

From Approximant to Fricative: A French Substitution (Im)Possibility of Evbuomwan's Edo Hypothesis

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Abstract

This is a French investigation into Evbuomwan's Edo stance on the transition from the approximant /j/ to the fricative /ʒ/ by Edo Native Speakers (ENSs) in their Edo speech tokens. This research was therefore, initiated to ascertain if this transition extends to other languages, using French as a language of choice. The data for the study were elicited from Edo French Speakers (EFSs) in the Nigeria French Language Village (NFLV), Badagry, Lagos. The theoretical framework was hinged on Chomsky & Halle's Generative Phonology (GP), coupled with Distinctive Features, and explored both quantitative and qualitative analyses. It was discovered that the informants correctly realised the French speech tokens in both the initial and medial positions, but an insignificant 0.5% fricatisation in the final word position was observed, giving a theoretical explanation that an approximant that is [+son] was realised as a fricative that is [-son] in a vocalic environment that is [+son]. The paper thus, concluded that this transition/substitution is infeasible in French, as any attempt could jeopardise meaning in French, unlike in Edo.

Keywords: Approximant, Fricative, Substitution, French, Second-Language Phonology, Edo.

Introduction

Evbuomwan (2016) examined an aspect of the Edo speech system concerned with the occurrence of the voiced palatal fricative [ʒ] in place of the voiced palatal approximant /j/. He examined the phenomenon from the articulatory point of view by deploying established Distinctive Features in the analysis, claiming the English voiced palatal fricative is not an attested phoneme in Edo language. In French, the two phonemes are both accounted for. The data for Evbuomwan's study comprised fifty lexical items in Edo where the palatal approximant is observed to have been realised as the voiced palatal fricative. He gathered the items over a long period of time from Edo Native Speakers in several settings in which Edo is freely used in communication, most of which were however, not necessarily academic. The collected items were later articulated into a digital voice recorder by five Edo native speakers. Two of these informants, which formed Group A, were between the ages of twenty to forty years while the others, which formed Group B were above fifty years. While the informants in Group A produced 39 (78%) of the items realizing /j/ as [ʒ], 28 (56%) of the items were produced with such realisation by informants in Group B. Lastly, the collected items were realised by a Research Assistant (a linguist and Edo native speaker)

who realised all instances of /j/ as [ʒ] intentionally, as a control test. When these controlled recordings were played to the hearings of the informants, each of them recognised above 40 (80%) of the items as Edo words, less than 5 (10%) of the items were rejected as unacceptable forms while the others were only partially accepted. Some of the speech forms in which the palatal approximant /j/ was realised as a fricative are shown below:

- | | | | |
|--------------|---------------|---|-----------|
| 1. /ije/ | 'mother' | → | [iʒe] |
| 2. /oja/ | 'insult' | → | [oʒa] |
| 3. /ejε/ | 'gandchild' | → | [eʒε] |
| 4. /ija/ | 'moat' | → | [iʒa] |
| 5. /ijare/ | 'safety' | → | [iʒare] |
| 6. /ekuʒε/ | 'spoon' | → | [ekuʒε] |
| 7. /ijeke/ | 'back' | → | [iʒeke] |
| 8. /akijeʒε/ | 'jest' | → | [akiʒεʒε] |
| 9. /ijeʒa/ | 'two hundred' | → | [iʒeva] |
| 10. /uji/ | 'respect' | → | [uʒi] |

Evbuomwan (ibid) opined that these occurrences represent a trend in Edo phonology, as observed in the speech tokens of Edo speakers in different age groups. Does this trend however, extend to other languages such as English, French, Yoruba, Dutch etc. with similar approximant?

This paper addresses the possibility or impossibility of the transition from approximant to fricative, using Edo speakers of French to make this come to light. It is not unusual for substitution to occur in languages by speakers of those languages but when such substitution comes on a large scale, it becomes a thing of concern that consequently, calls for research. Evbuomwan's work comes as an eye-opener to this phenomenon while others, such as this current research, follow.

