

Social entrenchment influences the amount of areal borrowing in contact languages

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Abstract

Aims and objectives: Social factors in language contact are not well understood. This study seeks to establish and explain the role of *social entrenchment* in the evolution of contact languages. It also aims to contribute to a broader perspective on areality that can account for social and linguistic factors in contact outcomes involving all languages present in multilingual ecologies, including contact languages.

Methodology: The copula system was singled out for a detailed analysis. A corpus of primary data of the three African English-lexifier contact languages, Pichi, Cameroon Pidgin, and Ghanaian Pidgin, their ancestor Krio, and of their African adstrates (Bube, Mokpe, Akan) and European superstrates (Spanish, English) was investigated and compared.

Data and analysis: Relevant features were selected for a dissimilarity matrix. A quantitative analysis was done with SplitsTree4. The resulting distance matrix and phylogenetic network were investigated for signals of genealogical transmission and areal diffusion and interpreted on their social background.

Findings/conclusions: The copula systems of the three contact languages carry a genealogical signal of their ancestor Krio as well as an areal signal from the adstrates and superstrates spoken in their respective ecologies. The amount of areal borrowing increases in the order Pichi < Cameroon Pidgin < Ghanaian Pidgin, reflective of the depth of social entrenchment of each variety from left to right.

Originality: Previous studies do not describe the copula systems of the English-lexifier contact languages of Africa and the Caribbean at a similar level of granularity and mostly focus on their emergence during creolization. This study attempts to explain their subsequent areal differentiation and links it to differences in social ecologies.

Significance/implications: Areal borrowing can lead to significant departures from genealogically inherited structures within a short time if social entrenchment is shallow. Conversely, even languages of wider communication can remain remarkably stable if social entrenchment is deep.

Keywords

Creole, copula, Akan, Bantu, social factors, language contact, areal borrowing, phylogenetic analysis

Introduction

In the 19th century, speakers of the African English-lexifier contact language (AEC) Krio (Sierra Leone) established communities along the West African coast numbering but a few hundred individuals each. Pichi (spoken in Equatorial Guinea), Cameroon Pidgin (CamP), and Ghanaian Pidgin (GhaP) are three of the varieties that arose from the interaction of Early Krio speakers with local populations. Today, the West African AECs constitute a string of mutually intelligible varieties used by over a hundred million people across the region.

I will propose that social factors can account for varying degrees of differentiation of Pichi, CamP, and GhaP from their Early Krio ancestor. In the AECs with a deeper *social entrenchment*, genealogically transmitted features predominate. Conversely, in AECs with less social entrenchment, areally acquired features have become predominant. Social entrenchment is shorthand for a bundle of demographic, socio-structural, and socio-linguistic features defined in more specific terms in the sixth section.

The objectives of this study are twofold. The first is to add insights to the role of social factors in language contact and creolization, which are not yet fully understood (Yakpo, 2020). The second objective is to contribute to a more inclusive perspective on African areality that accounts for contact outcomes between all languages present in multilingual ecologies, including contact languages (see Güldemann, 2018, p. 510), and even European colonial languages (see Steien & Yakpo, 2020).

Pichi, CamP, and GhaP are prime candidates for testing the hypothesis of social entrenchment. All three predominantly serve as languages of wider communication in highly multilingual ecologies. At the same time, they are used as primary languages in an increasing number of domains, including in the home (Yakpo, 2016, pp. 224–227). However, there are significant differences in the way and the degree to which the three varieties have been socially entrenched in their respective ecologies (sixth section). This, I argue, has ramifications for the amount of areal borrowing that characterizes each variety.

In order to test this hypothesis, I analyze the copula systems of the three AECs, and their adstrates Akan and Mokpe in some detail (*Pichi and Cameroon Pidgin* section). The qualitative part is complemented by a quantitative phylogenetic analysis (fifth section), which includes Krio and additional contact strata (Bube, English, Spanish) to reflect a fuller range of possible input structures into the AECs. The results of the qualitative and quantitative analysis show that the presence of areal features in the three contact languages conforms to the ranking GhaP > CamP > Pichi, reflective of a corresponding degree of social entrenchment of each language.

Krio descends at least in part (the amount of which is controversial) from Proto-AECs brought to Freetown, the capital of Sierra Leone, by African-descended Americans at the turn of the 19th century (see Smith, 2017, for a recent overview). I hypothesize that Krio, in turn, passed on much of its copula system (and other parts of the grammar and lexicon) to Pichi, CamP, and GhaP in the course of 19th century migration and commerce on the West African coast driven by Krios. Krio is therefore included in this study to determine the extent of genealogical transmission to Pichi, CamP, and GhaP.

Pichi arrived on the island of Bioko (Equatorial Guinea) with African settlers from Sierra Leone from 1827 onwards (Granda, 1985). Shifters from its main adstrate Bube and multilingual Bubes today constitute the majority of Pichi speakers (Morgades Bessari, 2011). Pichi is the only African AEC to have a non-lexifier superstrate, namely Spanish, the official language of Equatorial Guinea (Yakpo, 2018). Spanish is therefore included in the analysis in order to identify possible superstratal areal diffusion to Pichi (see Labov, 2007, for the terms transmission and diffusion; Yakpo, 2017, for the rationale behind the terms adstrate and (non-lexifier) superstrate).

In all likelihood, CamP also descends from Early Krio (pace Schröder, 2013). Mokpe (Narrow Bantu, Sawabantu) has been spoken alongside CamP since the mid-19th century. It continues to be the main adstrate of CamP in its focus in the north-western littoral zone of Cameroon in complex

patterns of multilingualism with CamP, English, and other closely related Sawabantu languages, such as Duala, Bafaw-Balong, and Bubia. Mokpe is included in this study to assess the extent of adstratal areal diffusion.

GhaP probably originated in a Krio-influenced AEC variety brought to Ghana from Nigeria in the course of colonial labor migrations at the turn of the 20th century (Huber, 1999, pp. 88–89). Today, GhaP is increasingly spoken as a lingua franca in the cities of Ghana next to its major adstrate Akan. The latter language is included to assess adstratal areal diffusion to GhaP. Finally, English is included to establish both genealogical transmission (via Krio) and areal diffusion to CamP and GhaP, since it serves as a lexifier superstrate to these two, but not to Pichi.

All examples stem from a corpus of naturalistic and elicited data that I gathered during field research in Equatorial Guinea, Cameroon, and Ghana between 2003 and 2019. I exclusively rely on primary data specifically collected for this study. The only other in-depth study of copulas in an African AEC (Nigerian Pidgin, Mazzoli, 2013) does not always provide data that allows comparison with the various foci of this study, although it contains a wealth of invaluable information on other aspects.

Areal features of West African copula systems

The split into nominal (‘she **is** a doctor’) and locative predication (‘she **is** in Kigali’) is a common way of classifying the formal and functional differentiation of copula systems. The World Atlas of Language Structures (WALS) feature 119A (Stassen, 2013) shows the presence of split copula systems across a vast geographic area stretching across Africa from the Atlantic coast of Senegal to the Indian Ocean shores of Somalia. The Atlas of Pidgin and Creole Language Structures (APiCS) feature 76 (Michaelis & The APiCS Consortium, 2013) shows that split systems are also encountered in all English- and most Portuguese-lexifier contact languages of West Africa and the Americas (e.g. Faverey et al., 1976; Holm, 1999; Mazzoli, 2013; Truppi, 2019). Many Bantu languages of Cameroon and Equatorial Guinea, among them Mokpe and Bube, as well as English, are, by contrast, typified by unitary systems in which one copula covers both nominal and locative predication.

The WALS and APiCS features do not, however, reflect the actual complexity of African systems. An English speaker has a lexical or stylistic choice between expressing the future (change of) state in a sentence pair, such as *I’m gonna **be** a doctor one day* and *I’m gonna **become** a doctor one day*. By contrast, for a speaker of Gã (Kwa, Ghana) the use of the nominal/identity-equative copula *jí* ‘COP’ instead of *tsó* ‘turn’ in (1) would be ungrammatical. In keeping with practice elsewhere, I call such idiosyncratic variation of etymologically distinct words ‘(root) suppletion,’ even if it involves semantically rich forms used as lexical verbs in other contexts (see Veselinova, 2006, p. 68).

- (1) *Gbékè né bää-tsó gbòmò gbì kò.*
 child this FUT-turn person day INDF
 ‘This child will be(come) somebody one day.’

