

Orthography, globalisation and IT: A proposal for Ibibio text technology

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Abstract

Language, being dynamic, changes over a period of time; such changes are not necessarily conscious and planned. But the orthography of a language is notoriously static and does not change in keeping with phonological language change: speech is transient, and a function of time, while writing, as a storage strategy, is space-bound. In consequence, orthographies are often obsolete in comparison with the spoken form of language, unless deliberate revisions are made for educational, political or economic reasons.

In this paper, we look at the often startling changes brought about by the Information and Communication Technologies and the need for a more pliant approach to orthography in order to cope with the changing times.

1.0 The Typology of Orthographies

Language development is an important issue that is of major interest and concern to linguists, educationists and planners. This is more particularly acute in Nigeria, where many of the indigenous languages do not qualify to be considered developed by standard language developmental indices. It is therefore neither a surprise nor a coincidence that the theme of this symposium is “Developing Nigerian languages in the 21st century”. It is within this context that we discuss the issue of orthography, a crucial tool in language development, and how it can be better harnessed for better language development in the 21st century, especially for Nigerian languages.

Human language is primarily used in speech form but over the years humans have attempted to find more enduring devices to communicate and transmit and share information to and with others, ultimately giving birth to the early forms of writing/inscriptions. Sampson (1985) discusses the typology of a wide range of orthographies and proto-orthographies. Modifying his definitions slightly for brevity, we distinguish the following main types:

Semasiographic: writing systems in which a near one-to-one relation, often iconic, holds between meaning and symbol (cf. road signs, icons in computer graphical user interfaces, Arabic numbers).

Glottographic: writing systems in which a near one-to-one relation between type of linguistic unit and symbol (typically, standard orthographies of all kinds).

Glottographic writing systems fall into two main classes, according to the *double articulation* principle of language:

Logographic: meaning-bearing units, either *polymorphemic* (word) or *monomorphemic*; (cf. Chinese orthography).

Phonographic: meaning-distinguishing units, either *syllabic* (cf. Linear B, Japanese), *segmental* (cf. Latin, Greek, Cyrillic), or *featural* (cf. Korean Hangul).

Orthographies as we know them are glottographic, and probably the majority of orthographies currently in use are phonographic. It could be argued that there are intrinsic connections between orthographic type and language type. For instance, languages like English with complex syllable structures (at least CCCVVCC, as in *strives* /straivz/) and therefore potentially large syllable inventories may be best served with a segmental phonographic orthography. Languages with CV or CCV syllable structures, such as Italian, Japanese, and as many of the Kwa languages, and therefore potentially quite small syllable inventories, may be best served in principle by a segmental syllabic orthography. Ibibio has a syllable structure of intermediate complexity.

1.1 Contextual Constraints on Orthographies

Sociolinguistic issues of language contact and intercultural influence have led to a situation where orthography and language typology are relatively independent, sometimes with different orthographies being used for what is practically the same language (e.g. Urdu and Hindi, or Serbian and Croatian, or the multiple orthographic systems of Japanese). The same applies to language change, in which pronunciation can change relatively rapidly, but institutionalised codes such as orthography remain more or less static (e.g. English, with its notorious *bough*, *cough*, *through*, *though* alternations, or French *eaux* /o/ 'waters'). We will call this set of conditions on orthography its *Historical Constraint* system.

A second important principle in orthographic typology we will call the *Media Constraint* system of an orthography. The earliest known forms of visual communication are found rock paintings; later, clay tablets with semasiographic inscriptions were used for record-keeping and archiving, later developing into logographic and, with the need for representing meaningless proper names, into phonographic systems. The Media Constraint is still valid: with the advent of printing, forms of writing were modified, simplified, stylised and standardised, and with the advent of the speech and text technologies further constraints led to simplifications such as the 128 ASCII codes for the 26 core Latin letters, numbers, some punctuation marks and a number of typewriter layout codes. Recent years have seen the advent of the Unicode initiative, with the goal of encoding all the existing writing systems of the world; most modern software (as of 2004) is Unicode based, but from the point of view of a language like Ibibio the practicality of Unicode is limited to high-tech printing applications in the professional IT domain, while more everyday "typewriter-like" applications pose different media constraints.

