto-Tano meant ‘excrement’ means ‘dirt’ in GD. These are plausible semantic shifts. In Stewart’s reconstructions for proto-PotouTano-Bantu as well as proto-Potou-Tano, apart from the initial consonant they differ only in that what means ‘excrement’ in Tano (series 1a) is reconstructed with a nasal second syllable, but the other (series 1b) has a nasal root vowel. It is extremely likely that there was a second syllable in both items at some point, so that they were very similar, perhaps even allo-forms.

The correspondences for ‘lagoon’ are admittedly weak. Another possible item in this series is Ga **flá**, ‘wound, scar’, which has no reflex in Dangme but might nevertheless be plausibly reconstructed for GD as ***pála**. Stewart does not reconstruct this item for either PotouTano-Bantu or Potou-Tano, but Guthrie gives Common Bantu ***-bádà**, ***bádi**, from proto-Bantu ***-bad-**. There is also GD ***pāni** ‘vein, tendon’, compare CB ***-kipà**. This is perhaps another case where the Bantu form includes a prefixed augment not present in the Kwa language.

Unvoiced Bilabial Stops

Correspondences to Akan **h** reconstructed as Potou-Tano ***p** (series 2a) are reasonably well attested in Gbe, while correspondences to Akan **h** for which we have no PT reconstructions (Series 2b) are better attested in Ga-Dangme.

Series 2a: Correspondences with Potou-Tano ***p** < PTB ***p**

Gloss	PT	T	Akan	GTM	Gbe	GD
blow	*-pu	*-fu	-hu	*péŋu	fú fú flú	
itch	*-pĩĩ	*-fĩĩ	-hĩnĩ		fĩ, fie, fiẽ, fiɔ	?G flĩ
blow nose	*pĩĩ	*-fĩĩ	-hĩm			*h ^u lĩ/ *h ^u elĩ
where?	*-pĩ	*-fĩ	-hĩ		afi	*hé
boil	*-pu	*-fulu	-huru	-	fiẽ, fiɔ	*hò-
foam	*-pulu				flú	D h ^u lì

Notes:

blow: ie. blow with the mouth. Heine reconstructs GTM ***péŋu**, but of his listed reflexes only Ahlo is really similar, **fěŋu**. The relevant items are Adele **fũ** (Blench **fũn**), Anii/Basila **wũ** (Blench), Siwu **furi** (Blench), Likpe **fə**, Logba **vũ** and Tuwuli **vũ**. Heine (1968: 153) reconstructs ***p** on grounds of probabilities, not contrasts, and this item is not one he uses to demonstrate the sound shifts involved.

Although Adele, Likpe, Siwu/Akpafu and Tuvuli follow his rule, ie. each has **f** for Heine's ***p** except Tuvuli which has **v**, Anii and Logba do not.

itch: the Ga form is probably borrowed from proto-Tano.

blow nose: the GD reconstruction is based on Dangme. Another Ga form **fẽ** is probably a borrowing from proto-Tano.

where?: The GD form is a postposition signifying 'place'.

boil: Adjukru **ifl**.

There is also a possible series in which GD has ***s** rather than ***h**. However in 'ash' GD ***s** more likely corresponds to PT ***t**. For the present we do not try to account for it.

Series 2aa

	PT	Gbe	GD
burn, get burnt	*pu	fí, fíé	*s'ã
ash		afí	*-sú
stool		o[-]fí	*-sẽ-í

Series 2b: Correspondences between Akan***h** (Tano ***f?**), Gbe **v, v** (***X**) and GD ***f**

Gloss	Akan	GTM	Gbe	GD
need	-hĩá		-vie	*fí
wash	-hurú	*pole		*fó
speed n	a-hua			*fò
smell n	-hũá		ué v.	*fũ

Notes:

need: The presence of nasality may account for the difference in Gbe between 'need' and 'smell'.

wash: On Heine's reconstruction of ***p** in GTM ***pole**, see the note on 'blow' above. The voiceless fricative occurs in six languages, a bilabial voiced fricative in one (Bowiri/Tuvuli) and a voiced fricative also in one, Lefana. The plosive on the other hand occurs in only two, Avatime and Nyangbo, which are largely mutually intelligible. (These correspondences hold for all 17 GTM items reconstructed with initial ***p** including ***peju** in series 2a.)

It is observed that the consonant that Stewart reconstructs as a plain unvoiced bilabial stop in proto-PTB, retained unchanged in proto-Potou-Tano, is an unvoiced labio-dental fricative in proto-Tano, in Gbe and an aspirated labial ***h^u** in proto-GD. It eventually became **h** in Akan. However there is another correspondence series (2b), which unfortunately has no reflexes in reconstructed proto-Potou-Tano forms, in which Akan has ***h**, corresponding to ***f** in Ga-Dangme and apparently to ***X** in Gbe, ***p** in GTM. Synchronically, the difference for Gbe between 2b on the one hand and 2a, 2aa on the other is that in 2b the labial fricative is voiced. For GD the difference is that 2a has a velar fricative, while 2c has the labial fricative.

Heine reconstructed GTM ***p** in the two items cited in 2a, 2b, on the grounds (1968: 153) that a shift from a plosive to a fricative is more likely than a shift in the other

direction, and because it makes for a symmetrical system of stops. However no ***p** is reconstructed for proto-Gbe, and it is known to have been absent in early Ga, where all GD ***p** had gone to Ga ***f**, so the symmetry argument is less than compelling. Heine does not reconstruct GTM ***f**, only ***ɟ**, with a very different set of correspondences. It is possible that the GTM consonant in Series 2b should be reconstructed ***f**, but in consideration of Heine's first argument, I propose that PTB ***p** remained unchanged in proto-PT and in proto-GTM. In proto-Gbe and proto-GD it became ***f**, and eventually Tano and most of GTM, especially GTM-NA, later followed suit. Series 2b on the other had represents proto-Kwa ***f**, or possibly a bilabial ***ɸ**. Then ***p** and ***ɸ** merged in PT and GTM. Guang languages have cognate forms beginning in **f**.

Correspondences with the PTB voiceless implosive bilabial ***ɓ**, although few and involving plausible semantic changes (series 2c), are quite good. Here Gbe **f**, GD ***h** correspond to Akan **f**, from PT ***ɓ** not **h** from PT ***p** as in 2a, 2b.

Series 2c: Correspondences with Potou-Tano ***ɓ** < PTB ***ɓ**

	PT	Tano	Akan	GTM	Gbe	GD
take	*-ɓa	*-pa	-fa		fǎ	*hā
stomach	*-ɓu	*-pu	-fu	*ka-po	fu	*hó
dig up	*-ɓulu	*pũlũ	-fũnũ			*hú

Notes:

take: Blench gives Animere (GTM) **fǎ**.

stomach: this item means 'pregnancy, foetus' in Gbe and Ga-Dangme.

dig up: the GD form is used in the context 'hoe, cultivate land'.

To summarize, five labial consonants are reconstructed for proto-Kwa, four of them stops: ***ɓ**, ***b**, ***p**, ***ɸ** and ***ɓ**. The following changes ensued:

Kwa ***ɓ** > PT ***ɓ**, GTM ***b**. Since PT ***ɓ** > Tano ***b**, it is possible that proto-GTM shares the change with proto-Tano.

> Gbe ***X^w** / _ V, where V was -High, -Low, +ATR, and ***v** alternating with ***b** (conditioning uncertain) elsewhere.

> GD ***m** / _ V₁C₂V, where V₁ was +High and +Spread (***i**) and C₂ was nasal, and ***b** elsewhere.

Kwa ***b** > PT ***b**, GTM ***ɸ**, Gbe ***X^w**, GD ***p**. Thus Kwa ***ɓ** and ***b** did not merge, except in Gbe before -Spread vowels.

Kwa ***p** > PT ***p**, GTM ***p**, Gbe ***f**, GD ***h^u**. Occurs mainly before +High vowels.

Kwa ***ɸ** > PT ***p**, GTM ***p**, Gbe ***X**, GD ***f**. Thus Kwa ***p** and ***ɸ** merged in PT and GTM, lending further support to the proposition that they constitute a sub-group within Kwa, but not in Gbe or GD. Occurs mainly before +High vowels.

Kwa *ɸ > PT *ɸ, GTM *p, Gbe #f, GD *h. Once again, on the basis of the admittedly slender evidence, GTM appears to share the change to *p with Tano. Kwa *ɸ has not been found before front vowels.

Velar Stops

A correspondence PT ***kw** : Gbe ***k**, ***gb** : GD ***gb** is quite well attested, especially in GD. The GTM attestations are less satisfactory.