In Gã, copula suppletion is triggered by an aspectual-temporal change. It is required whenever the state of affairs to be expressed does not tally with the default tense–aspect–mood (TAM) values inherent to copula semantics. This value is best captured by the notion of ‘factative’ tense–aspect–modality (Welmers, 1973, p. 348). In the case of copulas and other stative verbs, +FACTATIVE can be further decomposed into the features +FINITE, +STATIVE, +IMPERFECTIVE, and +REALIS (cf. Faraclas, 1996, pp. 183–185). Often, +FACTATIVE also encompasses +(PRAGMATICALLY) NEUTRAL. The predicates of new information clauses, that is, focused, wh-, and relative clauses may also undergo conditioned alternation through special paradigms, tonal processes, and suppletion (for Bantu, see Güldemann, 1997; for Akan, see Marfo, 2005).

A second trigger of copula variation in African languages is ‘time stability’ (Givón, 1979), which underwrites the pervasive nominal–locative split, and distinguishes ‘be something’ from ‘be

somewhere,’ as in the Akan minimal pair sentences $\text{\textasciixc}y\text{\textasciixc} Ghana$ ‘it **is** Ghana’ (+TIME STABLE) versus $\text{\textasciixc}w\text{\textasciixc} Ghana$ ‘it **is in** Ghana’ (-TIME STABLE).

A third dimension of copula variation is polarity. Asymmetric copula negation involving suppletive forms is very common in the languages of West Africa and the Sahel (Winkelmann & Miehe, 2009, pp. 169–171). Copulas serve to talk about identifiable, known, often perceptible entities, and communicate the existence and placement of things and concepts in the physical and metaphorical worlds. A +AFFIRMATIVE copula clause is therefore presuppositionally more natural than a -AFFIRMATIVE one (see Miestamo, 2005, pp. 195–200).

Formal and functional features of the copula systems of the African adstrates and European superstrates are explored in the third section, followed by a comparative analysis of the systems of CamP, Pichi, and GhaP in the fourth section.

Copula systems in the African adstrates and European superstrates

We are interested in contact outcomes in the AECs due to (1) genealogical transmission from the common ancestor Krio, and the lexifier English, and (2) areal diffusion from adstrates and superstrates. This section therefore presents comparative analyses based on field data of the copula systems of Akan (*Akan (Ghana)* section), Mokpe, and Bube (*Mokpe (Cameroon) and Bube (Equatorial Guinea)* section). Relevant features of the well-known systems of English and Spanish are summarized in the *English and Spanish* section.

Akan (Ghana)

The distribution of Akan copulas is given in Figure 1. Henceforth, I use the abbreviations $\pm T$ (IMESTABLE), $\pm F$ (ACTATIVE), $\pm A$ (FFIRMATIVE). The $\pm A$ distinction is not made suppletively for the +T and the -T-F values. The corresponding branches have therefore been pruned and the functions (1) and (2), (3) and (4), and (7) and (8) merged.

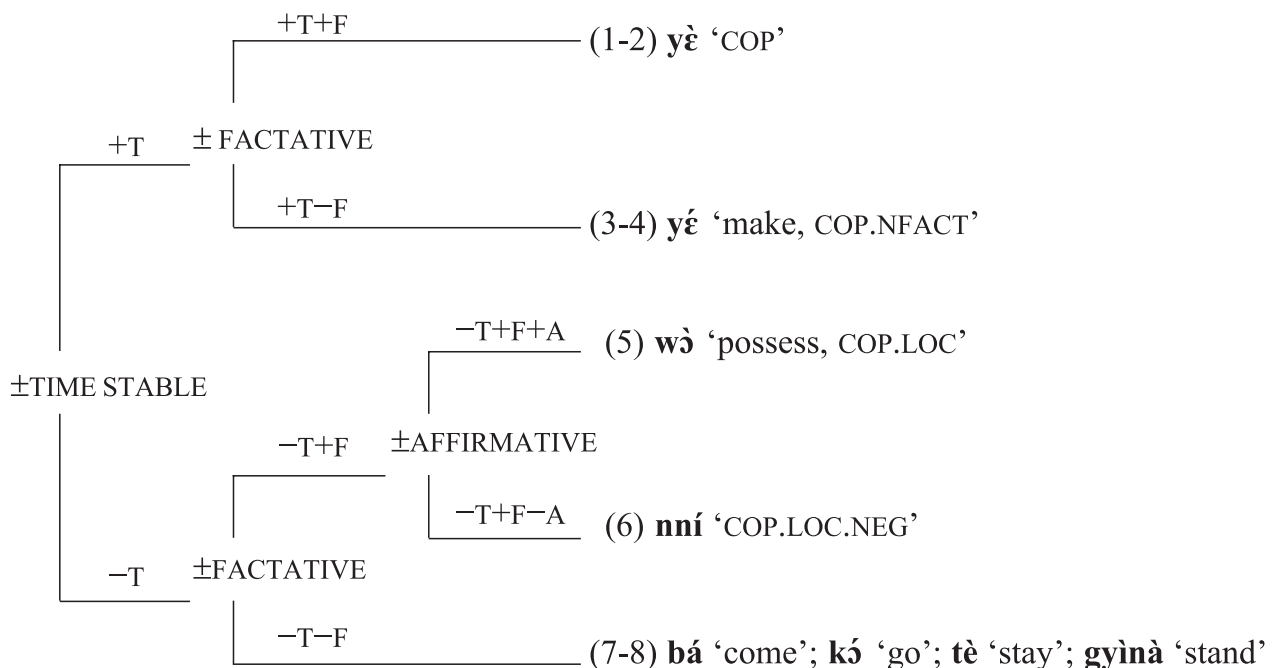


Figure 1. Copula distribution in Akan.

The basic split between nominal $+T+F$ and locative $-T+F$ predication is realized by the identity-equative copula *yè* ‘COP’ (functions 1 and 2, Figure 1) and the locative copula *wò* ‘COP.LOC’ (function 5; see (2) and (3)). *Wò* ‘COP.LOC’ and its negative counterpart *nní* ‘COP.LOC.NEG’ (4) are identical with the verb of (non-)possession and both also occur in existentials. The expression of these three functions by a single form might be cross-linguistically uncommon (Creissels, 2014, p. 31). Hence, (3) and (4) could also be translated as ‘does your mother (not) have a house?’

- (2) *Ɔ-yè* *ɔkyèrèkyérfóó* *nó.*
 3SG.SBJ-COP teacher DEF
 ‘She’s a teacher.’
- (3) *Wó* *mààmé* *wò* *fié?*
 2SG.POSS mother COP.LOC house
 ‘Is your mother home?’

Only the locative copula has a negative suppletive counterpart *nní* ‘COP.LOC.NEG’ (4) for the expression of $-T+F-A$ (function 6, Figure 1). The $+T+F-A$ value is expressed symmetrically via standard negation, through the negative prefix *n-* (5), and a high tone suprafix over the copula (see Boadi, 2008, for formal details).

- (4) *Dààbí,* *mé* *mààmé* *nní* *fié.*
 INTJ 1SG.POSS mother COP.LOC.NEG house
 ‘No, my mother isn’t home.’
- (5) *Ɔ-n-yé* *ɔkyèrèkyérfóó* *nó.*
 3SG.SBJ-NEG-COP:NEG teacher DEF
 ‘She’s not the teacher.’

Akan is an aspect-prominent language (Osam, 2008). Most tense readings arise by default via aspect marking. Akan speakers can nevertheless anchor both copulas in the non-present with the clausal particle *ná* ‘THEN.’ States of affairs specified by *ná* are construed as $+F$ ($+STATIVE$, $+IMPERFECTIVE$, $+REALIS$) (6).

- (6) *Ɔkyéná,* *wó-bé-dúrù* *Kùmásé* *nó,* *ná* *mè-wò* *hó* *dèdàw.*
 tomorrow 2SG-FUT-arrive PLACE DEF THEN 1SG.SBJ-COP.LOC there already
 ‘Tomorrow, (when) you arrive in Kumasi, I’ll be there already.’

When states of affairs are explicitly marked for $-F$, another set of forms substitutes for the basic copulas in (2)-(3). The $+T-F$ value is realized by the verb *yé* ‘make, COP.NFACT’, which differs from *yè* ‘COP’ by a lexical high tone (functions 3 and 4). The *make-COP.NFACT* polysemy is also found in other languages of the corpus (Bube, see Figure 3; GhaP, see Figure 5 and (35)) and beyond (e.g. Yoruba, see Abraham, 1958, pp. 608–609), and is probably areal. So, there is little doubt that the two forms are etymologically related. The two are, however, sufficiently differentiated in form (via lexical tone) and function to be seen as suppletive variants (see (21), (28), and (36) for a similar analysis in GhaP and CamP).