Linguists have traditionally seen spoken language as phylogenetically, ontogenetically and semiotically primary. Bearing in mind both the Historical Constraint and the Media Constraint, this view has considerable justification. But sometimes the idea of the supremacy of spoken language over the written medium has been overdone. We consider it uncontroversial that written language arose with the development of hierarchically complex social organisation and division of labour in towns, cities and government hierarchies, and that complex social and religious organisations of these kinds are inconceivable without a highly developed orthography. Consequently, in these contexts each orthography has a primacy which we refer to as its *Functional Constraint* system (cf. also Crystal 1993).

We put forward the thesis that in the global information and communication society, when it comes to developing new orthographies the Historical Constraint, Media Constraint and Functional Constraint systems combine to push orthography in the direction of a single, relatively homogeneous type of writing system of the *segmental phonographic glottographic* type. We do not advocate this, as it may easily lead to the undervaluing of a culturally significant heritage in the case of established orthographies. But we describe it.

1.2 Linguistic Properties of Orthographies

In order to understand orthography we regard it as a semiotic system in its own right, and advocate a triadic view of the sign, related to the views of Peierce and Jespersen, as opposed to the classic Saussurean dyadic view. In the triadic model, a sign has three components:

1. *meaning* - in the case of orthography the unit of language, such as the morpheme or phoneme which a unit of writing represents, e.g. in English /p/ as the meaning of *p*, with semantic notions such as ambiguity associated with units like *c* - cf. *chic*, *chicken*, *can*, *cell*.
2. *structure* - the 'grammar' of writing, such as the combination of *characters* (elements of an *alphabet*) into *graphemes*;, e.g. in English *ck*, as well as its synonyms *c* and *k*, each of which is dependent on its immediate context, including discontinuous graphemes such as *a-e* vs. *a* as in 'mate' vs. 'mat'. Note that in the context of the semiotics of orthography characters are to graphemes roughly what phonemes are to morphemes, in that they have a distinctive rather than meaning-bearing function (where 'meaning' in the context of orthography means some linguistic unit, as already introduced). Of course, in the larger context of language, segmental phonographic graphemes themselves have a phoneme-like distinctive function.
3. *realisation* - the 'graphology', 'graphemics' or 'orthographies' of writing, i.e. the representation of characters by *glyphs* of different shapes and properties, such as upper and lower case, italic and roman, printed or handwritten, in different horizontal or vertical orderings.

Each writing system is characterised in these terms by its own specific *Semiotic Constraint* system. Thus, English and American orthographies use the same alphabet, but have somewhat different meanings (i.e. pronunciation), different structure (cf. *armor*, *armour*) but in general the same realisation as glyphs.

1.3 The Use of Orthographies

Orthography is an institutionalised formal system of visual representation for utterances of a language, comprising the alphabet plus other spelling rules and conventions which were systematically introduced above. Williamson (1984:7) identifies five Principles of a good orthography which in our interpretation spell out various basic constraints. The Principles are:

1. *Accuracy* (in relation to the Semiotic Constraint system, particularly the meaning),
2. *Consistency* (in relation to the Semiotic Constraint system, particularly the structure),
3. *Convenience* (in relation to the Semiotic Constraint system, particularly the realisation, also bearing in mind the Media Constraint and the Functional Constraint systems),
4. *Harmonisation* (in relation to the Historical and Functional Constraint systems) and
5. *Familiarity* (in relation to the Historical Constraint and cultural heritage).

Given the variability of human language, it is not always possible to find a standard orthography with all these criteria harnessed effectively. There is often the necessity for some balancing acts to take care of certain language specific or general constraints, with the result that some principles are given less consideration than others. An orthography may be *over-constrained* in terms of its constraint systems, in the sense that it becomes ineffective in meeting contemporary or current writing needs of the language.