Series 3: Correspondences to Potou-Tano ***k^w** < PTB ***k^w**

Gloss	PT	T	Akan	GTM	Gbe	GD
die	*-k ^w u	*-wu		*kúí	ku	*gbó
death	*-k ^w u	*-wu			ku	*gbe-
marry			-warí-			*gbā̄
pierce			-wurá-			*gbū
plait hair			-wɔ, -wɔw		E. gbi, gbĩ, gbe	*gbð
dog	#-k ^w a			#-kɪ-		*gbe-
language, voice				Logba u-gbe	*-gbe	*gbɔ̄
day		Gu #-kɛ			*-gbe	*-gbi-

Notes:

die, death: Stewart reconstructed ***-k^wu** for Proto-PotouTano-Bantu. Akye also has **wu**. ‘Die’ and ‘death’ are undoubtedly etymologically related, and for purposes of comparative phonology represent a single item. The GD vowel in ‘death’ is presumably related to an old affix, viz. G **gbéle** D **gbēnō** ‘death’, and so secondary ie. a post-proto-GD development.

marry: the GD verb means to marry a man.

plait hair: The Gbe verb means ‘twist’, and requires the object ‘hair’ for this interpretation.

dog: Although not reconstructed by Stewart the form almost certainly was present in Potou-Tano. Ebrié has **gba**, and Mbato and Baule **adwa** are also likely cognates, since **dw** alternates with **gw**, giving a PT **#-k^wa** which was later voiced. Guang has **jono** (**d^worō**).

language, voice: North Guang has **-buri** (Chumburung, Krachi), **-bule** (Nawuri), so that Guang ***buCV** is plausible, but Guang **#b** is not obviously related to Gbe ***gb** or GD ***gb**. Six GTM languages in Blench’s (2006) list have **kp**: Adele **ɛ-kpɛ́ɛ́**, Siwu **kpɛkpe**, Likpe **ð-kpâ**, Igo **ɔ-kpè**, Ikposo **u-kpi**, Tuwuli **ð-kpète**. On the basis of these, an ancestral ***kp** followed by a –ATR vowel, probably **ɪ**, seems very likely.

In contrast to this series is a likely correspondence between Bantu, as suggested by CB ***-kúéde-** ‘marry’, where ***-kuV** is apparently a reflex of PTB and PT ***-kV**, and GD ***kpèé** ‘marry a woman’.

The one item with ***k** in GTM and Gbe also has a -Spread vowel (‘die’). On this basis the following shifts are proposed:

1. The ***k^w** of proto-PotouTano-Bantu (whatever that may represent) remained unchanged in proto-Kwa.

2. Kwa ***kʷ** became voiced in GD and before spread vowels in GTM and Gbe.
3. Voicing was accompanied throughout by a shift from labio-velar to labialized velar articulation.

There is a problem in the relationship between ‘die’ and ‘kill’:

	Akan	Gbe	Ga-Dangme	Adjukru	Avikam
kill	kum	*H^wu	*gbè	ibi	gbi

Stewart did not reconstruct ‘kill’ for Potou-Tano or Tano. The GTM items (GTM ***lue**, also Logba **ba**) do not seem to be cognate, unless they can be related to the **wu** forms. The common Guang form **#-mɔʔ** also does not seem to be cognate.¹⁶ Note that as in series 3, a voiced consonant occurs wherever the vowel is + Spread.

Since the Akan and Guang forms for ‘kill’ are so different, perhaps no proto-Tano form can be reconstructed. However the two Potou languages have forms with /w/: Ebríe **aṽṽḗ**, Mbato **we**.¹⁷ It seems possible that ‘kill’ as a causative form of ‘die’, that has developed differently in different branches of Kwa, and that in Adjukru and particularly in Avikam there was (as in Gbe and GD) a shift from Kwa ***kʷ** to **gb**.

Only one item showing the correspondences involving Akan **k**, which have either **g** or **k** in Gbe and ***g** in GD has been reconstructed for Tano or Potou-Tano, but at least two show a correspondence with CB ***g**, which in PTB should correspond to the implosive voiced velar ***ɠ** but in PT to the plain voiced velar. See correspondence series 4:

Series 4: Correspondences to a presumed PT ***g** < PTB ***ɠ**, ***g**

Gloss	PTB	PT	Akan	Gbe	GD
abstain	*-gili	*-gili	*-kili		*hì
ring (n.)			-ká	-ga	*gà
Accra			-kraNV	gḗ	*gà
worm, caterpillar			a-kòkú-nu	ṅḗ #Ngḗ	*gḗgḗ-
black ant			kàṅkaṅ		*-gḗ
hill			-kúkú	kó, -kḗ	*gḗdī
cemetery			kúra		*gḗ-

Notes:

abstain: This is the only attestation of PTB ***g** listed in Stewart (2002). Proto-GD ***g** is not found before ***i**, and it is thus likely that GD ***hì** is cognate.

ring: (e.g. a metal finger ring.) Note CB ***-dingá**: this appears to be another case where the Kwa forms are cognate with the second syllable of a Bantu form. Note also Gbe ***-gḗ** ‘iron, metal’.

Krachi (Tano-Guang) has **kà-káṅ** ‘ring’.

¹⁶ See however the note above on ‘language, voice’; if the Guang for ‘kill’ derives from a nasal second syllable, perhaps another correspondence series needs to be recognized, in which Tano ***b** : Gbe ***gbʔ** : GD ***gb**. We leave this consideration aside for the present. In any case, since ‘kill’ is of course semantically a causative of ‘die’, it is very probable that an affix with this meaning may ultimately be reconstructed.

¹⁷ Data from Dumestre et al. 1971.

Accra: the ethnic name, from which the modern city gets its name.

worm: It is suggested that nasalization of the Gbe consonant arose from an old nasal prefix or augment, compare ‘wife’ (series 16) in Ga-Dangme. Some North Guang languages, Nawuri, Gichode and Gonja, have \check{c} in this form.

hill: CB *-gùdù seems close to the GD form. The Gbe cognate suggested means ‘clot’, or mound, as in ‘anthill’.

cemetery: the Akan form is a verb, ‘bury’.

The correspondences between Akan, Gbe (other than ‘hill’) and Ga-Dangme seem secure but no cognates have been found in GTM. It is proposed that like $*k^w$, $*g$ remained unchanged in proto-Kwa and eventually lost voicing, but only in Tano (and in GD before a high spread nasal vowel if ‘abstain’ is indeed cognate).

It has proved remarkably difficult to find Gbe correspondences to proto-PT $*k$, and it is not clear that any of the suggestions in the Gbe column in series 5 are really valid. Stewart (2002) gives a number of items with proto-PT $*k$ which in turn reflects proto-PT-B $*k$, but none of them occur in this series.

GD $*h$ seems to correspond with reasonable regularity. Given the velar obstruent features of both the Akan and the GTM items, aspiration was probably an innovation in GD, and perhaps also in Gbe before oral vowels. It is proposed that proto-Kwa $*k$ shifted to a voiceless aspirate in proto-GD, and perhaps in some environments in Gbe, but that it otherwise became a plain voiceless velar stop in GTM, Gbe, and eventually in the modern Tano languages.

Series 5: Correspondences to PT $*k$ < PTB $*k$?

Gloss	PT	Tano	Akan	GTM	Gbe	GD
last long	$*k$		$*k\epsilon, ky\epsilon$	-	-	$*h\epsilon$
hunger	$*k$		-kɔm	NA $*ku-kâna,$ $*kpam$	-	$*h^u\check{\epsilon}$
husband			-kúnu	-	-	$*h^u-$
go, pass on			kɔ	-	-	$*ho$
fight v			kũ	-	-	$*h^uũ$
hide v			kurá	-	$*H^wlá$	$*h\grave{o}$
charcoal			-	$*li-kwáni$	$*aká$	$*-hã$
wife			Ak. -kórà co-wife Gu #-ka wife-	-	-	$*\etaã-$ -
salt	$*-kĩĩ$	$*-kĩĩ$	Ak $*-kɪn$	-	$?*d^ze$	$*\eta\grave{o}$

Notes:

GD items reconstructed with $*h^u$ have **w** in Ga, **h** in Dangme.

hide: the GD vowel appears to correspond to the first vowel in the Akan form, which in the Gbe form (if the correspondence is valid) has become a labialization feature on the initial consonant.

charcoal: Possibly the difference between ‘hide’ and ‘charcoal’ was conditioned by the vowel features and the presence of the prefix on the noun. Although Heine reconstructs a proto-GTM labialized consonant, only Avatime and its close relative Nyangbo actually have one, /x^w/. The GTM-KA forms differ considerably from each other, but four out of the five GTM-NA forms cited could very plausibly be reconstructed as #-ka-.

wife: the CB form is ***-ká**. In Common Bantu the class prefix is generally nasal, and one variant has the augment **-mu-** (***-muka-**). We take a similar form to be the source of the nasalization of the consonant in GD. Another CB variant is ***-kádì**, suggesting a source for the second consonant in Akan. In Akan the final vowel is the stem vowel, the first vowel being weak or ‘epenthetic’ (in contrast to ‘cemetery’ in series 4).

salt: although the GD form looks very different from the Potou-Tano, we reconstruct an earlier form in which the velar consonant was nasalized by an old prefix, as in ‘wife’, and the round vowel is reconstructed as a spread vowel followed by a consonant ***w**, along the lines of ‘woman’ (see series 16) and ‘tree’ (series 9), ie. early proto-GD ***Nhw**. Ega also has a -Spread vowel, **-gò**. The Gbe might be accounted for by the + Spread vowel, but more data is needed to determine whether it belongs here.