- (7) *Àfè* *bààkǒ* *àkyí* *nó,* *mè-bé-yé* *ɔkyèrèkyérfóó.*
 year one back DEF 1SG.SBJ-FUT-make teacher
 ‘In a year’s time, I’ll be a teacher.’

The locative copula *wò* may not be overtly specified for tense or mood categories either. A $-T-F$ state of affairs (functions 7 and 8) is therefore expressed by way of motion and dispositional verbs, such as *bá* ‘come’ (8), *kò* ‘go,’ *gyìnà* ‘stand,’ and *tè* ‘sit,’ which serve as de facto $-F$ locative copulas (cf. Ellis & Boadi, 1968). The resulting structures are negated symmetrically (9).

- (8) *Mé-bá* *Nkràn* *òkyéná.*
 1SG.SBJ:FUT-COME PLACE tomorrow
 ‘I’ll come to [i.e. “be in”] Accra tomorrow.’
- (9) *Mé-m-má* *Nkràn* *òkyéná*
 1SG.SBJ-NEG-COME PLACE tomorrow
 ‘I won’t come to [i.e. “be in”] Accra tomorrow.’

Less central functions that are also expressed by copulas in European languages are equally rendered by semantically rich lexemes in Akan. A notable one is *dì* ‘eat,’ which expresses the exercise of a function (10), and is found in an areal pattern along the West African littoral (e.g. in Gbe, see Essegbey, 2015).

- (10) *ò-dì-ì* *Ghánà* *òmàn-pànyín.*
 3SG.SBJ-eat-COMPL PLACE state-elder
 ‘He is (exercising the function of) the president of Ghana.’

Lastly, Akan shows functional overlaps between BEING and focus. The $+T+F$ copula *yè* ‘COP’ may optionally serve as a cleft particle with an expletive subject, as in English, but always in addition to the obligatory, postposed focus marker *nà* ‘FOC’ (the similarity with the AEC focus marker *nà* is incidental), see (11). In addition, the lexical verb in Akan focus and other $-NEUTRAL$ clauses (i.e. *wh*- and relative clauses) is categorically marked by a phrasal high tone (Marfo, 2005). The high-toned second *yé* ‘COP:FOC’ in (11) is therefore not a suppletive exponent of the $+T-F$ value as in (7).

- (11) *È-yè* *òyàrèsáfòò* *nà* *mé-yé.*
 3SG.SBJ.INAN-COP teacher FOC 1SG.SBJ-COP:FOC
 ‘It’s a TEACHER that I am.’

Summing up, Akan has a rich system of copula suppletion conditioned by the values \pm_{TIME} STABLE, $\pm_{FACTATIVE}$, and $\pm_{AFFIRMATIVE}$. Further, Akan copulas retain lexical uses besides more functional ones, for example, *wò* ‘possess,’ *bá* ‘come,’ and *dì* ‘eat.’ In all these features, Akan differs quite substantially from Mokpe and Bube, the Bantu adstrates of CamP and Pichi, which follow.

Mokpe (Cameroon) and Bube (Equatorial Guinea)

The copula system of Mokpe, adstrate of CamP, corresponds to that of Pichi’s adstrate Bube in all crucial features (compare Figures 2 and 3). The only difference is that Bube alone shares the areal *make* polysemy found in Akan and GhaP, as I will show (see Appendix 1 for all features). The typological closeness of Mokpe and Bube is reflected in a corresponding proximity in the phylogenetic network in Figure 6. For the sake of expediency, this section therefore only covers Mokpe.

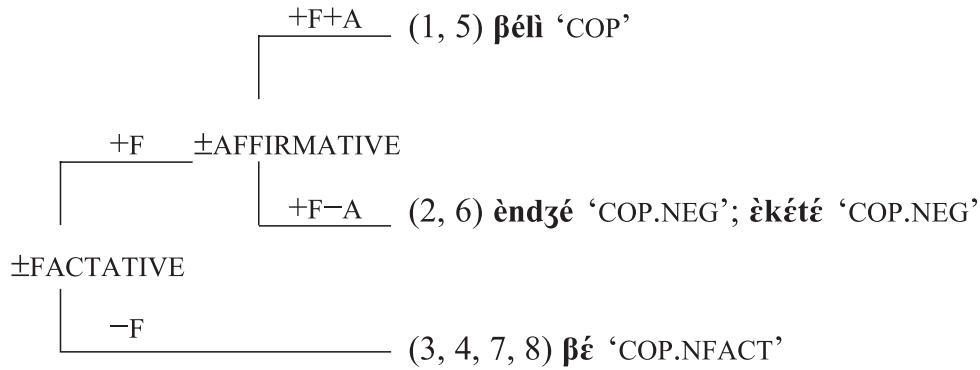


Figure 2. Copula distribution in Mokpe.

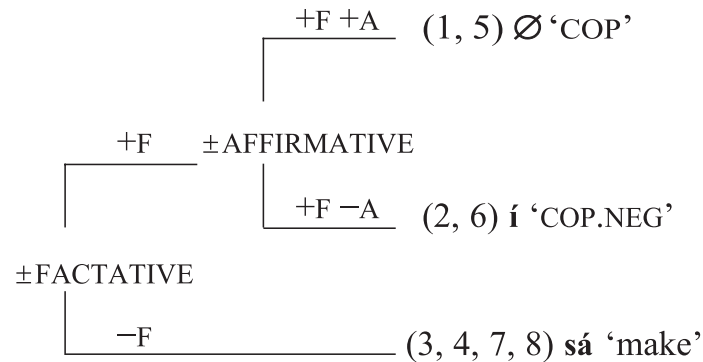


Figure 3. Copula distribution in Bube.

The Mokpe and Bube systems make three functional distinctions. Contrary to Akan, Mokpe and Bube show no \pm TIME STABLE distinction. In Mokpe, the unitary affirmative copula *βéli* ‘COP’ is used for both +T nominal (12) and –T locative states of affairs (13) (functions 1 and 5, Figure 2).

(12) *À βéli ndí môtô wà Mòkpè.*
 3SG.SBJ COP FOC person LNK Mokpe
 ‘He is a Mokpe person.’

(13) *βá βéli ndí ó ndáwù.*
 3PL.SBJ COP FOC LOC house
 ‘They are at home.’

Mokpe nevertheless shows familiar patterns of suppletion. The inherently negative copulas *èndzé* or *èkété* (see Atindogbé, 2013, pp. 129–130) are additionally negated symmetrically by the general negator *zrà* ‘NEG’ for the expression of +F–A states of affairs (functions 2 and 6; see (14) and (15)).

(14) *À zrà èndzé/èkété môtô βà Mòkpè.*
 3SG.SBJ NEG COP.NEG/COP.NEG person LNK Mokpe
 ‘He isn’t a Mokpe person.’

(15) *βá zrà èndzé/èkété ó ndáwù.*
 3PL.SBJ NEG COP.NEG/COP.NEG LOC house
 ‘They are/aren’t at home.’

Further suppletion is encountered in –F identity-equation and location clauses. The non-factative copula *βé* ‘COP.NFACT’ substitutes for *βéli* ‘COP’ (functions 3, 4, 7, 8). Mokpe speakers may anchor a

state of affairs in the future via adjuncts (16) and in the past via *mà* ‘PST’ (17). In both cases *βέ* ‘COP.NFACT’ is used.

- (16) *βά βέ ó ndáwù ɣmélê.*
 3PL.SBJ COP.NFACT LOC house tomorrow
 ‘They’ll be home tomorrow.’

- (17) *Nà mà βέ mòtà ɣgàɣgà.*
 1SG.SBJ PST COP.NFACT person doctor
 ‘I was a doctor (once).’

No further suppletion is encountered beyond the contexts presented above. The –F copula *βέ* ‘COP.NFACT’ is negated symmetrically by standard negation (18) (functions 3, 4, 7, 8).

- (18) *Nà kòkí tɛ nà zrá βέ mòtà ɣgàɣgà,*
 1SG.SBJ grow if 1SG.SBJ NEG COP.NFACT person doctor
nà βέ ndí mòtà wàngá.
 1SG.SBJ COP.NFACT FOC person farm
 ‘When I grow up, I will not be a doctor, I will rather be a farmer.’