Statement of the Problem

The Edo phonology is gradually losing or altering its approximant /j/ to the fricative [ʒ] which is unattested for in the Edo consonant inventory (Evbuomwan, 2016; Omege, 2022). Given that it is established that Edo Native Speakers prefer the voiced palatal fricative to the palatal approximant as revealed in the introduction via Evbuomwan's methodology, one thus, imagines or wonders if this trend may also occur in other languages having the phoneme /j/. This research is therefore, initiated all in a bid to investigate the trend in order to ascertain the level of conformity with Evbuomwan's hypothesis, using French as the language of choice.

Research Questions

This research seeks to answer the questions below:

1. What prompted the recurrent feature change from approximant to fricative of the speech tokens of Edo Native Speakers?

2. Does this trend of “fricativisation” of /j/ extend to other languages such as English, and French in particular?
3. What measures are in operation to curb the trend, if truly it occurs in French?

Aim and Objectives

The aim of this research is to test the probable existence of Edo “fricativisation” of /j/ in other languages such as French. This aim is embedded in the following objectives which seek to:

1. Uncover the recurrent feature change that prompted the shift from approximant to fricative;
2. Ascertain if this Edo “fricativisation” occurs in other languages such as French spoken by Edo natives; and
3. Put measures in place to curb the trend if present, as this could endanger the French Language.

Literature Review (Conceptual and Empirical)

The Edo Language and People

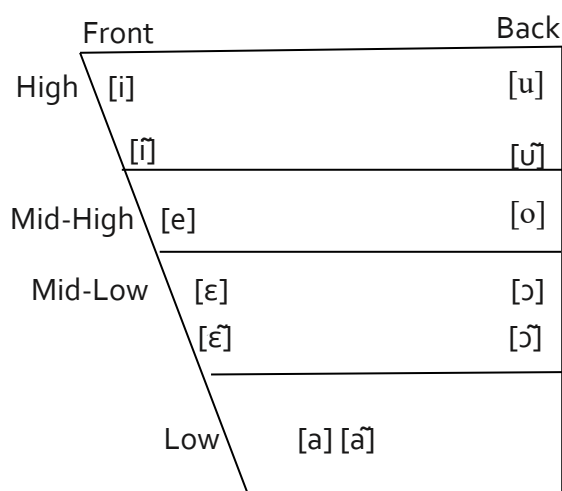
Edo is classified as a Kwa language under the Niger-Congo family in Greenberg (1966), Williamson & Blench (2000). It is also classified as belonging to the Norh-Central Edoid (NCE) sub-group within the Edoid family (Elugbe, 1989; Evbuomwan, 2016), others being Emai-luleha-Ora, Esan, Etsako, Ivbie North-Okpela-Arhe, Yekhee etc. With over a million speakers, the language is spoken mainly in Ovia, Oredo, and Orhionmwon Local Government Areas of Edo State, located in South-southern part of Nigeria. The people are known for their firmness, aggressiveness and humanness. Studies in Edo phonology (Evbuomwan, 2016; Omaxe, 2022; Evbuomwan & Edobor-Uzamere, 2022; Omozawa, 1990, 2007, 2010, 2012; Amayo, 1976; Agheyisi, 1986) revealed a segmental inventory of 39 sounds, comprising 27 consonants and 12 vowels, with the exclusion of the voiced palatal fricative /j/. The Edo consonant and vowel charts are given below:

Chart 1. Edo Phonemic Consonant Chart

	Bilabial	Labio-Dental	Alveolar	Palatal	Velar	Labio-Velar	Glottal
Stops/Plosives	p b		t d		k g	k ^h g ^h	
Fricatives	β	f v	s z		x ɣ		h
Nasals	m	ɱ	n	ɲ		ɳ ^w	
Approximants			ɹ	j		w	
Trills			rr				
Lateral			l				

Adapted from: Omozawa (2010), Evbuomwan (2016), Omaxe (2022).