In attestation of his reconstruction of the PTB plain voiced labialized velar stop ***g^w** which remained unchanged in proto-Potou-Tano Stewart (2002) gives only two reflexes.

Correspondence series 6: Correspondences to Potou-Tano ***g^w** < PTB ***g^w**

Gloss	PT	T	Akan	GTM	Gbe	GD
genitals	*-g ^w ε	*-k ^w ε	ε-c ^w ε	-	-	G gbè-, gbě-
life	*-g ^w ã	*-k ^w ã	ɲ-k ^w ã	*ɲ-kpáné	*-gbε	*wāla
buffalo	-	*k ^w	ε-kɔ	-	-	*wò, *wuo

Note:

genitals: The Potou-Tano form refers to female genitals, while in Ga the same root refers to both sexes – **gbémí** female, **gbělí** male. Note also Adjukru **ùgɲ**, Akye **ebe**.

Correspondence with the proto-PT labialized implosive stop ***g^w** involves Gbe **ɖ**, GD ***dⁱ** (series 7). Stewart (2002) provides only the two attestations shown.¹⁸ Nevertheless the series is attractive because in both Tano and Ga-Dangme palatalization appears to be a later development, and all groups show fronting of articulation from velar to alveolar. It is therefore proposed that this consonant was maintained unchanged in proto-Kwa, and that a shift to alveolar articulation took place in all groups but happened late (post proto-Tano) in Potou-Tano. The GD vowel in ‘bathe’ reflects the earlier labialization, and not the original root vowel.

¹⁸ The inclusion of ‘song’ will not be apparent to readers of the original article (Stewart 2002) because of a serious misprint. I possess an offprint of the article with corrections penciled in by Stewart. These corrections are reflected in the data given here.

Correspondence series 7: Correspondences to Potou-Tano *g^w < PTB *g^w

Gloss	PT	T	Akan	GTM	Gbe	GD
bathe	*-g ^w alɪ	*-g ^w ialɪ	-g ^{wi} ar[-]ɪ	-	-	*d ⁱ ū
song	*-g ^w imĩ	*-g ^w emi	e-j ^w om	*to	ɖu	*d ⁱ o

Notes:

bathe: Christaller lists both **dware**, or in Stewart's transcription **-j^wari**, and **guare** for modern Akan 'bathe'.

song: The GTM, Gbe and GD roots are verbs, meaning 'dance', although the Ewe verb only has this meaning when combined with a noun 'dance'. We take this to be a very plausible semantic shift, at least for GTM and GD, in languages where there is no general term for 'music'.

It is striking that there seems to be no need to propose proto-Kwa velar consonants different from those reconstructed for proto-Potou-Tano. There has been a certain amount of partial merger involving **gb** but in general the Kwa consonants have remained distinct everywhere. To summarize:

Kwa *k^w remained unchanged in Potou-Tano but became voiced in GD and before spread vowels in GTM and Gbe. This voicing was accompanied throughout by a shift from labio-velar to labialized velar articulation, ie. as **gb**.

Kwa *k remained unchanged in proto-Potou-Tano but lost the implosive feature everywhere else, eventually losing it in proto-Tano as well. In GTM it became *kp or *k^w – the evidence is unclear. In Gbe, to interpret the admittedly scanty evidence, it became *H^w before a + Low –Nasal vowel, *k before a nasal vowel, and was voiced before a + Spread – Low vowel. In GD it became *h or *h^u – it is not certain that these two items can be clearly distinguished in proto-GD.

Kwa *g remained unchanged everywhere, although it eventually lost voicing in Tano.

Kwa *g^w remained unchanged in Potou-Tano, apparently merged with *k in GTM, became **gb** in Gbe, thus partially merging with *k^w, and became *w in proto-GD before + Low and –Spread vowels, but **gb** before + Spread –Low vowels.

Kwa *g^w remained unchanged in Potou-Tano, although in proto-Tano it later became *gw, at least before a –Spread –Low vowel. Elsewhere, articulation moved forward, from velar to alveolar. In GTM it appears to have also lost voice. In Gbe it became *ɖ and in GD it was palatalized, as *dⁱ. It is noticeable that the modern Akan forms phonetically resemble the GD and Gbe more closely than they do the earlier Tano and Potou-Tano.

Voiced Alveolars and Laterals

The correspondence PT *ɖ (> T *d) : GTM *l : Gbe *ɖ : GD *l seems to be quite regular. In all items the vowel following the consonant is oral. *ɖ did not occur before nasal vowels either in Potou-Tano or PotouTano-Bantu, and was evidently in an allophonic relationship with *l̃ at both stages. A similar situation must have existed in proto-Kwa. It is

therefore proposed that Kwa *ɖ also occurred only before oral vowels, and that it shifted to a lateral in GTM and in GD, and to the plain alveolar *ɗ in Gbe. The lateral did not occur before nasal vowels in proto-GTM or proto-GD. Apparently proto-Gbe *ɗ did occur before nasals, but notably not in forms that correspond to *ɖ.

Series 8: Correspondences with Potou-Tano *ɖ < PTB *ɖ

Gloss	PT	T	Akan	GTM	Gbe	GD
dream; sleep;	*-ɖá-	*-da		*ku-lelə n	drõe n.	*lā v
cock's comb			a-dám			G lámí
hook			a-dare n.	Lef ð-dìlá n.		*lā v.
lose, get lost			-yerá	Av lá	ɖa	*lā-
tooth				*li-lúma	*a-ɖú	D lúnjú
eat			di	*lĩ	*ɖu	
one				*line	*-ɖe	
tongue	Potou *ádé				*-ɖé	*lílē
canoe					aɖe-uu	*lèdi
lick			Gu -nyin		ɖó,ɖudɔ, ɖiɖɔ	*l ^u é-

Notes:

dream, sleep, lie down: There is no doubt that the meanings ‘dream’, ‘lie down’ and ‘sleep’ are closely related and probably derive from a single stem that was polysemous in the proto-language and remained so. The Tano languages preserve the meaning ‘lie down, sleep’, but the GTM noun means ‘dream’ and the Gbe noun as well as the GD verb mean ‘dream’. The vowel correspondence in Gbe is irregular, being not only -Spread but nasal, and it is hard to say whether the r is secondary or the corresponding consonant. The most common Dangme reflex uniquely for this language has a prenasalized r in this item (**nrā**).

cock's comb: note Common Bantu ***-yá-dá** fingernail. G **lamí** also has this meaning.

lose, get lost: it is suggested that the second syllable of the Akan form is cognate with the stem in the others, as also the second syllable of the GTM-NA Lefana form in ‘hook’. The Avatime form means ‘disappear’, the Ewe ‘go away’. In CB a large proportion of initial syllables of shape -yV- seem be augments to the second syllable, which also exists as a root independently. Although the modern languages show a fair degree of semantic variation, the correspondences seem good.

tooth: the second syllable in the GTM stem is probably quite unrelated to the second syllable of the Dangme word, which may have originated as a reduplication. The GTM form is from the verb root ***-lúma** ‘bite’.

eat: the back -Spread vowel in Gbe is so far unexplained. It is probably related to the stem ‘lick’ below.

tongue: compare CB ***-dími**, ***-díme**. Possibly this root is related to that for ‘lick’. Heine reconstructed GTM ***ki-nie-bi**, and all the items he lists as cognates have a nasal root consonant, but some of the items listed by Blench are suggestive of another item cognate with those in series 8, particularly Akposo **ífilà**, Ahlon **ílé**. The items for ‘language’ in some GTM languages are also suggestive: Siwu **sì-ɖe**, Avatime **ò-lé**. In GD it is the second syllable that is proposed as cognate.

canoe: Compare CB ***-déd-** ‘glide, float’.

lick: the origin of the vowel is ambiguous. The Ga form as well as the Guang (the only known possible reflexes in PT-Tano) suggest a spread vowel, but the Ewe and Dangme suggest non-spread, viz. the modern GD forms G **lé-mǔ**, D **lǔ**. It is also likely that the initial **ɲ** in most Guang is a later development, since the southern Guang language Awutu has **din-**.