The most obvious form of over-constraint is when pronunciation, and thus the meaning of an orthography, changes drastically, and consequently a call for orthographic reform is heard, competing with calls for retaining orthography as part of cultural heritage, pointing out that a generation or two later it will become difficult or impossible to read older literature. Two well-known cases in the 20th century were the orthographic reforms of Dutch and German, each of which was predictably accompanied by massive controversy. In general, 'reform' means 'phonemicisation', i.e. the attempt to establish a one-to-one semantics for graphemes, and a reduction in the size of the grapheme inventory and the alphabet of characters.

English orthography is notoriously over-constrained; witness G.B. Shaw's mockery of English spelling with the word 'ghoti', which he claimed yielded 'fish', provided orthographic structural context is ignored - 'gh' as the /f/ in 'cough', 'o' as the /ɪ/ in 'women', 'ti' as the /ʃ/ in 'nation'! But attempts to reform, i.e. phonemicise, English orthography have failed, mainly on the grounds of Williamson's Harmonisation Principle: the meanings of English graphemes are, in many cases, *morphophonemes* rather than *phonemes* (cf. the orthographic plural *s*) and often correspond to states of the language which are shared by divergent modern varieties which differ considerably in their phonemic systems. Consequently, a phonemicisation of the orthography would inevitably benefit one variety at the expense of others, leading to a rejection of attempts at reform.

2.0 Globalisation

The concept of globalisation has been introduced to cover the post-colonial spread of political, industrial, economic and military standardisation throughout the world. Globalisation has brought with it new challenges in all spheres of human life and endeavour, both in the positive sense of improving the material state of communities and in the negative senses of loss of traditional heritage and polarisation of the distribution of wealth. Globalisation is closely linked with concepts such as Information Technology, the Information Society, the Knowledge Society, and the Information Technology Age. As a consequence, it has become increasingly necessary to create or modify new or old products to be compliant with new global specifications, such that they should be easily accessible to other members of the global village. Products, as we use the term here, are not restricted to factory-manufactured goods, but extend to include intellectual and cultural products, such as languages, language tools, and services. For this to be viable, such products must have some element of uniformity that will make them easily interchangeable or readable by other global citizens. Products need to conform to standards that are globally defined for easy processing and uniform assessment and evaluation. This will ease storage, access and retrieval procedures.

Fortunately for traditional heritage there are counter-tendencies. Superficially, one counter-tendency is *localisation*, i.e. the adaptation of products to local and regional requirements, motivated by local and regional market forces. At another level, there are strong

movements which aim to document local languages and cultures before they are overrun by global languages and cultures. These counter-tendencies are but a drop in the ocean in regard to the diversity of human languages and cultures, however, and are often regarded as barriers to a just distribution of resources and wealth, and indeed to human equality itself. Again, we are not advocating globalisation as such, but describing it.

2.1 Orthographic Globalisation

The 20th century has seen an enormous increase in the number of languages for which orthographies have been developed. These orthographies have become a double-edged sword, mainly because they have introduced an explicit *Linguistic Constraint* system in place of the functional constraint systems which we have already characterised. The Linguistic Constraint system has often led to so-called 'colonial missionary orthographies', which were not developed by the owners and have the following properties:

1. Based on the phonographic principle of *segmental* representation without regard for the typology of the language.
2. Based on the segmental principle of *phonemic* meanings for graphemes without regard for the utility of *morphophonemic* meanings for graphemes.
3. Based on a very local notion of *language* without regard to historical similarity or mutual intelligibility.
4. Based on the adoption of characters and diacritics from the *International Phonetic Alphabet* (IPA) without regard for convenience of use in handwriting, typewriting or word processing.
5. Based on the principle of *unambiguous* representation, including relatively full representation of lexical and grammatical tone, without regard for the relatively unproblematic existence, and possible advantages, of ambiguity in traditional orthographies.