Mokpe also shows interactions between BEING and focus. Mokpe copulas function as cleft particles in tandem with expletive subjects (19), as in English and Akan (see (11)). However, the focus marker *ndí* may not assume copula functions on its own. The focus marker must additionally be present and a constituent (here *mó* ‘3SG.INDP’) may be focused in situ. Among the AECs, in situ focus is only found in CamP (see (29)), pointing to areal diffusion from Mokpe.

- (19) *É *(βéli) mó ndí ná mènê.*
 3SG.SBJ.INAN COP 3SG.INDP FOC 1SG.SBJ see
 ‘It’s HIM I saw.’

The compact nature of the copula system concurs with the fact that Mokpe copulas are semantically bleached. Evidence also comes from the wide-ranging functions of Mokpe copulas, for example, as progressive aspect markers and adjectival predicators, that is, *à βéli lěmbà* ‘s/he is singing,’ *à βéli gbámù* ‘s/he is fine.’ *Eat* is not encountered with a copula function either. Typologically, the Mokpe system therefore differs quite substantially from that of Akan, and as we shall see, from that of the AECs.

English and Spanish

Most European languages, including English, have unitary systems with one copula covering nominal and locative predication. The \pm TIME STABLE split in Irish and Iberia (Spanish *ser* versus *estar*) constitutes an areal exception (see Irslinger, 2019, for a recent overview). English and Spanish also show TAM and person–number–conditioned root suppletion. Compare English *am* versus *was* and Spanish *s-oy* ‘COP.1SG.PRS’ versus *fu-i* ‘COP.1SG.PFV.PST,’ as well as *am* versus *are* (the forms are etymologically distinct) and *s-oy* versus *er-es* ‘COP.2SG.PRS.’ Both languages also have affixal inflection/suppletion for person–number, for example, *est-oy* ‘COP.LOC.1SG.PRS’ versus *est-ás* ‘COP.LOC.2SG.PRS’ and *w-as* versus *w-ere*.

Other than the \pm T split in Spanish, there are significant typological differences between the European and African systems. The latter feature root suppletion, not person–number suppletion nor inflection. European TAM-conditioned suppletion is functionally also different from the \pm FAC-TATIVE split in Africa: suppletion is triggered by specific TAM readings, for example, \pm PRESENT in

English (*I am* versus *I was*) versus \pm IMPERFECTIVE in Spanish (*s-oy* versus *fu-i*). English and Spanish also require explicit tense-anchoring, that is, **he is a doctor before*, where the aspect-prominent adstrates and AECs do not (see (6)). Further, European copulas fulfill a broad range of predicative functions within a large functional space of BEING that can be characterized as $-$ DYNAMIC, $-$ TRANSITIVE. This includes the predication of properties, where the AECs use verbs, for example, *it is big* versus Pichi *è big*.

Copulas in Pichi, Cameroon Pidgin, and Ghanaian Pidgin

Due to their similarity, Pichi and CamP are discussed together (*Pichi and Cameroon Pidgin* section). GhaP, in turn, differs from Pichi and CamP in numerous ways and is therefore treated separately (*Ghanaian Pidgin* section). Findings will be discussed further in the fifth and sixth sections.

Pichi and Cameroon Pidgin

Figure 4 shows the distribution of copulas in Pichi and CamP. The italicized form *nótò* ‘FOC.NEG’ (< ‘not’) is unique to Pichi. The underlined form *bì* ‘COP’ (< ‘be’) is only found in CamP. All other forms fulfil the same functions in both languages. The Pichi system is identical to that of Krio with one exception: Krio marginally makes use of *bì* ‘COP’ in the same contexts as CamP (see (21)). Four categorical distinctions are realized in Pichi and CamP. The default split between $+T$ and $-T$ is realized by the basic identity-equation copulas *nà* ‘FOC’ and *bì* ‘COP,’ as well as the locative copula *dé* ‘COP.LOC.’ The $+T+F+A$ value is expressed by the focus marker *cum* identity-equation copula *nà* ‘FOC’ (< ‘that(s)’) in Pichi and by *nà* ‘FOC’ or *bì* ‘COP’ in CamP (function 1, Figure 4; see (20) and (21)). Mbakong Tsende (1993, pp. 55–56) suggests that referents identified by *nà* (20), but not *bì* (21), are inherently under focus in CamP.

- (20) *Ìn pàpá nà Ghànà-mán.*
 3SG.POSS father FOC PLACE-man
 ‘His father is Ghanaian.’ (Pichi/CamP)

- (21) *Mí à (nó) bì Kàmèrónyàn.*
 1SG.INDP 1SG.SBJ NEG COP Cameroonian
 ‘As for me, I’m (not) Cameroonian’ (CamP)

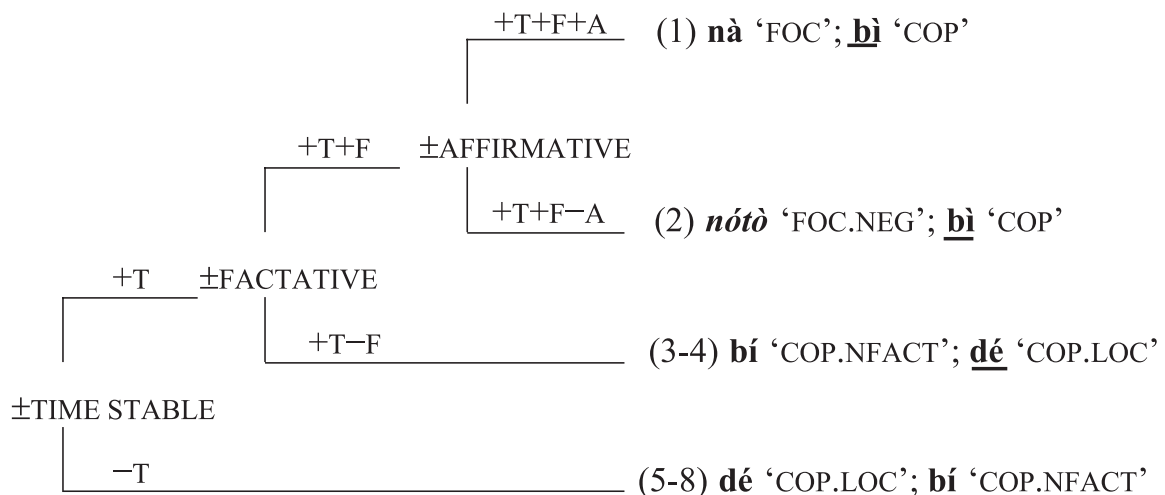


Figure 4. Copula distribution in Pichi and Cameroon Pidgin.

CamP speakers negate $+T+F-A$ states of affairs symmetrically by way of the standard negator *nó* ‘NEG’ followed by *bì* ‘COP’ (see (21) above). CamP therefore differs from Pichi, which requires the use of focus markers *cum* copulas in affirmative *and* negative identity-equative clauses. In Pichi, $+T+F-A$ nominal predicates can only be negated via the suppletive negative focus marker *cum* inherently negative copula *nótò* ‘FOC.NEG’ (22). The expression of the identity-equation therefore involves the use of a focus structure by default, making (20) and (22) the only possible options.

- (22) *Ìn pàpá nótó guineano.*
 3SG.POSS father FOC.NEG Guinean
 ‘His father is not Equatorial Guinean.’ (Pichi)

Both *nà* ‘FOC’ (in Pichi and CamP) and *nótò* ‘FOC.NEG’ (in Pichi) are also employed in ‘identification-presentational’ (Declerck, 1988) cleft focus sentences, such as (23). The polarity suppletion observed in (20) and (22) is also found in these structures. This function of *nà/nótò* overlaps with copula expression in identity-equative clauses, such as (20) and (22), with nominal constituents on both sides of the focus marker. Pragmatic structures are therefore hard-wired into the expression of BEING in the two AECs (also see (29)).

- (23) *Nà/Nótò mì mótó dát.*
 FOC/FOC.NEG 1SG.POSS car that
 ‘That’s (not) my car.’ (Pichi)

On the $-T$ side, the locative copula *dé* ‘COP.LOC’ (etymology unclear) covers all remaining possible permutations of \pm FACTATIVE and \pm AFFIRMATIVE (functions 5–8). The locative copula takes locatives and other adjuncts as complements.