Thus, with a considerable degree of regularity, in stem initial position before an oral vowel the voiced alveolar implosive stop ***ɖ** became a plain voiced alveolar stop ***d** in Tano, a voiced alveolar stop ***ɗ** in Gbe, and a voiced lateral continuant ***l** in Ga-Dangme and GTM.

The situation with oral and nasal reconstructed laterals is also reasonably regular, see series 9. Correspondences with Potou-Tano ***l** and ***l̃** are attested in some cases as Common Bantu ***d** but were all reconstructed by Stewart as proto-PTB ***l̃**.

Where the initial consonant corresponds to a proto-PT ***l̃**, in Ga-Dangme and Gbe the consonant was denasalized so that again the voiced lateral is the result throughout. In Ga-Dangme, ***l** (like ***w** and ***y**) never occurs before nasal vowels, but note that in Gbe the vowel remained nasal. In both GTM and Tano however it appears that the nasal ***l̃** was retained, but phonetically at least it appears as **n** in the modern Tano languages and in GTM when followed by a nasal vowel.

A few forms present problems. The two grammatical items cited in series 9 show irregular vowel correspondences. It is possible that this is related to the fact that they do not occur as independent lexical items – more investigation is necessary.

Series 9: Correspondences to PT ***l**, ***l̃** < PTB ***l̃**

Gloss	PT	T	Akan	GTM	Gbe	GD
look after child	*-lɛnĩ	*-lɛnɪ	-yeŋ		(nyi)	*lɛ-
sore, wound					*-lá	G làmǔ
weave	*-l̃ǔl̃ǔ	*-l̃ǔl̃ǔ		*lo	*l̃ǔ weave	*lò
meat, flesh		*nābũ		NA *ki-nâ	*-lā	*l̃ǔ < *la-u
know			nĩm	*nyí	(nya)	*l̃ɛ
DEF					*-lá	*-lɛ
AGENT					-la	*-lò

Notes:

look after child: the initial consonant and vowel were nasalized in PTB and remained so in Bantu, but in PT they were denasalized when the vowel was neither high nor low (Stewart 2002: 210). Denasalization of ***l̃** however was not peculiar to proto-PT but applies to all Kwa, see Series A above.

sore, wound: The Ewe means ‘infected wound’, the Ga means ‘cold sore’. Note that in GD all vowels were denasalized after PTB ***l̃**, and the consonant was also denasalized, but this did not happen in Gbe. This is part of a general pattern; GD does not allow nasal vowels after initial [l], but

Gbe does allow them. It is possible that there is a reflex in CB ***-dòndà**. If so, it is the second part of the root that is cognate, and indicates early pre-nasalization of the relevant consonant.

meat, flesh: in this case nasality, where present, comes from a prefix. The Tano item is taken from Stewart (1973) and does not appear in his later work. In view of the later trend of development of his reconstructions it can probably be interpreted as ***-l̃ábĩ**. Note that GD also attests a labial second syllable.

know: we assume that Akan **n** goes back to ***ĩ**.

AGENT: The GD suffix is possibly a doublet of ***no** ‘person’, where the latter has subsumed an old nasal prefix. However such an explanation will not do for the Ewe. On the other hand, Eastern Gbe has **l̃** (F. Ameka pers. comm.), compare Dangme **ñml̃**.

Essentially, it appears that proto-Kwa had two voiced alveolars, ***d** and ***ĩ**. They were almost certainly in complementary distribution, with ***d** before oral vowels and ***ĩ** before nasal vowels. The first became proto-PT ***d**, Gbe ***ɖ** and ***l** in both GTM and GD. It appears that ***ĩ** was first denasalized in the environment given by Stewart’s (2002: 210) Rule 6.2.5, in all of Kwa, and later in all other environments in Gbe and GD. In PT and possibly GTM it was not denasalized before vowels that did not denasalize.

Unvoiced Alveolars

The voiceless plain alveolar stop, proto-Potou-Tano ***t**, according to Stewart was derived from Proto-PotouTano-Bantu ***c**, and later became ***s** in Tano. It became ***t** in GTM and Gbe, but ***s** in Ga-Dangme, see correspondence series 10. It is notable that all reflexes (including all those given in Stewart 2002) occur before + Spread -Low vowels.

Series 10: Correspondences to PT ***t** < PTB ***c**

Gloss	PT	T	Akan	GTM	Gbe	GD
ground	*-tu	*-st			to-me	*sĩ-, *zĩ-
underneath	*-tu	*-st		*ka-tí	té	*sĩ-
hoist			sì			*sĩ̀
arrive					te	*s'è
leave, depart			si		te	*s'í

Notes:

The source of the nasality of the GD vowels is unknown, but it appears to be regular.

ground: since it is highly likely that both this item and ‘underneath’ are etymologically related, the round back vowel in Gbe must be a secondary development.

leave, depart: the Gbe form is cited only in Inland Ewe.

However in another series of correspondences with proto-Potou-Tano (series 11), this time derived from Proto-PotouTano-Bantu ***f** (implosive voiceless alveolar stop), all Kwa groups have **t**.

Series 11: Correspondences PT ***t** < PTB ***f**

Gloss	PT	T	Akan	GTM	Gbe	GD
three	*-tã	*-sã		*-itá	etõ	étẽ
ear; edge	*-tũ	*-sũ		*ku-túe	to	*to-
middle			a-sínĩ	Lef. ñ-tè	E. titi[-]na	*té
tooth			ε-sĩ			G té-
end, get finished			-sã			*tã

Note:

middle: the Akan form means ‘waist’.

Proto-PotouTano-Bantu ***c** and implosive ***f** merged as ***t** in Proto-Potou-Tano and Gbe, but not in GD, where ***c** became ***s** (as in Tano), but ***f** became ***t** as in the others.

In Stewart (2002) the only source for Akan **d** is ***d̥**, but none of his attesting items are members of series 12, which clearly has a different origin. A proto-Kwa alveolar consonant with some form of palatalization or affrication seems likely, perhaps ***tʲ**, which became voiced in either Potou-Tano or Tano.

Series 12: Akan **d** : GTM ***t** : Gbe ***t** : GD ***tʃ**

Gloss	Akan	GTM	Gbe	GD
shine, blaze v	-dew			*tʃò
	N.Gu. #-da			
tree	-dùá	*ku-tí	*-tí	*tʃɪw
medicine	-duru		a-tí-ke	*tʃu-
yam	-di		*-te	

Notes:

tree: compare CB ***-tí**

medicine: perhaps ultimately related to ‘tree’, but a distinct root in proto-Kwa.

Yet another series for which we have no Potou-Tano reconstructions is the only series in which Gbe ***s** appears. It seems to correspond to ***ts** in Tano-Guang and also GTM, but both **t** and **s** in Tano-Akan. The vowel correspondences are not particularly good.

Series 13: Correspondences with Gbe ***s**

	Tano	GTM	Gbe	GD	Ega
	Guan	Akan			
woman	#-tsɪ		*-tsía	àsì ‘wife’	ɔ-sɪ
hear		tu		*se	
gun		-tu-		*so	
suit v		sɛ		E sɔ	*sà
kindle	#-tsVCV	sɔ		E sí	*síé

Tentatively, we reconstruct four voiceless obstruents for Kwa, ***c** derived from PTB ***c**, ***t** derived from PTB implosive ***f**, a palatalized consonant ***tʲ**, earlier history unknown,

and a fricative *s. Note that the emergence of Kwa *t implies an innovation common to all sub-groups, and that Stewart (2002) does not reconstruct *c or *s for proto-Potou-Tano.

Kwa *t > PT *t, GTM *t, Gbe *t, GD *t (series 11)

Kwa *tʰ > ?PT *dʰ, GTM *t, Gbe *t, GD *tʰ (series 12)

Kwa *c > PT *t, GTM *t, Gbe *t, GD *sʰ (series 10).

Kwa *s > ?PT *c, GTM *ts, Gbe *s, GD *s, Ega s (series 13)

Nasal Consonants and Liquids

Even though several consonants have been reconstructed for PT and earlier as occurring only before oral vowels, alternating with others before nasal vowels, the correspondences indicating old nasal stem consonants are quite good. Stewart reconstructs PT *m as derived in turn from proto-PotouTano-Bantu *m. The bilabial nasal consonant is maintained throughout Kwa, see series 14.