Chart 2. The Edo Vowel Chart



Sourced from Evbuomwan (2016), Oimage (2022)

The French Language and People

Studies in French phonology (Zellou et al, 2023; Rodriguez, 2023; Zellou, 2017; Oimage, 2022; Desmeules-Trudel & Zammer, 2019; Sangotade, 2014; Asikhia, 2015; Ayeleru, 2000 etc.) show that French has a segmental inventory of 37 sounds, comprising 21 consonants (including /j/ and /ʒ/) and 16 vowels, as presented in the tables below:

Chart 3. The IPA French Vowel Sounds Chart

		Front		Central	Back
		Unrounded	Rounded		
Close	Oral	/i/	/y/		/u/
Close-mid		/e/	/ø/	/ə/	/o/
Open-mid		/ɛ/ (ɛ:)	/œ/		/ɔ/
	Nasal	/ẽ/	/œ̃/		/õ/
Open					ã
	Oral	a			ɑ

Chart 4. The IPA French Consonant Chart

		Bilabial	Labio-dental	Alveolar	Palatal	Velar	Uvular
Nasal		/m/		/n/	/ɲ/	/ŋ/	
Plosive	Voiceless	/p/		/t/		/k/	
	Voiced	/b/		/d/		/g/	
Fricative	Voiceless		/f/	/s/	/ʃ/		(x)
	Voiced		/v/	/z/	/ʒ/		
Approximant	Plain			/l/	/j/		/ʁ/
	Rounded				/ɥ/	/w/	

Adapted from Fougeron et al, 1993.

French people are the descendants of Gauls and Belgae, western European Celtic peoples, as well as Italic people, Bretons, Aquitanians, Iberians, Ligurians and Greeks in southern France, mixed with the Germanic people arriving at the beginning of the Frankish Empire such as the Franks, the Visigoths, the Suebi, the Saxons, the Allemanni and the Burgundians, and later Germanic tribes such as the Vikings (Normans) who settled in Normandy in the 9th century (CIA Factbook, France; Gailledrat, 1997; Garcia, 1997; Oimage, 2022).

In 2014, the European Union as a body, reported that 274 million people use French as a means of communication either as a native or foreign language. This number, however, overrides the previous estimate of 75 million native speakers of 2007. Hence, with this much prospect for the French language and so much prestige for France, the native speakers (hexagonal French speakers) cannot afford to have issues in their speech style, noting that French is used as a medium of oral communication in the international spheres of literature, science, diplomacy, technology, commerce and also in many international organizations including the UN, EU, NATO, WTO, ICRC etc.

Fricatives

Fricatives are sounds produced with an extreme narrowing of the air passage at the point of articulation (Osisanwo, 2012; Finegan, 2012; Yui-Ifode, 2008), thereby creating turbulence and friction. In its production, the constriction is relatively small to allow partial passage of air. Fricatives do not have the same quality all through (Osisanwo, 2012). The actual quality of a fricative is determined by three factors: place of articulation, shape of constriction, and the aerodynamic forces of the airstream (Clark et al, 2007). The fricatives /s/, /z/, /ʃ/, and /ʒ/ are called sibilants because they have more acoustic energy, that is, greater loudness and a higher pitch than the others (Ladefoged, 1975, 2006, 2008).

Approximants

Approximants have a stable articulation which has a greater constriction than vowels. They are also called semi-vowels or semi consonants or glides, given their rapid formant transitions as can be observed on a spectrograph (Gut, 2009; Ladefoged & Johnson, 2011). Finegan (2012) noted that they are produced by two articulators approaching each other almost like fricative but not coming close enough to produce a frication. They are in the borderline between a consonant and a vowel and are also with the front vowel /i/ and the back vowel /u/. Approximants are divided into two groups: semi-vowels /w/ and /j/ and liquids /l/, /r/ (Roach, 2002).