These principles have led to an increase in cross-linguistic efficiency of orthography development, particularly in regard to economical alphabetic coding, but have had indisputable negative side-effects such as the creation of artificial barriers between rather similar dialects. Often these differences are compounded by different colonial traditions. Compare the French and English influenced orthographies of 'Moussa' and 'Musa'; 'Kouadio' and 'Kwajo' or 'Kojo' for well-known Kwa names, 'Agni' and 'Anyi' for a well-known Kwa language, 'Dioula' and 'Jula' for a well-known Mande language. The use of non-roman IPA glyphs has led to a grossly over-constrained situation for many languages in terms of the Media Constraint system, in that rather high-tech equipment (or handwriting) is required for producing them, while the practicalities of the situation do not generally permit this.

Once again, we do not pass judgment or maintain that there are mainly disadvantages or advantages; we describe. In practical contexts, inevitably compromises are necessary.

3.0 Information Technology

Digital processing and distribution of information via the use and manipulation of computers, electronics and telecommunication is known as Information Technology, sometimes Information and Communication Technology, popularly known as IT or ICT, whose Media Constraint system developed along the following scale:

1. **morse telegraphy** (a relatively straightforward digital encoding of a given alphabet and punctuation, but with no formatting),
2. **teletype** (a numerical encoding of upper or lower case letters and a few punctuation and formatting codes, with standard typewriter glyph and function realisations),
3. **computer terminals** (e.g. so-called VT100 terminals, with 128 ASCII - later 256 extended ASCII - codes for Latin alphabetic, numeric, punctuation and formatting codes with standard typewriter-oriented glyph and function realisations),
4. **modern word processing systems** with potentially unlimited substitutable code pages and fonts (with well-known drawbacks of fonts being frequent unavailability and yielding strange characters on screen and paper),
5. **the universal Unicode character definition system** (intended to overcome the drawbacks of earlier code page and font combinations).

As a result of the advances made in IT, it has become increasingly necessary and mandatory for language tools, such as orthographies, storage and archival systems, to exist in forms that can position languages to fully tap into the benefits of IT, especially in resource sharing, language planning and the various aspects of language development, including documentation, description, dictionary-making, orthography development, speech synthesis, etc. (Gibbon, Ahoua, Urua, Gbery, Ekpenyong 2004). Neglecting this process can lead to a language being doubly disadvantaged in this IT and globalisation age, in that it can tap neither into the benefits of globalisation nor conserve its heritage.

4.0 The Ibibio Language Orthography

The Ibibio language orthography (Essien 1983 ed.) approved for use in schools in 1985, was the first Nigerian language orthography produced solely by the language owners. There are many positive features of this orthography. First and foremost, it adhered closely to some of the Principles set out in Williamson (1984). The Principles of Accuracy and Consistency are cases in point, where symbols are expected to agree with the sound system of the language and the same symbol used for the same sound everywhere the sound occurs. The result is an orthography that is more or less phonemic, which has the advantage of making reading Ibibio easy to people to whom Ibibio is their mother tongue. The Essien orthographic system is shown in Appendix 1 (cf. Essien 1983 ed.:7-8).

However, as we pointed out earlier, it is often difficult to balance the equation perfectly, given other competing constraints in orthography development, and compromises are inevitable. Because the very important Principles of Accuracy and Consistency were adhered to very strictly with respect to the phonemic segmental phonographic type of orthography, there is a clash with the other Principles, specifically those of Familiarity and Convenience. Recall that in the Ibibio-speaking part of Nigeria, Akwa Ibom State, people were already familiar with the Efik language orthography because that was the ‘unofficial’ lingua franca for these parts for various historical reasons. In view of the similarity of Efik and Ibibio, and their joint classification as Ibibiod (Essien 1990), a different, integrative strategy based on the Historical Constraint system and morphophonemic orthography semantics might have been considered. Related issues in connection with the transcription of English with IPA symbols have been discussed from time to time (cf. Windsor Lewis 2003). Some of the Ibibio vowel symbols, namely <ɒ> and <ə> in words such as **fák** ‘cover’ and **nók** ‘push’ are rather exotic in relation to familiar orthographies,

and are still unfamiliar and inconvenient to use in an IT context (or even with typewriters), with the result that even the teachers who are expected to teach the new orthography to learners have difficulty in using the symbols and consequently in teaching them. One could turn the argument on its head and argue that the problem of unfamiliarity can be resolved when people simply learn to use it and thereby become familiar with it. The truth is that twenty years after the publication of the standard for Ibibio language orthography, teachers and speakers are still unfamiliar with these vowel symbols, and the writing of Ibibio is made more difficult than it need be.