Series 14: Correspondences to proto-PT *m

Gloss	PT	T	Akan	GTM	Gbe	GD
swallow	*-mĩlĩ	*-mĩlĩ		#m	*bĩ [mĩ]	*mĩ-
throat	*-mĩlĩ	*-mĩlĩ		*ki-múe		G mĩ
get full	*-mĩũĩ	*-mĩũĩ			? mú	*mĩ
inside			mú	*-miá	-me	*mĩ
fresh		*mũdĩ-ε			mú	*-mʷdĩ
1 SING PN	*-mĩ	*-mĩ		*amú	mu, mi	*-mĩ
2 PL PN	*-mũ	*-mũ			mie	

Notes:

swallow, throat: these words are obviously etymologically related, including in proto-Bantu. The GTM nominal form is reconstructed with the meaning ‘neck’. Although Heine did not reconstruct the verb, in Blench’s list a likely cognate occurs in virtually every language: Anii **mən**, Likpe **mini**, Logba and Siwu **mɛ**. Tuwuli has **mɛna**, but other GTM-KA languages have a back vowel, and Ahlon and Animere have **b** not **m**.

get full: The Gbe form means ‘get drunk; be overcome’. The GD form means ‘sink, become submerged, be overcome’.

inside: We assume for the time being that the -Spread vowel in Akan is the result of a later process. Note also Potou-Ebrié **mme**, Adjukru **ém**. The proto-form was probably *-mĩ.

2PL PN: As listed by Blench a number of GTM languages have -mi in this meaning, but it is not clear at what level it could be reconstructed.

Stewart (2002) similarly reconstructs proto-PT *n, from proto-PTB *n, see series 15, and again the nasal consonant is maintained throughout. Even though Capo reconstructs an underlying *d̥ for several of these, and also *b before nasal vowels rather than *m, it looks as though the nasal sound was in fact the pronunciation in proto-Gbe. In the Gbe lects **m**

and **n** occur only before nasal vowels, while Capo's ***b** and ***d** occur only before oral vowels.

Series 15: Correspondences to proto-PT ***n**

Gloss	PT	T	Akan	GTM	Gbe	GD
four	*-nã	*-nã		*-inâ	e-ne	-
drink	*-nũ-	*-nũ, *-nõbĩ		*nuia	*-dǒ [no, nu]	*nũ
hear		Gu. nũ		#nu	-	*nũ
mouth	*-nũ, *-nyùà	*-nũ		*o-nui	*dũ [nũ]	*nĩã
mother	*-nĩ	*-nĩ, -nã		*-na	*dǒ [nǒ]	*nè, D ne-
thing				*li-tulá	*-dũ [nú]	*nó
this, these			a-dt		?-ne	*né, *dè

Note:

hear: A GTM form proposed is strongly suggested by Blench's (2006) data.

thing: probably cognate with CB ***-ntù**, compare 'person'.

this, these: The Gbe form is a suffixed determiner with several functions, not syntactically comparable to the Akan and GD items. (F. Ameka pers. comm.) It is nevertheless a likely candidate for cognacy.

The following seem to belong to two additional series:

Series 15a: Palatal nasals

Gloss	PT	T	Akan	GTM	Gbe	GD
defecate	*-nĩ	*-nĩ			je	*nã

Note:

Blench (2006) indicates similar forms in Lelemi **nyí**, Akposo **nè**, Tuwuli **ní**. In other GTM languages the form is entirely different.

Possibly this item can be reconstructed as **#niV** in Gbe and GD.

Series 15b: Alveolar nasals corresponding to **t** in GTM and Gbe.

five			a-nom	*-tonu *-nonu (NA)	*atǒ	*énùmǒ
leg			-nani		*a-t ^h a	*nàdĩ

The fact that GTM is reconstructed with ***t**, but its NA sub-group with ***n**, suggests that the **n** of Akan and GD are also secondary, and that these forms are to be reconstructed as beginning in Kwa ***t**.

Stewart (2002) also reconstructs a proto-PotouTano-Bantu velar nasal continuant ***ũ**. In proto-PotouTano-Bantu this consonant only occurred root-medially, but as a result of sound shifts it is posited root-initially for proto-Potou-Tano. I have to confess that I find this sound a bit mysterious. The description normally brings [ŋ] to mind, but **ŋ** is said to be the mutated grade of ***ũ**, ie. it has absorbed a non-syllabic nasal prefix. At any rate the possible reflexes in Kwa are suggestive but sketchy, see series 16.

Series 16: Correspondences to PT ***ɰ** < PTB ***ũ**

	PTB	PT	Akan	GTM	Gbe	GD
white	*-ũẽĩĩ	*-ɰenĩ			*wé (ɣí, ɣé)	*h'ɛ-
moon	*-ũẽĩĩ	*-ɰenĩ	-		ɣletí	
grind, pound			-yam	NA #w̃ɛ		*w̃ɛ-
woman, wife			-yuru		*yóqũ	*yè-w
snake	*-ũǎŋkɪ	*-ɰɔ		Logba a-wó		*wóǎĩ 'deity'

Notes:

grind, pound: the Akan item may be spurious, and the resemblance between GTM-NA and GD may be due to borrowing..

woman, wife: this word means only 'wife' in Akan. Compare also Adjukru **ɛj** (ie. **ɛy**), Abidji **ji**. The Gbe form is a compound, in which the first syllable owes its –Spread feature to a rounded second syllable, as is reconstructed for GD. Its nasality has perhaps spread left from the second syllable, which is clearly a later addition. The actual pronunciation in Gbe is [ɲ]. In GTM we find Akebu **ye-yo** 'female', Animere **ɰey** 'woman' (Blench 2006), also Akposo **úyòtsú**. Although it cannot be reconstructed for GTM as a whole, it appears to be a retention from common Kwa.

snake: Other GTM forms (viz. Blench 2006) are Adele **è-wà**, Likpe **ò-waà**, Ikposo **ɔ-wɔ**, Igo **ù-wa**, making a GTM **#-wɔ** or **#-wa** very plausible and not particularly likely to be borrowed. Although the GD may seem stretched semantically, it is plausible in view of the importance attached to the snake in traditional religion, especially in areas immediately to the east across the Volta where the language (or at least many of its speakers) probably originated. There is no proto-GD word for 'snake', which is referred to by euphemisms or in Ga by a word (**onufu**) that is certainly of external origin.

The series makes a bit more sense if PTB ***ũ** and particularly PT ***ɰ** were not simple velar continuants but included a palatal feature, as the symbol used seems to suggest, like [j] but farther back. The changes can then be seen as favouring the velar or the palatal feature, depending on the environment.

We posit ***ɰ** as the proto-Kwa sound, and the following changes:

Kwa ***ɰ** > PT ***ɰ** (unchanged).

Kwa ***ɰ** > Gbe ***w** (ɣ) before a + Spread –Low vowel. If we hypothesize that the vowel of 'wife' shifted to –Spread before the consonant change, then we can say that this consonant shifted to ***y** elsewhere.

Kwa ***ɰ** > GD ***w** before a –Spread vowel, ***y** before a + Spread (and –Low) vowel.

In sum, the following set of consonants has been reconstructed for proto-Kwa:

	Bilabial	Alveolar	Palatal	Velar
Stops:				
plain	b	d		g
	p	t		

	lab'd		g ^w
	pal'd	t ⁱ	
	impl ɓ		
	β		k
	impl, lab'd		g ^w
Affricates		c	
Fricatives	ɸ	s	
Continuants:			
	oral		ɥ
	nasal m	n	
	lateral	ĩ	

Note that Stewart does not reconstruct a plain voiceless velar stop for proto-Potou-Tano. Nevertheless this cannot be said to represent a complete proto-Kwa system. As we have seen, there are a number of correspondences for which there is inadequate information on proto-PT and proto-Tano, and there are others not indicated here.

Vowel correspondences in root-initial syllables

Strictly speaking, the vowel correspondences should be established before, or together with, the consonant correspondences. They are interdependent of course, but it is clear from the foregoing that the consonant correspondences have problems which can only be resolved in the light of vowel correspondences. We have looked at the consonants first, however, because it is the consonants that seemed to offer the most scope for testing Stewart's "anti-Kwa" hypothesis. He discusses vowel shifts between an earlier proto-language and proto-Potou-Tano, but because in his reconstruction the vowel system of proto-Potou-Tano is very conservative, changes were relatively few. Probably the most comprehensive statement is Stewart (1983), which argues for a nine-vowel system for "proto-Tano-Congo", which is essentially the same thing as what he later called "proto-Potou-Tano-Bantu", since it is also based on comparing proto-Potou-Tano with proto-Bantu. In that article he states (1983: 27) that "...all nine oral vowels of proto-Tano-Congo are presumed to have survived in Akan", which implies that they are also presumed to have survived more or less intact in proto-Potou-Tano.¹⁹ Crucially, the vowels are divided into two harmonizing sets, characterized as + or – ATR: **i e o u** vs. **ɪ ɛ a ɔ ʊ**. Not all Tano varieties have maintained the nine vowel system, and Asante at least has ten, with a +ATR +Low vowel. All languages have fewer nasal vowels than oral. Stewart (1983) proposes five nasal vowels for the proto-language. Wherever a Tano language vowel system has

¹⁹ He is speaking here of the typology of the system as reconstructed. I don't believe he meant to imply that there had been no shifts within that system, since he describes several such shifts in various papers.

changed, usually via two or more mergers, the important shifts are of the –ATR + High vowels ***i *u** to either +ATR **i e** or -High -ATR **ɛ ɔ** respectively, most often the latter.