- (24) *Chìè tú dé fɔ̀ bàk dì tébùl.*
 chair too COP.LOC PREP back DEF table
 ‘A chair too is behind the table.’ (CamP)

The locative copula *dé* ‘COP.LOC’ is negated symmetrically by way of the standard negator *nó* ‘NEG’ (25). There are no restrictions either on the occurrence of $-F$ tense–mood–aspect marking with *dé* (26).

- (25) *Wàtá nó dé dé.*
 water NEG COP.LOC there
 ‘There’s no water there.’ (CamP)

- (26) *Dì hùmán wé à bìn dé fɔ̀ Moka (. . .)*
 DEF woman SUB 1SG.SBJ PST COP.LOC PREP PLACE
 ‘The woman that I was (with) in Moka (. . .)’ (Pichi)

CamP is the only of the three AECs in which the $\pm T$ distinction is not categorical. Earlier sources to remark this (e.g. Féral, 1989, p. 78) do not, however, make the important observation that the high-toned $+T-F$ copula *bí* ‘COP.NFACT’ rather than the basic low-toned $+T+F$ copula *bì* ‘COP’ is employed in locative clauses like (27). Diffusion from the Sawabantu adstrates, which have no $\pm T$ split (see (15)), is the most likely source of the occasional neutralization of the $\pm T$ distinction, or convergent influence from Bantu *and* English.

- (27) *Ól dát simó simó stó dèm wé dèm yústù bí fɔ kónà ród.*
 all that small REP store PL SUB 3PL used.to COP.NFACT PREP next.to road
 ‘All those small stores that used to be next to the road.’ (CamP)

When +_T states of affairs are specified for −_F (functions 3 and 4) the high-toned variant *bí* ‘COP.NFACT’ is used in both Pichi and CamP. Pichi therefore features a suppletive contrast between the segmentally distinct forms *nà/nótò* and *bí* for +_T+_F and +_T−_F states of affairs.

- (28) *È dón bí wán señoṛita.*
 3SG.SBJ PRF COP.NFACT one little.lady
 ‘She already is/has become a young lady.’ (Pichi)

By contrast, CamP features two distinct +_T+_F versus +_T−_F suppletion strategies. One is realized by tonal ablaut via the minimal pair *bì* ‘COP’ versus *bí* ‘COP.NFACT’ (see (21) versus (29)). The second strategy, shown after the slash in (29), is equally interesting: The −_T locative copula *dé* may be recruited to express +_T−_F states of affairs. This could be interpreted as a further erosion of suppletion in CamP, this time of the ±_F distinction. However, the swap function of *dé* ‘COP.LOC’ for the suppletive expression of +_T−_F also occurs in the AECs of Suriname (for Ndyuka, see Huttar & Huttar, 1994, p. 135). It might therefore be an Early Krio retention in CamP, and at the same time, another piece of evidence for the deep genealogical links between the African and the American AECs (see Hancock, 1969)

- (29) *Dát mán bí bí/dé nà dóktò.*
 that man PST COP.NFACT/COP.LOC FOC doctor
 ‘That man was a DOCTOR [before he died].’ (CamP)

The immediate adjacency of a copula *bí/dé* and the focus marker *nà* is possible in (29) above because CamP is the only AEC to allow in situ focus. The existence of in situ focus in Mokpe (see (12) and (13)) makes it very probable that the strategy was transferred to CamP from the Sawabantu languages.

In summary, Pichi differs from CamP by retaining the +_T+_F−_A form *nótò* ‘COP.NEG,’ inherited from Krio. CamP, in turn, has innovated a tonal ablaut suppletion that differentiates +_T+_F+_A *bì* ‘COP’ from +_T−_F *bí* ‘COP.NFACT.’ Secondly, CamP shows diffusion from Mokpe in the occasional neutralization of the ±_T distinction and the presence of in situ focus. Overall, Pichi seems to show no diffusion from Bube at all. This is surprising, given that Pichi has been spoken alongside Bube for almost two centuries. It indicates a strong founder signal in Pichi from Early Krio, a hypothesis that is explored further in the fifth and sixth sections.

Ghanaian Pidgin

The copula system of GhaP shown in Figure 5 realizes three basic distinctions. GhaP differs from CamP and Pichi in a number of features summarized at the end of this section.

GhaP has the usual split system. The basic copula *bì* ‘COP’ expresses +_T, like in CamP (see (21)). It is negated symmetrically (30) and may also be used in −_F clauses (31). GhaP therefore differs from Pichi and CamP in that there is no categorical ±_F distinction (see (36) and the corresponding discussion).

- (30) *Mà fɛs ném (nó) bí Thomas.*
 1SG.POSS first name NEG COP NAME
 ‘My first name is (not) Thomas.’

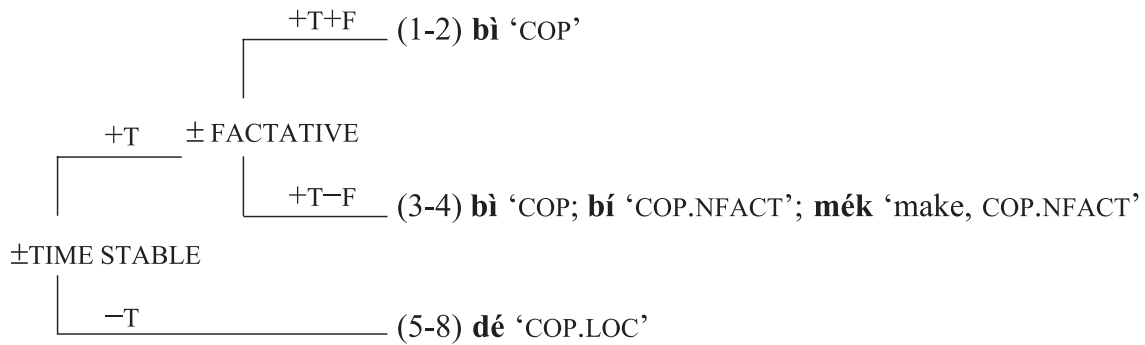


Figure 5. Copula distribution in Ghanaian Pidgin.

- (31) *Wán dé, à gò bì láyà.*
 one day 1SG.SBJ POT COP lawyer
 ‘One day, I’ll be a lawyer.’

The $-T$ copula *dé* ‘COP.LOC’ takes the usual (locative and other) adjuncts as complements. It is negated symmetrically via the general negator *nó* (32), and can take explicit tense–mood–aspect marking without triggering suppletion (33). In this, GhaP is no different from Pichi and CamP (see (25) and (26)).

- (32) *Dè ché (nó) dé dè wól ìn bódì.*
 DEF chair NEG COP.LOC DEF wall 3SG.POSS body
 ‘The chair is (not) by the wall.’
- (33) *Éryà gáy-s, à nó háw à gò dé plàs dém.*
 area guy-PL 1SG.SBJ know how 1SG.SBJ POT COP.LOC with 3PL.INDP
 ‘(As for) the guys from the area, I know how I’ll be [behave] with them.’

GhaP has no dedicated past tense marker, unlike CamP and Pichi (cf. (29)). GhaP is, however, aspect-prominent like the other AECs and Akan. A $-F$ state of affairs can therefore be specified for past or future tense by clausal adverbs or prior tense-anchoring alone (34). The clausal marker *dèn* (<‘then’), calqued from Akan *ná* ‘then’ (see (6)) may also specify either of the copulas *bì* ‘COP’ and *dé* ‘COP.LOC’ for non-present tense. Resulting structures closely resemble corresponding ones in Akan (6).

- (34) *Mék yù nó shívà, bày dè túym yù gò kách Kùmásé,*
 SBJV 2SG.SBJ NEG fear by DEF time 2SG.SBJ POT catch PLACE
dèn à dé dé.
 THEN 1SG.SBJ COP.LOC there
 ‘Don’t worry, by the time you reach Kumasi, (then) I’ll be there.’

The fuzzy polysemy of Akan *yè* ‘COP’ versus *yé* ‘make’ lies at the origin of GhaP structures that reflects interesting instances of ‘selective polysemy copying’ (Johanson, 2008) and semantic blending. One of these is the alternation between *bì* ‘COP’ and *mék* ‘make, COP.NFACT,’ which mirrors the alternation between Akan *yè* ‘COP’ (2) and *yé* ‘make’ (7). In GhaP, *mék* may function as a $+T$ copula when the nominal complement is inhabited by a transient property, as signaled by the adjunct *fò tén yíès* in (35). Such uses instantiate the $+T-F$ value, although the use of *mék* is not categorical like in Akan.