There are several difficulties with the phonetic symbols <Λ> and <ə>, some of which are representational:

1. The problem of representing these symbols with either an ordinary typewriter or modern computer. The characters are not found in regular typewriters or computers, for that matter, though of course recently more high-tech systems can represent such characters. Special type characters have to be used and in the case of computers, special proprietary fonts are needed (SIL IPA, etc.).
2. A related problem with the two letters is their capitalisation. It is not easy to just routinely capitalise them like the other letters of the Ibibio alphabet, a different type of symbols have to be looked for, particularly for the schwa. It is probably easier to invert the capital letters for E and V in printing and in hand written documents but in typing, whether with a manual typewriter or with a computer, a different set of keys or characters are again required. Even with the use of special fonts, one needs to resort to increasing the size of the special fonts to capitalise the <Λ>. The world has changed to a situation where word-processed documents are the norm rather than the exception.
3. Tone marking in texts is another area that could be problematic. Fortunately, although the Ibibio orthography identifies tones and suggests how they should be marked, the developers go on say that "... panel was however, of the view that in ordinary prose writings, tones need not be indicated." In some developing IT contexts, such as the use of text-to-speech (TTS) systems for public announcements and telephone information systems, tone needs to be re-constructed from a computational dictionary and a computational grammar, however. This is of course a different Media Constraint from the use of orthography for reading rather than TTS.

Modern day orthographic problems must take into account critical global issues, such as IT. More importantly, orthographies must be designed to be computationally friendly in order to make the development of such languages in keeping with modern day language development facilities. The Ibibio language orthography needs to be revised in line with modern IT requirements, in three respects:

1. It needs to be made easier to use for human users by taking the practical local Functional Constraint system into account.
2. It needs to be made more accessible for simple computational applications which can be readily developed by computational linguists without special training in font processing.
3. It needs to be automatically convertible into traditional Ibibio orthography, if required, and vice versa, in order to avoid the 'heritage loss' counter-argument noted above, and to acknowledge the Familiarity Principle.

Accordingly, we make the following proposals for a computationally friendly Ibibio language orthography which will meet these three requirements. This will position the Ibibio language to fully tap into the benefits of the IT age.

4.1 Computer-friendly orthography for Ibibio

In developing IT applications, a language needs to be represented in such a way as to permit automatised analysis of many types of analysis which are traditionally performed by linguists. This includes a variety of corpus linguistic techniques (Butler 1992; McEnery & Wilson 1997) such as distributional corpus linguistic analysis of phonotactics, morphology, syntax. This includes the analysis of collocations as they actually occur in real texts, as opposed to what our personal and very complex 'feeling for a language' tells us. For a tone language, this includes the distribution of tones in relation to words (for lexical tone) and in relation to parts of speech (POS), word formation patterns and syntactic constructions (for grammatical tone). The most commonly used methodologies in computational linguistics are the use of so-called 'scripting languages' such as *awk* or *Perl* which are optimised for handling ASCII representations of texts. Advanced coding systems such as Unicode may of course also be given their arcane and non-human-readable ASCII representations, and also processed by these scripting languages, but human readable 'plain text' or 'typewriter' ASCII is what is meant here. Again, we describe, not judge: Unicode is the method of the future, and will replace present considerations, but only if and when every village is equipped with cheap high-tech word IT systems - but this is not exactly just around the corner.