Heine reconstructed only five oral vowels for proto-GTM (1968: 142). He considered the mid vowels **ɛ** and **ɔ** to be secondary (i.e. later) developments from ***e** and ***o**, and all nasal vowels also to be secondary. However, Ford (1973), supported by Stewart (1983), convincingly argued on the basis of vowel alternations in several languages from both the NA and KA branches of GTM that the latest common ancestor very probably had a nine or ten oral vowel system with cross-height vowel harmony based on the feature ATR, and that again it was the + High – ATR vowels that tended to shift, in the same kinds of directions, depending on position in the word. He also finds reason to propose a +ATR +Low vowel, which has generally shifted to –ATR **a** or to +ATR **e**. As mentioned earlier, several more recent analyses assert full cross-height systems for several languages, including Avatime (Schuh 1995) and Anii (Basila) (Morton 2011).

Capo (1981) reconstructs seven proto-Gbe vowels, ***i *e *ɛ *a *ɔ *o *u**, and, very unusually, a matching set of seven nasal vowels. (He reconstructs no nasal consonants, see comments following Series 15 above.) Ford (1973) had pointed to evidence for a more extensive array at some much earlier period, which Capo rejected. However, Stewart (1983, 1994) maintained that while neither he nor Ford had ever proposed a nine vowel set with harmony for proto-Gbe, there were strong arguments for a comparable system in some earlier common ancestor of Gbe and Potou-Tano.

Ga and Dangme each have a classic system of seven oral plus five nasal vowels, where the mid nasal vowels are **ẽ** and **ɔ̃**, not **ĩ** and **ũ**, although the nasal **ẽ** and **ɔ̃** are higher than the oral **ɛ** and **ɔ**. This system is also reconstructed for the proto-language (Dakubu 1980). No traces of harmony have been observed. However there are a few odd or irregular correspondences that suggest that a common ancestor may have retained the + High –ATR vowels in a limited array of environments (Dakubu 1980).

Typologically, then, virtually all the Kwa groups appear to have nine or ten oral vowel systems, probably with cross-height ATR harmony, somewhere in their ancestry. We may note that Ega too has a nine vowel system with vowel harmony (Bole-Richard 1983). We shall now try to pin this down in terms of correspondences.

As we might expect in view of the foregoing discussion, the strongest correspondences involve the +Low vowel **a**, the + High vowel **i** and perhaps **u**. For the time being we combine oral and nasal vowels, because nasality seems to be secondary, derived through spread from either a prefix or a second root syllable, in nearly all cases. The evidence is that Kwa ***a** (-ATR+Low) was retained in all groups, and that this is largely true also of ***i**.

Vowel Series 1: PT *a, *ã : GTM *a : Gbe *a, *ã : GD *a, *ã

	PT	GTM	Gbe*	GD
come	*-6a	*bá	*bá, *vá, *wá	*bā (C Series 1)
lagoon	Ak -fá[-]ka	-paa		*pàa (C Series 2)
ring	Ak -ká		-ga	*gà (C Series 4)
charcoal		*li-kwáni	*aká	*-hã- (C Series 5)
wife	#-ka			*ŋã- (C Series 5)
life	*-g ^w ã	*ŋ-kpáne		*wála (C Series 6)
dream, sleep	*-dã-	*ku-lela		*lā (C Series 8)
meat	T *nãbũ	*ki-nâ	*-lã	*la-w (C Series 9)
leg	Ak -nãu		*a-t ^h a	*nãdĩ (C Series 15a)

Note:

The absence of nasality in any of the GTM items in this and the following series is due to Heine's non-reconstruction of nasal vowels, not to any shift away from nasalization in GTM.

Vowel series 2: PT *i, *ĩ : GTM *i : Gbe *i, ĩ : GD *i, ĩ

	PT	GTM	Gbe	GD
ask	#-6i	*bíé	*biya	*bí (Series 1)
dirt	*-6inĩ	*m-bí	*bí	(Series 1)
drum	*-6ì	*li-bíne		*mí (Series 1)
dirt	*-bĩ			*pĩni (Series 2)
abstain	*-gili			*hĩ (Series 4)
eat	Ak di	*lĩ		(Series 8)
hoist	Ak si			*sĩ (Series 10)

Vowel series 3a: PT *u : GTM *u : Gbe *u : GD *u

	PT	GTM	Gbe	GD
pot		*li-buke		*b ^u ε (Series 1)
blow v.	*-pu		fu	(Series 2a)
husband	Ak -kúnu			*hū (Series 5)
tooth		*li-lumá	*a-dú	D lúnú (Series 8)

Notes:

pot: Given the recognized under-specification of the GTM vowels, it is possible and indeed likely that the GD –ATR vowel *ε points to –ATR vowels throughout, ie. GTM *-buke, pre-GD *bue.

In one other item, *u in PT, GTM and Gbe correspond to GD *o. This seems to be conditioned by the shift to the voiced labial-velar in proto-GD:

Vowel Series 3b: PT ***u** : GTM ***u** : Gbe ***u** : GD ***o**

	PT	GTM	Gbe	GD
die	*-k ^w u	*kúí	*kú	*gbó

Correspondences to the +High –ATR vowels in proto-PT are better attested for the front + Spread vowel than for the back –Spread. It seems quite clear that proto-PT ***ɪ** corresponds to proto-GD ***e**. Heine’s GTM has only one reflex, which in view of Blench’s (2006) data must have been based mainly on KA languages (although -**ji** forms in Buem and Siwu are also possible candidates). Whether its vowel was + or – ATR cannot be determined without more extensive application of the comparative method. The GD reflex for ‘underneath’ has clearly been affected by nasalization, since GD ***e** has no nasal counterpart, but the source of this nasality is not known. It might be a reflex of an old nasal locative suffix, such as existed in Ga until the 19th century as -**ni**, -**ŋ** in the modern language, but other GD nasal vowels corresponding to oral vowels in the other languages are not so easily explained.

Vowel Series 4: PT ***ɪ** : GTM ***i** : Gbe ***e**, ***i** : GD ***e**, **ĩ**

	PT	GTM	Gbe	GD
be cooked, ready	*-ɸinĩ		*bí	*bè (C Series 1a)
time	Tano *bɪdɪ-ɛ		*-X ^w e	*bē (C Series 1a)
know	Akan num	*nyí	?nya	*lē (C Series 9)
underneath:	*-tɪ	*ka-tí	té	*sĩ (C Series 10)

Note:

underneath: Westermann (1954) appears to imply that the Gbe form occurs in all dialect areas.

Since nasalization (or loss of it) appears to have been a driving force in vowel change, we note here the correspondences to the +High +Nasal proto-PT vowels. GTM forms are omitted because since Heine did not reconstruct nasal vowels there is no good basis for comparison.

Vowel Series 5a: PT ***ĩ** : Gbe **e** : GD ***ĩ**

	PT	Gbe	GD
dirt	*-bĩ	a[-]fé	*fĩni < *pĩni (C Series 1b)
need	Akan -hĩá	-vie	*fĩ (C Series 2b)

Vowel Series 5b: PT ***ɪ** : Gbe **i**, **ĩ** : GD ***e**, ***ẽ**, ***ĩ**

	PT	Gbe	GD
itch	*-pĩĩ	fĩ, fie, fiẽ, fiɔ	(C Series 2a)
blow (nose)	*-pĩũ		*h ^u ẽĩẽ (C Series 2a)
where?	*-pĩ	a[-]fi	*hé (C Series 2a)
salt	*-kĩĩ	?*d ^z e	*ŋòò < *Nhtw (C Series 5)
swallow	*-mĩĩ	*bĩ *[mĩ]	*mĩ- (C Series 14)

throat	*-mĩlĩ		*mĩĩ	(Series 14)
get full	*-mĩũĩ	mũ	*mĩ	(Series 14)
1SG PN	*-mĩ	me, mū, mĩ	*-mĩ	(Series 14)

Note:

salt: See note to C series 5. Other nouns with ***o** (see ‘woman’, series 16) on the basis of the Ga plural formation may be reconstructed with a +Spread vowel followed by a –Spread vowel or consonant, ie. **o u** or **w** –the ancient form was clearly disyllabic. The Gbe correspondence however is dubious.

where?: The Gbe and GD forms both mean ‘place’. The Gbe requires a determiner to make the interrogative, while GD uses ***hé** to create a relative (**hé ní** ‘place where’) but something else altogether for the interrogative.

1SG PN: This item also occurs throughout GTM, but not always with a nasal vowel.