- (35) *À mék kápèntà fɔ́ tén yíê-s fɔ́ Tógó.*
 1SG.SBJ make carpenter PREP ten year-PL PREP PLACE
 ‘I was [i.e. worked as] a carpenter for ten years in Togo.’

A second instance of selective copying from Akan is the use of another suppletive form, namely a high-toned *bí* ‘COP.NFACT,’ which contrasts with low-toned *bì* ‘COP’ and, so, replicates the distribution of Akan high-toned *yé* ‘make’ versus low-toned *yè* ‘COP.NFACT.’ For example, *bí* is found in –NEUTRAL focus clauses like (36). In the corresponding Akan structure, a high tone is placed over the focused verb by a general phrasal tone rule (see (11)). In GhaP, verbs other than the copula are not affected by the rule. High-toned *bí* ‘COP.NFACT’ is limited to these specific constructions and is therefore a suppletive variant of *bì* ‘COP.’

- (36) *Ì bì só dát gáy bí ó.*
 3SG.SBJ COP like.that that guy COP.NFACT SP
 ‘That’s how that guy is (i.e. It’s like that that guy is).’

GhaP also shows the usual functional links between focus and BEING. GhaP has no exponent of the focus marker *cum* copula *nà/nótò* (compare (23)). Instead, GhaP clefts involve the +T copula *bí* ‘COP’ with expletive reference (37).

- (37) **(ì) bì ìn ráyd bì dís ó.*
 3SG.SBJ COP 3SG.POSS car COP this SP
 ‘This is HER CAR (i.e. It’s her car this is).’

Further, GhaP has the *eat* polysemy, which includes ‘exercise a function’ (38). As in Akan, the present state is expressed through use of the completive aspect (see (10)). The office is assumed by the completion of metaphorical ingestion.

- (38) *Yù chóp chíf finish.*
 2SG.SBJ eat chief COMPL
 ‘You are the boss.’

The GhaP copula system shows a number of interesting innovations with respect to the other two AECs. GhaP has no focus marker *cum* identity-equative copula *nà/ nótó* ‘FOC/FOC.NEG.’ The \pm F distinction involves *bí* ‘COP.NFACT,’ but is limited to –NEUTRAL clauses and otherwise not categorical. GhaP is also the only AEC to make use of the non-present tense marker *dèn* ‘THEN,’ as well as *mék* ‘make’ and *chóp* ‘eat’ as predicators for nominal states of affairs. GhaP shows far-reaching similarities with Akan in the latter features. This contrasts with Pichi, where there is no discernible influence from Bube, and CamP, which shows only moderate influence from Mokpe. The phylogenetic analysis in the fifth section provides statistical evidence to corroborate these observations.

Phylogenetic analysis of copula systems

Figure 6 is a computational phylogenetic network analysis of the copula systems of the three AECs and their contact strata in order to determine and interpret their similarity (see Bakker et al., 2017, for previous applications to contact languages). The quantitative analysis was conducted with the Neighbor-Net algorithm contained in the software SplitsTree4 (Huson & Bryant, 2006).

The analysis is based on the dissimilarity matrix in the Appendix 1, which contains 22 features discussed in the preceding sections. Features are checked for presence ('1') and absence ('0'). Appendix 2 contains the resulting distance matrix. In order to assess the robustness of the results, a bootstrap with 100,000 replicates was run, that is, subsets of the data were randomly selected by the software and analyzed following the same algorithm. The degree of support for each split is returned as a percentage in Figure 6, so the higher the value, the more likely the split.

The phylogenetic network replicates recognized major genealogical divisions with sufficient confidence, confirming the relevance of the features in Appendix 1. The Bantu adstrates Bube and Mokpe are closely clustered on short terminal nodes. English and Spanish are also grouped together, albeit at some distance due to the absence/presence of a $\pm\tau$ split in English/Spanish. Akan has no genealogical relatives in the network and is therefore furthest off on its own. The four AECs are also grouped in the same sector. However, the distances between GhaP and the other AECs and the proximity of GhaP to Akan suggest a high degree of contact-induced change.

Figure 6 allows extrapolations with respect to (A) genealogical transmission and (B) areal diffusion. The relevant rankings in Table 1 stem from Appendix 2 and represent the decrease in similarity relative to the leftmost language. Hence, Krio > Pichi > CamP (A1) can be paraphrased as 'Krio is most similar to Pichi, followed by CamP.'

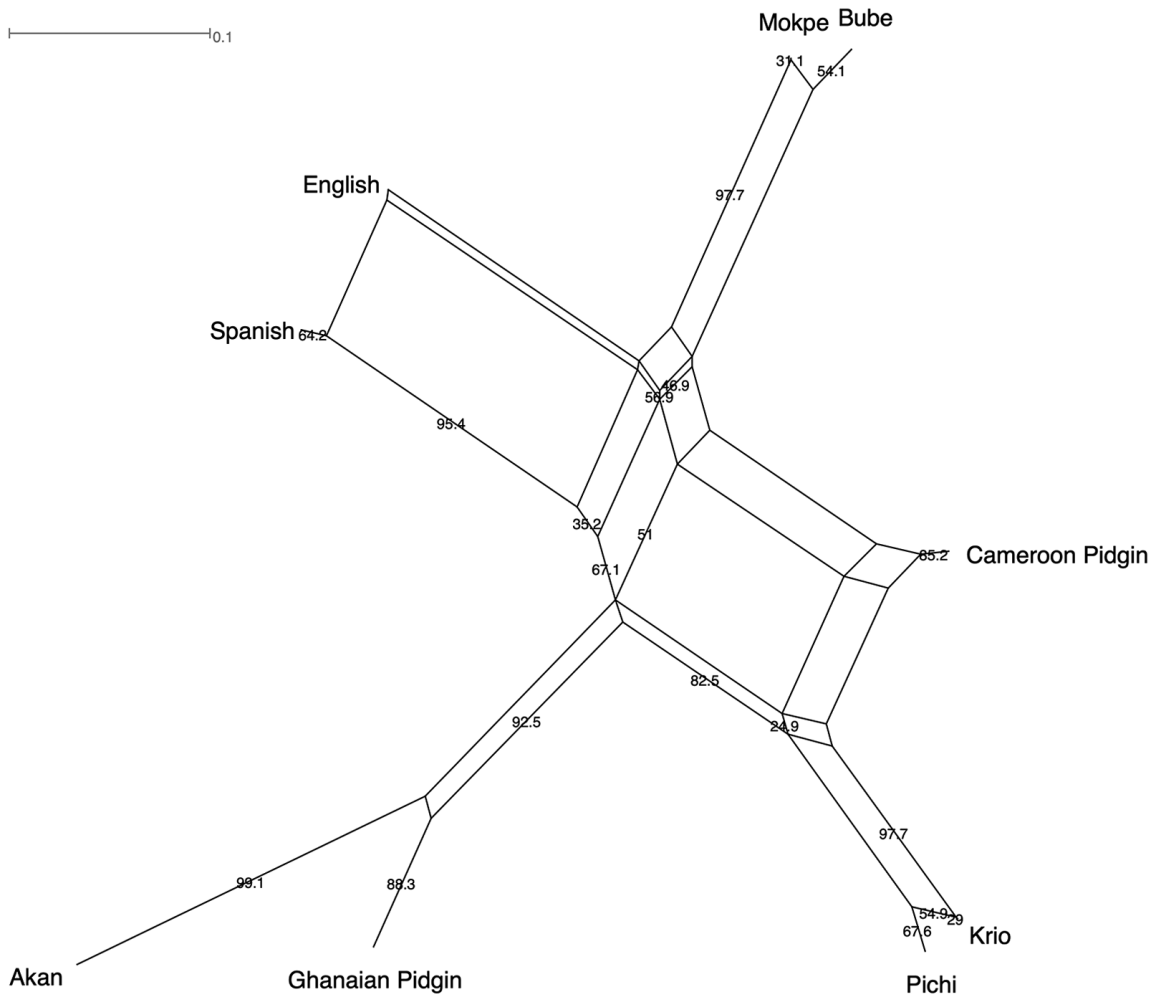


Figure 6. Phylogenetic Network (Neighbor-Net).

Table 1. Genealogical and areal similarities.