Methodology

This research, for equity purpose, adopts Evbuomwan's methodology model, except that the population/informants are still students of Edo origin but who are in three hundred level, mixed age groups, male and female from various universities and who are having their French Language Immersion Programme in the Nigeria French Language Village, Badagry,

Lagos (An inter-university center). The informants were sought through purposive random sampling and their consent sought before recordings were done. In order to avoid extraneous variables, the recordings were done in a relatively quiet library. The data for the research comprises 20 French lexical items containing the palatal approximant /j/. The speech tokens were articulated into a digital voice recorder by 20 French speaking Edo natives, 16 (80%) of whom are in Group A, within the age range of 20-35 years. The remaining four (20%) informants formed Group B, within the age range of 36-50. A Research Assistant (A linguist, French speaker, and an Edo native) realized all the speech tokens as [ʒ] intentionally to serve as a control test and played all recordings to all 20 informants.

Theoretical Framework

This research is hinged on Generative Phonology (Chomsky & Halle, 1968), developed as part of Generative Grammar. It is based on assumption that a segment is divisible, meaning it can be analysed into features called Distinctive Features, which are helpful in differentiating one phoneme from the other (Okolo & Ezikeojiaku, 1999; Osisanwo, 2012). A binary system (±) is used to show the presence or absence of a feature in a segment. Distinctive Features are classified into major class feature, place features, body of tongue features, lip shape features, and prosodic features (Evbuomwan, 2016; Oimage, 2022). Binarity distinctive features are relevant in stating phonological rules such as deletion, insertion, substitution etc. used to account for several phonological processes in languages. The features that are explored in this study are listed and explained below:

- [+syll] The feature syllabic functions as a syllabic peak in a segment that plays a prominent role in the syllable (vowels etc.).
- [+cons] The feature consonantal applies to all classes of consonants.
- [+son] The feature sonorant appears in segments that are produced with relative free flow of air and a corresponding free flow of air (e.g. vowels, glides etc.)
- [+cor] The feature coronal are for sounds produced with the blade of tongue raised towards the teeth or hard palate, e.g. dentals, palatals, alveolars etc.
- [+high] High segments are produced raising the body of the tongue towards the palate, e.g. high vowels, palatals, glides etc.
- [+back] Back sounds are produced with the tongue body relatively retracted, e.g. back and central vowels, glides etc.
- [-ant] The feature anterior are for sounds produced with a primary constriction behind the alveolar ridge, e.g., palatals, velars, uvulars etc.
- [+low] Low sounds are produced by drawing the body of the tongue down away from the roof of the mouth, e.g., low vowels.

Data Presentation and Quantitative Analysis

The data for this research are given below and the /j/ segment is in bold. It is spelt with the letters i, ll, lle and y as seen below:

Table 1.

French	Gloss	UR	SR	Position	Frequency
Yeux	Eyes	/jø/	[jø]	Initial	100%
Fille	Daughter	/fij/	[fij]	Final	100%
/Famille	Family	/famij/	[famij]	Finale	100%
Travailleur	Worker	/tʁavajœʁ/	[tʁavajœʁ]	Medial	100%
Foyer	House	/fwaje/	[fwaje]	Medial	100%
Essayer	Try	/ɛsɛje/	[ɛsɛje]	Medial	100%
Payer	Pay	/pɛje/	[pɛje]	Medial	100%
Tuyau	Pipe	/tyjø/	[tyjø]	Medial	100%
Crayon	Pencil	/kʁɛjɔ̃/	[kʁɛjɔ̃]	Medial	100%
Voyage	Voyage	/vwajaʒ/	[vwajaʒ]	Medial	100%
Moyen	Means	/mwajɛ̃/	[mwajɛ̃]	Medial	100%
Ayant	Having	/ɛjɑ̃/	[ɛjɑ̃]	Medial	100%
Soyez	Be	/swaje/	[swaje]	Medial	100%
Papier	Paper	/papje/	[papje]	Medial	10%
Envoyer	Send	/ɑ̃vwaje/	[ɑ̃vwaje]	Medial	100%
Essuyer	Clean	/ɛsyje/	[ɛsyje]	Medial	100%
Piller	Loot	/pije/	[pije]	Medial	100%
Nettoyeur	Cleaner	/nɛtwajœʁ/	[nɛtwajœʁ], [nɛtwajœʁ]***	Medial	99.5%***
Broyeur	Shredder	/bʁwajœʁ/	[bʁwajœʁ]	Medial	100%