After a nasal consonant, the +High –Spread vowels both became +ATR in GD and Gbe. In Gbe this vowel denasalized after a non-nasal consonant that was originally a bilabial stop.²⁰

Vowel Series 6: PT ***u, *ũ** : GTM ***o** : Gbe **õ** (?) : GD ***ɔ, *o, *u, *ũ**

	PT	GTM	Gbe	GD
wash	*ɸ, Ak. -huru	*pole		*fɔ (Series 2b)
hill	*g, Ak. -kuku		kó, -kõ	*gɔ- (Series 4)
speed n.	*ɸ, Ak. a-hua			*fõ- (Series 2b)
pierce	*k ^w , Ak. -wura-		E ηó; wá	*gbū (Series 3)
smell n.	*ɸ, Ak. -hũá			*fũ (Series 2b)
fight	*k, Ak. kũ			*h ^u ū (Series 5)
weave	*ĩũĩũ	*lo	*lõ	*lò (Series 9)

Notes:

pierce: The Ewe forms indicated are plausible doublets, although one may be borrowed from other Gbe. Southern Ewe has **ηɔ**, Inland Ewe has **wá**.

weave: Blench (2006) gives Igo **no**, Adele **lo**, which suggests that in Igo the nasality was lost on the vowel but not on the consonant, while in Adele it was lost altogether, and that in proto-GTM the vowel may have been -High.

It is rather striking that almost all attestations involve proto-PT, as attested by Akan, and Ga-Dangme, frequently in items that Stewart did not reconstruct. Stewart (1994) also noted that he could not find correspondences to PT ***u** in Capo’s proto-Gbe. As far as we can tell, in GD proto-Kwa oral ***u** shifted to ***ɔ**, except after a labial consonant (‘pierce’) where it shifted to the +High +ATR vowel ***u**, and when it was followed by a +Low vowel, where it shifted to the +ATR –Low vowel (in ‘speed’) and the final vowel was dropped. The last shift seems rather odd, unless the final **a** of the Akan form is a reflex of

²⁰ Since nasal vowels do occur after non-nasal consonants in the modern language, additional processes must be involved. However /l/ before a nasal vowel is usually phonetically nasal.

some other vowel. It is also possible that the correspondence is spurious. The nasal –ATR + High –Spread vowel shifted to +ATR ***ũ**, except after ***l**. This would follow from the shift from the nasal to the oral lateral consonant. Nasal vowels never follow the lateral or the semi-vowels in GD. In Gbe, it appears that the + High vowel simply became –High (‘weave’).

Interestingly, Stewart (2002) does not list any proto-PTB or proto-PT roots with a +ATR mid vowel in the first syllable (or any syllable). Those with a –ATR mid vowel are relatively few, and consequently pan-Kwa correspondences are few.

Vowel Series 7: PT ***ɛ** : Gbe ***e**, ***ɛ** : GD ***l**, ***i**, ***ɛ**

	PT	Gbe	GD
language, voice	-	*-gbe	*gbɔdĩ (Series 3)
day	Guang #-ke	*-gbe	*-gbi- (Series 3)
tongue	Potou *ádǣ	*-dǣ	*lílē (Series 8)
look after child	*-lɛnĩ	-	*lè- (Series 9)

Two of the GD attestations are problematic, because they appear to have had a prefix, viz. Ga **gbɪ** but Dangme **ligbi** ~ **digbo** ‘day’, and ‘tongue’, where the first syllable has the appearance of a prefix.²¹ They are securely proto-Ga-Dangme, but their previous history remains uncertain. They may have been loanwords, although that seems semantically unlikely, and the prefix may have become frozen at a much earlier stage, since several likely cognates listed by Blench (2006) are disyllabic roots with a prefix (not **li-**). The full significance of relics of prefixes in GD nominals remains to be worked out.

Proto-GD ***l** in ‘language, voice’ is proposed to take account of a correspondence **G ee** : **D ĩ**, resulting from reduction in the second syllable and loss of nasality in Ga. In proto-Gbe the second syllable was lost and either the vowel remained unchanged or (most likely) Kwa ***l** > Gbe ***e**. In ‘look after a child’, the vowel remained unchanged in GD after nasality, which applied also to the first syllable in proto-PTB (***-l̃ɛl̃ĩ**), was lost together with the entire second syllable.

In any event, there is not sufficient evidence here to reconstruct a + Spread –High –Low vowel, whether ***e** or ***ɛ**.

For the –Spread mid vowels there is no evidence from Gbe.

Vowel Series 8: PT ***ɔ**, ***ɔ̃** : GTM ***o**, ***ɔ**, **#a** : GD ***ɔ**, ***ɔ̃**, ***o**

	PT	GTM	GD
get wet	*-bɔu	*-fólu	*pò (C Series 1b)
plait hair	#k ^w , Ak. -wɔ		*gbò (C Series 3)
go, pass on	#k̃, Ak. -kɔ		*ho (C Series 5)

²¹ In Likpe the prefix for ‘day’ is sing. **li-** pl. **di-**, although the root, **-yi**, is apparently not cognate. (F. Ameka, pers. comm.)

hunger *k̥, Ak. -kɔm *kpam *h^uɔ̃ (C Series 5)
snake *-uɔ̃ŋkɪ #-wɔ *wɔ̃dĩ (C Series 16)

The languages all agree in having -Spread -High vowels, and if the +Low vowel for ‘hunger’ can be accounted for by the consonant they are generally also –High. The nasal vowel in GD may be accounted for by loss of a final syllabic ***m**, which is present in PT and GTM. Once again however there is not adequate evidence to reconstruct ***o** or ***ɔ**, or, in these forms, ***u**.

To summarize, only five oral vowels and four nasal vowels can so far be reconstructed with a reasonable degree of security:

	a	i	ɪ	u	ɔ	ã	ĩ	ĩ	ũ
High	-	+	+	+	+	-	+	+	+
Low	+	-	-	-	-	+	-	-	-
Advanced	-	+	-	+	-	-	+	-	-
Spread	+	+	+	-	-	+	+	+	-
Nasal	-	-	-	-	-	+	+	+	+

This is not to say of course that this is the proto-Kwa vowel system – as in the case of the consonants, it quite certainly was not. However it seems to be as far as we can go without considerably more work on the internal history of sound change in each of the constituent groups, with serious attention to what happened in the pre-*proto* languages.

Conclusions, tentative

I do not wish to give the impression that I think the work of J.M. Stewart, important though it certainly is, is the last word on Kwa or the relationships of the languages so labeled to the rest of Niger-Congo, or anyway Benue-Congo. In the case of Potou-Tano, although his work is close to being definitive, or at least as close to definitive as we are likely to get, I think his reconstructions would have benefitted from greater sensitivity to what happened in neighbouring languages, particularly some of the GTM group. It would also have been very helpful if he had published a more comprehensive reconstruction of proto-Tano, and of proto-Potou-Tano. Nor do I think that the investigation of the relations between the rest of Kwa and Potou-Tano, or between the other Kwa groups, need be limited to the items Stewart was able to reconstruct. It has rather been a necessary exercise, which I hope will provide some sort of grounding for a more thorough application of the comparative method between and within the various subgroups.

Has the “Kwa hypothesis” been vindicated? Perhaps, but not conclusively. We have noted two common innovations to all sub-groups: denasalization of root syllables with continuants as initial consonants, see series 9, and the shift from a proto-PotouTano-Bantu implosive alveolar unvoiced stop ***ɸ** to the non-implosive Kwa ***t**. The first shift is complex, and depends on a rather small amount of data. The second is perhaps stronger, but the shift

away from implosion is very general, undoubtedly happened elsewhere, and it will take more comparisons extending beyond Kwa and an examination of the conditions under which it occurred, which implies more data than is available at the moment, to secure it as an exclusively Kwa innovation. Otherwise, the Kwa consonants reconstructed appear to be identical with those of proto-PTB.

Obviously the situation with the vowels is not satisfactory. Progress in this area seems to depend on further work on the GTM languages, including a review of the classification, and also perhaps on another look at Gbe. Capo did not admit items into proto-Gbe unless they were attested in all his groups – an equally rigorous but less absolutist approach might provide more insight into the earliest stages of the development of this group. Investigation of nasality in all sub-groups is clearly a major imperative.