The main consideration at the present stage of development of IT in Nigeria is to replace the troublesome 'exotic' characters adequately by readily available 'typewriter characters'. For this there are several techniques for defining graphemes on the basis of character combinations:

1. Double characters.
2. Sequential (not superimposed) diacritics.
3. Punctuation marks.

This principle has been used frequently in devising normalised computer-friendly orthographies for speech technology applications in a number of languages. For instance, in the VerbMobil project in the 1990s, the punctuation-mark+character sequence *"a* was used for the non-ASCII character *ä*, the Umlaut or diaeresis diacritic, following conventions already introduced for the LaTeX mathematical typesetting language. For publication, as opposed to computer processing, the sequence *"a* is converted automatically to *ä*. This usage is dying out in Germany because of the 256 character Latin-1 extended ASCII convention, which includes characters like this, and the increasing use of high-tech word processors which use Unicode.

A technique which could be adopted for Ibibio is the use of a sign such as *"=* as a serialised diacritic; this could be economically used, without ambiguity, for nasals, centralised vowels, wedge and schwa, and by using serialised (not superimposed) accent marks for tones:

1. palatal and velar nasals (ny-, ng)
2. double characters for centralised vowels, wedge and schwa:
 - i=
 - o=
 - u=
 - a=
 - e=
3. serialised accent marks for tones, e.g. for TTS applications:
 - 'e (high)
 - `e (low)
 - !e (downstep, a common convention in phonology)
 - ' (rise)
 - ' (fall)

This convention has the advantage of easily permitting upper and lower case if required, for example if more or less standard (but by no means universal) European conventions of capitalising proper names and the beginnings of sentences are to be adopted.

The following short text in two orthographies shows the minimal difference between the Essien orthography and the computer-friendly orthography:

Excerpt taken from Essien 1983 ed. Orthography (pp. 7-8) without tones

Ado anam Ibibio ikiniehe mfina edidioṅo iko Abasi mbakara ekadatta edi ke ukañ ammō, koro ukpəho ikinekkeke iba ke ekikere naña Abasi aba ke usāñ Abasi Ibibio mme ake mbakara.

Computer Friendly Orthography without tones

Ado anam Ibibio ikiniehe mfi=na edidio=ngo= iko= Abasi mbakara ekadatta edi ke Ukang ammo=, koro ukpe=ho ikinekkeke iba ke ekikere nanga Abasi aba ke usa=ng Abasi Ibibio mme ake mbakara.

Computer Friendly Orthography with tones

‘Ad`o ‘an‘am `Ib`ib`io ‘ik‘in!ieh‘e ‘mf‘i=n‘a `ed‘id‘io=ng‘o= ‘ik‘`o= `Ab`as`i `mb`ak`ar`a
 ‘ek‘ed!att‘a ‘ed‘i k‘e ‘Uk`ang= `amm‘`o=, k‘or`o `ukpe=h`o ‘ik‘in`ekk‘ek‘e ‘ib‘a k‘e ‘ek‘ik‘er‘e
 n‘ang‘a `Ab`as`i ‘ab‘a k‘e ‘usa=ng ‘Ab`as`i ‘Ib`ib`io `mm`e ‘ak`e `mb`ak`ar`a.

We are working on both a lexical database and a TTS system for Ibibio, for which this dual function orthography - both human and machine readable - is being used in two cooperative research projects, *Abidjan-Bielefeld-Uyo Introduction to Language Documentation (ABUILD)*, funded by the German Academic Exchange Service (DAAD), and *Local Language Speech Technology Initiative (LLSTI)*, funded by Open Echo Ltd., UK. For publication purposes, the

modified orthography will be automatically converted, where required, into the traditional orthography.

5.0 Conclusion

We have contextualised our discussion of Ibibio orthography within a general model of constraints on orthographies in general and principles for the use of orthography. We argued for consideration of the Media Constraint within the context of practical IT in the Ibibio-speaking area of Nigeria, and proposed minor modifications to the established orthography pioneered by Essien and currently used in Ibibio writing in order to facilitate practical computational linguistic and text technological work on Ibibio. We claim that these principles can be applied with considerable advantage to IT development for other Nigerian languages.