	Similarity ranking	Distance ranking (rounded)
A	Genealogical transmission	
1	Krio > Pichi > CamP > GhaP	0.00 > 0.05 > 0.23 > 0.41
2	English > CamP > GhaP > Krio > Pichi	0.00 > 0.36 > 0.45 > 0.50 > 0.55
B	Areal diffusion	
1	Pichi > Spanish > Bube	0.00 > 0.45 > 0.55
2	CamP > Mokpe > English	0.00 > 0.32 > 0.36
3	GhaP > Akan > English	0.00 > 0.27 > 0.45

CamP: Cameroon Pidgin; GhaP: Ghanaian Pidgin.

Genealogical transmission

Krio, Pichi, and CamP are more similar to each other (A1) than to any other language through a number of shared genealogical features (1, 7, 9, 17–19 in Appendix 1). Krio is almost five times more similar to Pichi than to CamP, confirming the close relation between Pichi and Krio (cf. Yakpo, 2019, p. 1). CamP sits between Pichi and GhaP with respect to distance to the common ancestor Krio. By contrast, GhaP is an outlier. If we had no lexical (nor historical) evidence, GhaP could be seen as a genealogical relative of Akan. English seems to have left no conspicuous genealogical traces in the AECs (A2). The greater similarity between English and CamP than between English and all other AECs in A2 is due to the erosion of the time stability split in CamP (features 1 and 11). CamP, Pichi, and GhaP are significantly more similar to Krio than to English, despite some probable areal diffusion from English to the AECs (see below).

Areal diffusion

Pichi's distance with Bube equals that with Akan (B1), although there is no areal relationship with the latter language (see Appendix 2 for distances not contained in Table 1). The absence of discernible areal transmission from Bube and Spanish to Pichi attests to a strong founder signal from Krio in Pichi. On the one hand, the greater similarity of Pichi to Spanish than to Bube therefore stems from the fortuitous typological parallel of a time stability split between the former two (features 1 and 11). On the other hand, the vitality of the time stability split in Pichi despite cohabitation with Bube (which does not have the split) might also be due to its reinforcement through contact with Spanish. With respect to areality, CamP is again on the middle ground. CamP is about equally similar to Mokpe and English (B2), showing partly overlapping areal diffusion from both adstrate and superstrate, manifest in the porousness of its time stability distinction (features 1 and 11) and the presence of in situ focus (feature 16). GhaP is far more similar to its areal cohabiter Akan than to its most similar relative Krio (B3) due to numerous areal correspondences not shared with the other AECs (features 2, 8, 13, 17, 20, 22). If we take Pichi as the baseline, which has no areal relationship with English, areal diffusion to GhaP from its superstrate English is also significant (features 4, 12, 18), albeit far less so than from Akan. The analysis in this section confirms the split between Pichi with its genealogical profile on the one hand, and CamP and GhaP, with their progressively more areal profiles on the other. I interpret these findings qualitatively within their social ecologies in the sixth section.

Social entrenchment and the outcomes of areal contact

In the first section, I proposed the hypothesis that the degree of 'social entrenchment' of an AEC determines how much change it undergoes due to areal diffusion. Table 2 presents socio-structural,

and socio-linguistic factors of social entrenchment. The last line shows an important linguistic outcome for the three AECs in question.

Table 2. Social entrenchment factors and linguistic outcomes.

Factors	Pichi	CamP	GhaP
1 Size of founder population	Small	Small	Somewhat larger
2 L1 or L2 founders	Mostly L1	Mostly L1	Mostly L2
3 Ethnolinguistic vitality	High	High	Low
4 Founders were socio-economic elites	Yes	Initially yes, later no	No
5 Direction of acquisition relative to socio-economic elites	Centrifugal	Centrifugal and centripetal	Centripetal
6 Transfer outcome	Mainly genealogical transmission	Genealogical transmission and areal diffusion	Mainly areal diffusion

CamP: Cameroon Pidgin; GhaP: Ghanaian Pidgin; L1: first language; L2: second language.

Emanating from Freetown, Sierra Leone, a Krio population of a few hundred souls each settled in the British-occupied coastal trading towns of Port Clarence (Malabo) in Bioko, Equatorial Guinea, Duala, and Victoria (Limbe), Cameroon, in the mid-19th century (see Fyfe, 1962, for the historical background; Hancock, 1987, pp. 273–274) (factors 1-2 in Table 2). The Krio communities had a strong group identity and correspondingly high ethnolinguistic vitality (factor 3). Krio broker communities subsequently rose to prominence as artisans, merchants, planters, Christian missionaries, educators, and administrators in the interstices of European colonialism. The Krio language became associated with the economic and symbolic sphere of European colonial power (factor 4). Krio concomitantly percolated from its first language (L1) focus to an ever-growing population of second language (L2) users initially through frontline workers of the colonial economy (plantation workers, artisans, foremen, porters, sailors, dockers, drivers, market women, and traders) and colonial auxiliaries (soldiers, police), then to further sections of the population.

The ‘founder’ position (cf. Mufwene, 1996) of the Krio people and the social entrenchment of their language was so strong that the exponential acquisition of new L2 speakers in the 20th–21st centuries has not altered the copula grammar of Pichi at all, and only partially that of CamP. This despite widespread multilingualism in African adstrates and a considerable lexical anglicization of CamP in the course of the last century or so (Sala & Ngefac, 2006). Neither a corresponding Hispanization (Yakpo, 2018) nor large-scale language shift from Bube to Pichi have had any such effect on Pichi either. One can therefore characterize the expansion of Pichi as a *centrifugal* one, outwards from a numerically small but focused nucleus with a high ‘ethnolinguistic vitality’ (Giles, 1979) to a numerically preponderant socio-economic periphery (factor 5).

In Cameroon, the founder population, however, soon lost its ethnolinguistic vitality and socio-economic pre-eminence. The focus of CamP has today shifted to multilingual non-founder populations in inland urban centers, such as Buea, Kumba, and Bamenda (compare the surveys in Mbangwana, 1983; Schröder, 2003, p. 83ff.). This is why the dynamics of CamP’s expansion may be characterized as centrifugal and *centripetal*. It is this centripetal expansion that is responsible for the greater adstrate imprint in the copula system of CamP than in Pichi.

The dynamics of GhaP are, in turn, entirely centripetal. A pool of L2 speakers numbering several thousand colonial migrant laborers introduced a Krio-descended Proto-GhaP to Ghana from Nigeria in the early 20th century (Huber, 1999, pp. 126–129). Krio-speaking populations

already installed in colonial Ghana at that time did not play as prominent a broker and elite role in the colonial economy as in Equatorial Guinea and Cameroon (Lynn, 1992, p. 424). Only the migrant laborer variety therefore spread to urban workers, the military, and police without the normalizing and focusing influence of Krio elites. In the 1970s, GhaP was adopted by educated adolescents and young adults, hence, members of the socio-economic elites, as a socially restricted urban youth sociolect (see Osei-Tutu, 2014, for a summary of the literature). This Ghanaian Student Pidgin variety is now becoming ‘vernacularized’ (Cheshire et al., 2011; Stell, 2020), thus providing a new focus for contemporary acquirers of GhaP.

The centrifugal and centripetal dynamics of the three AECs are reflected in differing transfer outcomes (see row 6 in Table 2). The centripetal expansion of GhaP has favored copious borrowing from Akan (Osei-Tutu, 2018), typical of ‘emblematic language use’ in multilingual contact settings (Nassenstein & Dimmendaal, 2020). The centrifugal expansion of CamP, followed by a centripetal one, has led to the maintenance of core genealogical features, but areal diffusion from the adstrates and the superstrate English is also evident. In Pichi, the dynamics are entirely centripetal. There is no areal diffusion and the copula system shows an unbroken genealogical continuity with Krio.

In determining the relative importance of the factors listed in Table 2, it is useful to refer to the distinction between I-creoles (innovative idiolects) and E-creoles (accreted I-creole features shared by the speaker population) (DeGraff, 1999). The presence of an early norm-setting population with a high ethnolinguistic vitality (factor 3) and socio-economic capital (factor 4) meant that all too innovative I-creole features of L2 speakers did not enter the E-creole Pichi. Conversely, the absence of such a population in Ghana meant that innovative I-creole features could easily spread to and sediment in the E-creole. CamP represents the middle ground.