References, Sources and Finding Aids

- Adzomada, Pastor J.K., 1969. *Dictionary of Ewe Homonyms*. Accra: Waterville Publishing House.
- Akrofi, C.A., G.L. Botchey and B.K. Takyi, 1996. *An English Akan Ewe Ga Dictionary*. Revised and enla edition. Accra: Waterville Publishing House.
- Allan, Edward Jay, 1973. A grammar of Buem, the Lelemi language. PhD dissertation, University of London.
- Anderson, Colleen G., 1999. ATR vowel harmony in Akposso. *Studies in African Linguistics* 23.2: 185-214.
- Bennett, Patrick R. and Jan P. Sterk, 1977. South Central Niger-Congo: a reclassification. *Studies in African Linguistics* 8: 241-73.
- Berry, Jack, 1952. Structural Affinities of the Volta River Languages. PhD thesis, University of London (SOAS).
- Blench, Roger, 2009. Do the Ghana-Togo mountain languages constitute a genetic group? *The Journal of West African Languages* 36.1/2: 19-36.
- Blench, Roger, 2006. A comparative study of the Ghana-Togo mountain languages. www.rogerblench.info/Language/Niger-Congo/GTML_Website. Visited 2/9/2012.
- Bole-Richard, Rémy, 1983. La classification nominale en ega. *Journal of West African Languages* 13.1: 51-62.
- Capo, Hounkpatin C., 1979. Notes on language differentiation: lessons from a Gbe dialect survey. *Anthropological Linguistics* 21.9: 415-442.
- Capo, Hounkpatin C., 1983. “I” et “U” en hwe et leur place dans la reconstruction du proto-Gbe*. *Journal of West African Languages* 13.1: 3-18.
- Capo, Hounkpati B.C., 1991. *A Comparative Phonology of Gbe*. Berlin & New York: Foris Publications; Garome, Bénin: Labo Gbe (Int).

- Christaller, Rev. J.G., 1933. *Dictionary of the Asante and Fante Language called Tshi (Twi)*. 2nd edition, revised and enlarged. First published 1881. Basel: Basel Evangelical Missionary Society.
- Christaller, J.G., 1889a. Sprachproben aus dem Sudan zwischen Asante und Mittel-Niger. *Zeitschrift für Afrikanische Sprachen* 4: 107-132.
- Christaller, J.G. 1889b. Sprachproben aus dem Sudan von 40 bis 60 Sprachen und Mundarten... *Zeitschrift für Afrikanische Sprachen* 3: 133-154.
- Christaller, J.G., 1888. Die Volta-Sprachen-Gruppe. *ZAS* 1: 161-186.
- Dakubu, M.E. Kropp, 1996. Explaining Ga plurals. *Journal of African Languages and Linguistics* 17.2: 153-181.
- Dakubu, M.E. Kropp, 1980. The Proto-Ga-Dangme vowel system. *Papers in Ghanaian Linguistics* 3:31-45. Legon: IAS.
- Dakubu, M.E. Kropp, 2006. Earliest Ga-Dangme culture from a linguistic point of view. *Research Review Supplement 17, Accra before Colonial Times: Proceedings of a Colloquium on Early Accra* pp. 37-54. Legon: Institute of African Studies.
- Dakubu, M.E. Kropp, 2008. Sub-classifying the languages of the lower Volta valley: a way forward? Paper presented to International Workshop on GTM languages, 3-8 August, Ho. To appear in *STUF*
- Dakubu, M.E. Kropp, 2009. *Ga-English Dictionary with English-Ga Index*. 2nd edition, revised and expanded. Accra: Black Mask Publishers.
- Dakubu, M.E. Kropp, 2009a Pushing back linguistic time in the Trans-Volta: movement, assimilation and loss. *Journal of West African Languages* 36.1-2: 5-18.
- Dorvlo, Kofi, 2011. *Logba English Dictionary with English Logba Index*. Legon: Language Centre.
- Dorvlo, Kofi, 2008. *A Grammar of Logba (Ikpana)*. Utrecht: LOT.
- Ford, Kevin, 1973. On the loss of cross-height vowel harmony. *Research Review Supplement 4: Papers in Ghanaian Linguistics*. Legon: Institute of African Studies.
- Guthrie, Malcolm, 1967-70. *Comparative Bantu*. 4 volumes. Farnborough: Gregg International Publishers Ltd.
- Heine, Bernd, 1968. *Verbreitung und Gliederung der Togorestsprachen*. Berlin: Dietrich Reimer Verlag.
- Kropp, M.E., 1966. *Ga, Adangme and Ewe (Lomé) with English gloss*. Comparative African Wordlists No. 2. Legon: Institute of African Studies.
- Kropp, M.E. 1967. *Lefana, Akpafu and Avatime with English gloss*. Comparative African Wordlists No. 3. Legon: Institute of African Studies.
- Kropp, M.E., 1968b. A comparative study of Ga and Adangme, with special reference to the verb. PhD thesis, University of London (SOAS)

- Kropp, M.E., 1971. A problem in the reconstruction of the Ga-Adangme consonant system. *Journal of African Languages* 10.3: 73-78.
- Manfredi, Victor, 2010. BK1 alias 'Proto-Potou-Akanic-Bantu' – a study of diachronic syntax. Version prepared for Linguistics department seminar, University of Ghana, Legon.
- Morton, Deborah, 2011. [ATR] harmony in an eleven vowel language: the case of Anii. Paper presented at the Annual Conference on African Languages. University of Maryland, College Park.
- Müller, Friedrich, 1877. *Grundriss der Sprachwissenschaft* Band I Abth. II, *Die Sprache der Wollhaarigen Rassen*. Wien: Alfred Hölder.
- Rongier, Jacques, 1995. *Dictionnaire français-éwé*. Paris: Karthala & ACCT.
- Schuh, Russell, 1995. Aspects of Avatime phonology. *Studies in African Linguistics* 24.1: 31-67.
- Snider, Keith, 1989. *North Guang Comparative Wordlist: Chumburung, Krachi, Nawuri, Gichode, Gonja*. Comparative African Wordlists No. 4. Legon: Institute of African Studies.
- Snider, Keith, 1988. The noun class system of Proto-Guang and its implications for internal classification. *Journal of African Languages and Linguistics* 10.2: 137-163.
- Stewart, J.M., 1966a. *Awutu Larteh, Nkonya and Krachi with glosses in English and Twi*. Comparative African Wordlists No. 1. Legon: Institute of African Studies.
- Stewart, J.M., 1996b. Akan history – some linguistic evidence. *Ghana Notes and Queries* 9: 54-57.
- Stewart, John, 1970. Tongue root position in the Volta-Comoe languages and its significance for the reconstruction of the original Bantu vowel sounds. *African Language Studies* 11: 340-350.
- Stewart, J.M., 1976. The final light syllables of Akan (Twi-Fante) and their significance for Volta-Comoe reconstruction. *Communications from the Basel Africa Bibliography* Vol. 14: 93-160.
- Stewart, John, 197?. Onwards from Guthrie's Comparative Bantu. *Transactions of the Historical Society of Ghana* 12: 83-94.
- Stewart, John M., 1983. The high unadvanced vowels of proto-Tano-Congo. *Journal of West African Languages* 13.1: 19-36.
- Stewart, John M., 1989. Kwa, in John Bendor-Samuel, ed., *The Niger-Congo Languages*. Lanham & London: University Press of America, Inc.
- Stewart, John M., 1993. The second Tano consonant shift and its likeness to Grimm's law. *Journal of West African Languages* 23.1: 3-40.
- Stewart, John M., 1993? Implosives, homorganic nasals and nasalized vowels in Volta-Congo. Ms.

- Stewart, John M., 1994. Review article: The comparative phonology of Gbe and its significance for that of Kwa and Volta-Congo. *Journal of African Languages and Linguistics* 15: 175-193.
- Stewart, John M., 1996. Nasal vowel creation without nasal consonant deletion, and eventual reduction to non-distinctive status of vowels thus created, with special reference to pre-Bantu. Paper circulated at Round Table on Bantu Historical Linguistics, Lyon, May-June; revised version August.
- Stewart, John M., 2001a. South Volta-Congo (Benue-Kwa) subclassification: the position of Tano (Akanoid). Paper presented to 32nd Annual Conference on African Linguistics, Berkeley.
- Stewart, John M., 2001b. The stem-initial consonant system of Proto-Potou-Tano-Bantu: an update. Paper presented to the 32nd Annual Conference on African Linguistics, Berkeley; Benue-Congo Workshop.
- Stewart, John M., 2001c. Reclassifying the “New Kwa” languages: the languages to the west of Tano (Akanoid). Paper presented to 31st Colloquium on African Languages and Linguistics, Leiden.
- Stewart, John M., 2002. The potential of Proto-Potou-Akanic-Bantu as a pilot Proto-Niger-Congo, and the reconstructions updated. *Journal of African Languages and Linguistics* 23: 197-224.
- Westermann, Diedrich, 1954. *Wörterbuch der Ewe-Sprache*. Berlin: Akademie-Verlag.
- Westermann, Diedrich and M. A. Bryan, 1952. *Languages of West Africa*. Handbook of African Languages Part II. London: Oxford University Press.
- Williamson, Kay, 2000. Towards reconstruction Proto-Niger-Congo. In H. Ekkehard Wolff and Orin D. Gensler, eds., *Proceedings of the 2nd World Congress of African Linguistics Leipzig 1997* pp. 49-70. Köln: Rüdiger Köppe Verlag.