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Appendix 1: Orthographic representation of the Ibibio Alphabet (Essien 1983 ed.:7-8)

SOUNDS	WORDS IN WHICH THEY APPEAR	IN SMALL LETTERS	IN CAPITAL LETTERS	PHONEMIC REPRESENTATION
a	ákpán : ‘first son’	ákpán	AKPÁN	/ákpán/
ʌ	b̀l̀k : ‘tell a story’	b̀l̀k	B̀L̀K	/b̀l̀k/
b	b̀àk : ‘be early’	b̀àk	BAK	/b̀àk/
d	dí : ‘come’	dí	DI	/dí /
e	èbé : ‘husband’	èbé	EBE	/èbé/
f	fát : ‘embrace’	fát	FAT	/fát/
ɣ	tíyá : ‘kick’	tíghá	TIGHA	/tíyá/
x	fèxé : ‘run’	fèhé	FEHE	/fèxé/
i	àmì : ‘I’	àmì	AMI	/àmì/
ɪ	bít : ‘spread a mat’	bít	BỊT	/bít/
k	kó : ‘yonder’	kó	KO	/kó/
kp	kpé : ‘pay’	kpé	KPE	/kpé/
m	má : ‘like/love’	má	MÁ	/má/
n	nám : ‘do something’	nám	NÁM	/nám/
ŋ	íkpaŋ : ‘spoon’	íkpaŋ	IKPĀŊ	/íkpaŋ/
ŋw	ŋwàm : ‘help’	ŋwàm	NWAM	/ŋwàm/
ɲ	ɲàm : ‘sell’	ɲàm	NYAM	/ɲàm/
o	bót : ‘create’	bót	BOT	/bót/
ɔ	bók : ‘make soup’	bók	BOK	/bók/
ə	nók : ‘push’	nók	N`K	/nók/
p	míbòppó : ‘a maiden’	míbòppó	MBOPPO	/míbòppó/
r	brě : ‘play’	brě	BRE	/brě/
s	sé : ‘look at’	sé	SE	/sé/
t	tó : ‘throw at’	tó	TŌ	/tó/
u	òtù : ‘jar’	òtù	OTU	/òtù/
ʉ	èkpú : ‘rat’	èkpú	EKPỤ	/èkpú/
w	wèt : ‘write’	wèt	WET	/wèt/
y	yét : ‘wash’	yét	YET	/yét/
ai	dáiyá : ‘sleep’	dáiyá	DAIYA	/dáiyá/
ei	kpéiyé: ‘beg’	kpéiyé	KPEIYE	/kpéiyé/
oi	kói : ‘draw water’	kói	KOI	/kói/
ɔi	m̀d̀iyó : ‘be rich	m̀d̀iyó	M̀Q̣̣IYQ̣̣	/m̀d̀iyó/
ui	f̀ùiyó ‘be lazy’	f̀ùiyó	F̀Ụ̣IYQ̣̣	/f̀ùiyó/

Appendix 11: Text in the Ibibio Orthography (Essien 1983 ed.:10)

Ibibio enie uwak ndem. UsΔk ndem emi ekere Anantia Ibiq̄nq̄, Anyaañ Ns̄it, Awa Itam, Etefia Ik̄onq̄, Itauma Eket, Ukana Q̄ffq̄t, Afia Etoi, Atakq̄ Uruan, Akpasima Ibesikpo, Itina Iman, Abaam Itak, Udo Oku, Ebom Ukpom. AkpesΔk odo nte Ibibio eniehe nsio-nsio ndem emi, ammq̄ ediq̄nq̄ ke Abasi akponno akan aba. Ammq̄ ekood Abasi adaado Abasi Ibom. Ado anam Ibibio ikiniehe mf̄ina edidiq̄nq̄ ik̄q̄ Abasi mbakara ekadatta edi ke ukañ ammq̄, koro ukp̄əho ikinekkeke iba ke ekikere naña Abasi aba ke usΔñ Abasi Ibibio mme ake mbakara.