UR: Underlying Representation (Phonemic transcription)

SR: Surface Representation (Phonetic transcription)

The Table above shows the real dictionary transcription of the words with the use of slashes //, while the square brackets [] show the articulations of the informants. Only one instance of ‘fricativisation’ is observed and this shows that ‘fricativisation’ is not a popular phenomenon in French since the quantitative analysis is projected at 99.5% for correct realisations of /j/ while only 0.5% is observed for /ʒ/.

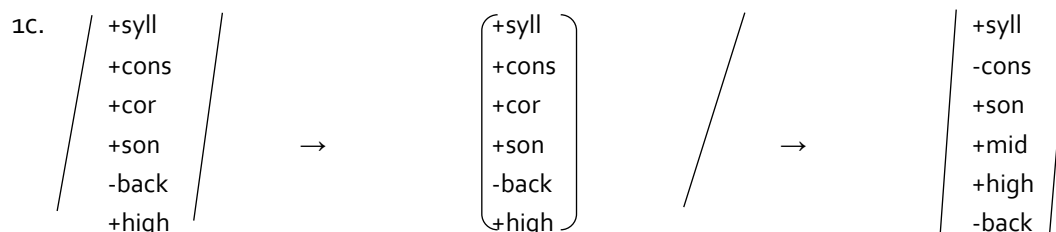
Qualitative Analysis of Data

The data revealed that the Edo French speakers were tested with the attempt to fricativise the French approximant /j/ in the initial, medial and final positions as seen in the Table 1 above and as shown in the theoretical analysis below, using the Generative Phonology. The analysis is in three phases: the initial, medial and final positions. The phonological rule, using the initial position for the French word *yeux*, is formed in 1a below as:

1a. The voiced palatal approximant is realised as same in the initial position in the environment of a French front, mid-high vowel /ø/. This phonological rule, given as a prose statement, is segmentally represented in 1b below as:

1b. /j/ → [j] / __ /ø/

This shows that there's no feature change and it is represented in 1c below with the use of distinctive features:



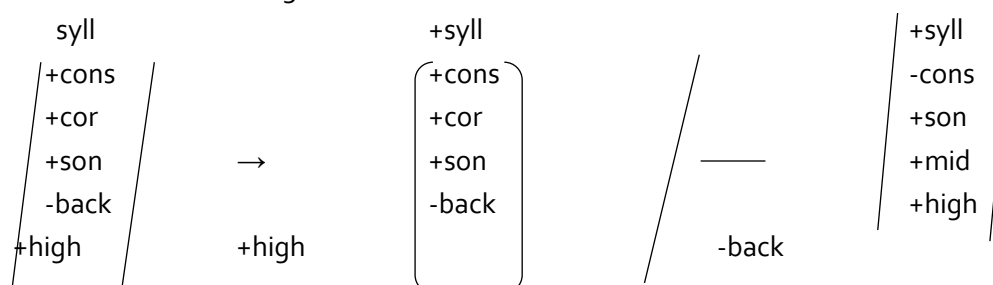
The distinctive features above show no feature change in the articulations of Edo French speakers of /j/ in the initial position.