Socio-economic stratification (factors 4-5) is therefore a more relevant determinant of social entrenchment than speaker demography (factors 1-2) and group identity (factor 3) (see Yakpo, 2020). Soft social boundaries existed between Krio and resident populations in colonial West Africa (Aranzadi, 2016; Wyse, 1989). Most Krio E-creole features were therefore passed on to the I-creoles of L2 acquirers, irrespective of group size. Predominantly genealogical transmission also obtained in the expansion of other high-contact languages with small and powerful founder populations, yet with somewhat permeable social boundaries (e.g. Hindustani, Dua, 2006; Spanish in the Americas, Sessarego, 2017).

By contrast, social boundaries in the European enslavement colonies of the Caribbean were hard. The demographic preponderance of L1 speakers of African languages during crucial periods and their uses of innovative I-creole features could therefore accrete into a variety (the Creole) with many areal (African substrate) features. Contemporary Krio is therefore typologically more distant from the European lexifier (Krio > English = 0.50 difference) than from its most distant AEC relative GhaP (Krio > GhaP = 0.41 difference).

Given the above, the question arises whether the differences between the three varieties in susceptibility to areal diffusion also reflect the tripartite distinction between Creole (Pichi), Pidgincreole (CamP), and Pidgin (GhaP). In *social* terms, the absence of a L1 community has indeed characterized GhaP since its beginnings. The Early Krio/Proto-CamP L1 community was also quickly submerged by L2 speakers before regaining L1 speakers anew in the recent past.

However, we have no clear *structural* evidence for the distinction, at least not in the copula system. The reduction of form inventories is commonly adduced as evidence for Pidgin status (Bakker, 2008, pp. 37–38). At first glance, the GhaP copula system indeed looks leaner than that of Pichi and CamP (Figure 5). However, the absence of the Krio/Pichi forms *nà/nótò* (Figure 5) in GhaP mirrors the absence of an equivalent $+T+F+A$ versus $+T+F-A$ distinction in its adstrate Akan (Figure 1). Likewise, the distinction in Akan between *yè* ‘COP’ ($+T+F$, functions 1 and 2) and

yé ‘make’ (+T-F, functions 3 and 4) is achieved via the lexical specialization of two aspectual forms of the same etymon, which is only marked suprasegmentally. The distinction is accordingly fuzzy in GhaP and reflected in the partly overlapping distribution of *bì* ‘COP,’ *bí* ‘COP.NFACT,’ and *mék* ‘make.’

Regular ‘feature selection’ (Aboh, 2015; Mufwene, 1994) through contact with English rather than pidginization-specific reduction is the source of further contraction in GhaP with respect to the Krio base system. Uses of *bì/bí* as generic nominal copulas in +T+F and +T-F clauses alike are partially calqued on the functions of the semantically generic English homonym *be* (e.g. (30) versus (31)).

Detailed studies of additional functional domains are necessary in order to test the validity of the distinction between Creole, Pidgincreole, and Pidgin. Pending this, it is useful to employ the umbrella term ‘(English-lexifier) contact languages,’ as I do in this study.

Concluding remarks

A qualitative and quantitative analysis of the copula systems of the AECs Pichi, CamP, and GhaP shows genealogical continuities with Krio in the order Pichi > CamP > GhaP. Conversely, the three languages show areal correspondences with their respective adstrates and superstrates in the reverse order, GhaP > CamP > Pichi. The AECs have served as a prism for uncovering areal tendencies in the expression of BEING and this study has shone a spotlight on some of the social factors underlying the outcomes of multilingual language contact. I have shown that, besides innovation, areal borrowing can lead to rather significant departures from genealogically inherited structures within a short time if social entrenchment is shallow, as in GhaP (pace Blasi et al., 2017). Conversely, languages can remain remarkably stable if social entrenchment is deep, even when they primarily serve as languages of wider communication, as in the case of Pichi.

The findings of this study also underline the limited heuristic value of ‘creole exceptionalism’ (see DeGraff, 2003, for a summary of the debate). If we had no sociohistorical nor lexical evidence of the genealogical relationship of GhaP and CamP with Krio and English, their copula systems would provide little if any indication of the extraneous origins and lingua franca functions of these languages. On the backdrop of such areal dynamics, the very notion of ‘contact language’ becomes elusive.

Abbreviations

- = morpheme boundary;
 . = separates different meanings of the same morpheme;
 : = separates meanings of a segmental and suprasegmental morpheme;
 1/2/3 = 1st/ 2nd/3rd person;
 ó = high tone;
 ò = low tone;
 A = affirmative;
 AEC = African English-lexifier contact language(s);
 CAMP = Cameroon Pidgin;
 COMPL = completive aspect;
 COP = nominal copula;
 DEF = definite article;
 F = factative TAM;
 FOC = focus (marker);
 FUT = future tense;
 GHAP = Ghanaian Pidgin;
 INAN = inanimate;
 INDF = indefinite article;
 INDP = independent/emphatic personal pronoun;
 INTJ = interjection;
 LNK = possessive linker;
 LOC = locative (preposition);
 NAME = personal name;
 NEG = negative;
 NFACT = non-factative;
 PFV = perfective aspect ;
 PL = plural number;
 PLACE = place name;
 POSS = possessive case;
 POT = potential mood;
 PREP = general associative preposition;
 PRF = perfect aspect;
 PRS = present tense;
 PST = past tense;
 REP = repetition;
 SBJ = subject case;
 SBJV = subjunctive complementizer;
 SG = singular number;
 SP = (pragmatic) sentence particle;
 SUB = subordinator;
 T = time stable;
 THEN = non-present tense marker.

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Appendix 1. Dissimilarity matrix with features.

No	Feature	Krio	Pichi	CamP	GhaP	Akan	Mokpe	Bube	English	Spanish
1	-T	1	1	0	1	0	0	0	0	1
2	\pm F	0	0	0	1	1	0	0	0	0
3	-F	0	0	0	0	0	1	1	0	0
4	\pm A	1	1	1	0	1	1	1	0	0
5	+F \pm A	0	0	0	0	0	1	1	0	0
6	+T-F	1	1	1	1	1	0	0	0	0
7	-T-F	0	0	0	0	1	0	0	0	0
8	+T+F+A	1	1	1	0	0	0	0	0	0
9	+T+F-A	1	1	0	0	0	0	0	0	0
10	-T+F \pm A	0	0	0	0	1	0	0	0	0
11	Categorical \pm T split	1	1	0	1	1	0	0	0	1
12	Categorical \pm F split	0	1	0	0	1	1	1	0	0
13	NPRS particle for COP	0	0	0	1	1	0	0	0	0
14	PERSON/NUMBER suppletion	0	0	0	0	0	0	0	1	1
15	COP affixal suppletion	0	0	0	0	0	0	0	1	1
16	FOC in situ	0	0	1	0	0	1	1	0	0
17	+FOC = COP +T+F+A	1	1	1	0	0	0	0	0	0
18	-FOC = COP +T+F-A	1	1	0	0	0	0	0	0	0
19	Existential = COP.LOC	1	1	1	1	1	0	0	0	0
20	<i>make</i> = COP	0	0	0	1	1	0	1	0	0
21	<i>come/go</i> = COP	0	0	0	0	1	0	0	0	0
22	<i>eat</i> = exercise a function	0	0	0	1	1	0	0	0	0

Appendix 2. Distance matrix.

	Krio	Pichi	CamP	GhaP	Akan	Mokpe	Bube	English	Spanish
Krio	0.0000	0.0455	0.2273	0.4091	0.5909	0.5455	0.5909	0.5000	0.4091
Pichi	0.0455	0.0000	0.2727	0.4545	0.5455	0.5000	0.5455	0.5455	0.4545
CamP	0.2273	0.2727	0.0000	0.4545	0.5455	0.3182	0.3636	0.3636	0.4545
GhaP	0.4091	0.4545	0.4545	0.0000	0.2727	0.5909	0.5455	0.4545	0.3636
Akan	0.5909	0.5455	0.5455	0.2727	0.0000	0.5909	0.5455	0.6364	0.6364
Mokpe	0.5455	0.5000	0.3182	0.5909	0.5909	0.0000	0.0455	0.3182	0.4091
Bube	0.5909	0.5455	0.3636	0.5455	0.5455	0.0455	0.0000	0.3636	0.4545
English	0.5000	0.5455	0.3636	0.4545	0.6364	0.3182	0.3636	0.0000	0.0909
Spanish	0.4091	0.4545	0.4545	0.3636	0.6364	0.4091	0.4545	0.0909	0.0000