The second phase of the analysis shows the presence of /j/ in the medial position in the speech tokens of EFSs in the French word *voyage*. The phonological rule is first given as a prose statement in 2a below:

2a. The voiced palatal approximant is realised as same in medial position of the word *voyage* and in the environment of a front, low vowel /a/, and segmentally represented in 2b below as:

2b. /j/ → [j] / __ /a/

The distinctive features are given in 2c below:



The feature above shows no change even in the environment of two identical front, low vowel in the medial position.

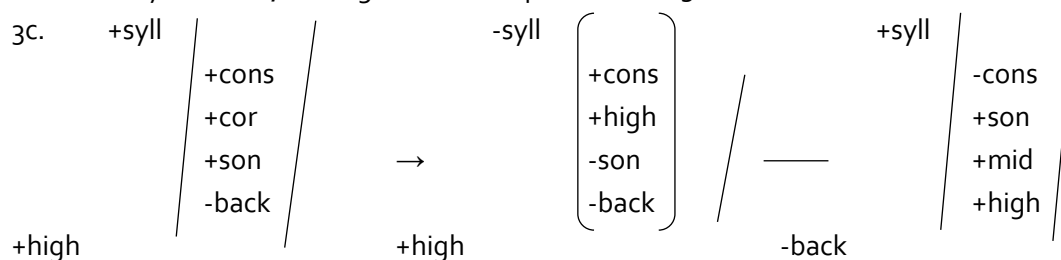
The next and last analysis is based on the final position to test if the final position triggers any feature change. From the quantitative analysis given, it can be observed that a speech token of 0.5% was articulated out 100%, making a remainder of 99.5%. The phonological rule of the said 0.5% in the word *nettoyer* is stated below in 3a:

3a. The voiced palatal approximant is realised as a voiced palatal fricative in a final position an in the environment of a front, mid-high vowel.

The segmental representation is given below in 3b:

3b. /j/ → [ʝ] / __ /e/

Distinctively featured, the segments are represented in 3c as:



The distinctive features above suggest a dissimilation rule in which a segment becomes less like the sounds in its environment, given that the approximant that is [+son] becomes a fricative [-son], thereby losing its sonority in a vocalic environment that is [+son].

Discussion of Findings

This research addresses Evbuomwan's Edo stance as it applies to French regarding the impossibility or possibility of the transition from approximant to fricative of some French speech tokens realised by Edo French Speakers. The played recordings of the Research Assistant to the EFSs revealed that the realisations of the French approximant is totally infeasible in the initial and medial positions, and that also has been seen in the Generative Phonology analysis hinged on the Distinctive Features. However, in the final position, a speech token of 0.5% out of 100% was made as the word in question *nettoyer* (/nɛtwajɛ/, [nɛtwɔʒɛ]) was produced with a fricatisation of the approximant. This could be a pointer to the fact that similar orthographically-driven productions in the final position are possible and are also open for further investigation, as the data for this research revealed just one instance. In addition, age factor also contributes to the transition from approximant to fricative as younger population tends to assimilate trends faster than older one probably due to social exposure and peer pressure. However, this does not wield enough credibility unlike in the Edo fricatisation where almost an entire words list supports the trend. Finally, after playing back the French recordings to the EFSs, none of them agreed that the words sounded French. The minute presence of a fricatisation in the French tokens is grossly insignificant, though an informant unconsciously realised it. This could be due to an Edo-induced phenomenon.

Conclusion

This research therefore, concludes that the transition from approximant to fricative in French is totally infeasible as far as this research is concerned, given that the two segments /j/ and /ʒ/ are distinct and are both attested for in French. Any attempt to switch them could tamper with meaning. For example, pronouncing *fille* /fij/ as [fiʒ] *fige*, gives two distinct meanings and that could cause confusion. The sociolinguistic influence of English on EFSs triggered the sonority dissimilation and majority of the Edo words tested still sounded Edo, unlike French.

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