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PHONETIC HURDLES BEFORE YORUBA-NIGERIAN LEARNERS OF GERMAN*

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1 Introduction

The Yoruba learner of German unlike his Japanese counterpart, for instance, necessarily approaches German through the English language. The implications of this for the learning situation are quite remarkable. When a learner directly learns a foreign language without having to go through another language he has only two levels of problems to deal with, namely the contrastive problems and the problems relating to the complexity of the foreign language. The complication of the mediated distant foreign language acquisition lies in the fact that the Yoruba learner of German finds himself in the English-German language contact situation rather than in the Yoruba-German language contact situation. He finds himself in a kind of disoriented language learning situation. His success in the learning of German is a function of his mastery of English.

Approaching the learning of German through English, he becomes totally oblivious of the advantages that his native Yoruba could have afforded him if he were to learn German directly.

A further implication of learning German through English comes from the fact that the Yoruba learner, not having attained a native speaker's competence in English would be unable to take full advantage of the areas of similarity between English and German. While not being able to take advantage of such areas of similarity, he may not be able to extricate himself from the problems, which confront native speakers of English learning German. The problem of the Yoruba learner of German is further compounded by the tendency for a faulty learning of English to become fossilized. This faulty learning of English may then be transferred to German.

* This paper is based on an empirical study, which the author earlier carried out together with Mrs. Margarete Dünnemann, previously a DAAD lecturer of the University of Ibadan. The results were presented at the NAFOG Congress held at the German School, Beachland Estate Lagos in 1990.

The problems of the mediated distant foreign language acquisition suggest that the Yoruba learner of German has to have, as background to the learning of German, an appreciable level of proficiency in English coupled with a good ability for linguistic insight. The absence of these forces in the language teacher raises the need for much remedial work with the language learners.

2 Comparing Yoruba And German Sound Inventories

In order to gain some insight to the possible problems confronting Yoruba learners of German it is necessary to compare the sound inventories of Yoruba with those of German. Consonants are discrete segments, thus it is relatively easy to make the appropriate choice of consonant in the language being learnt. Vowels, on the other hand, do not have clear-cut boundaries, thus it is much more difficult for the learner to make the choice of vowels in perfect agreement with the native speaker's choice. This is particularly so when the learner has the background of a simpler vocalic system. This is precisely the case in the comparison of the sound inventories of Yoruba and German.

2.1 The Vowel Systems

Yoruba has a simple vowel system consisting of seven cardinal vowels and four nasal vowels. The Yoruba vowel chart is shown below:

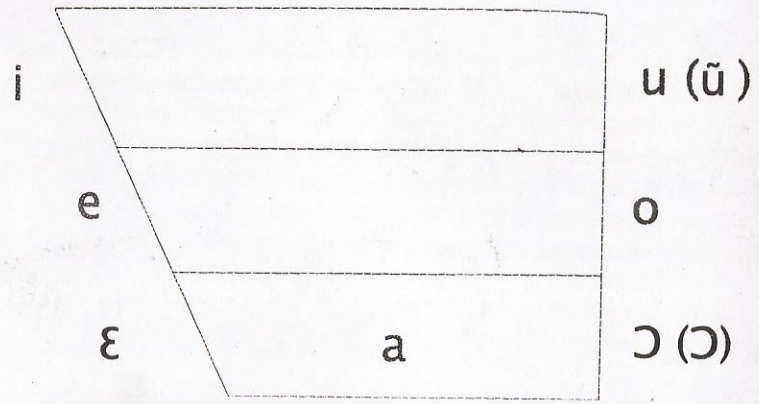


Figure 1

Diphthongs and phonemic long vowels are rare in the language.

The German vowel system is in contrast to the Yoruba vowel system rather complicated. The following is a phonetic chart of German vowels.

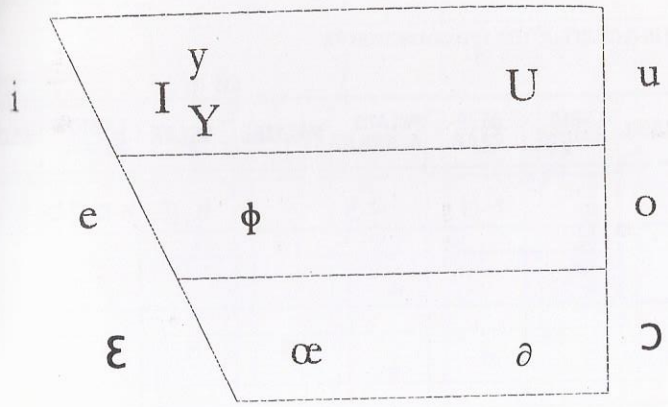


Figure 2

Several of the vowels indicated in the chart above have allophonic variations distinguished by a lengthening feature. They are given as follows:
/i:/ [i:i], /I/ [I], /e:/ [e:e], / [?: ?], /a:/ [a:a], /y:/ [y:y], / ø / [ø: ø], /œ/ [œ], /u:/ [u: u], /o:/ [o:o], /ɔ/ [ɔ], /ə/ [ə].

In addition to the monophthongs, the following diphthongs have a frequent occurrence in German: /aI/ [aI], /a U/ [a U] /ɔ? ʔ [ɔ?]. None of the vowels indicated within the chart above is attested in Yoruba, neither is vowel lengthening a feature of the Yoruba vocalic system. Thus, we would expect a tendency on the part of Yoruba speakers to approximate all neighbouring vowels to the ones found in Yoruba. This means that all [i], [i:] and [I] will be realized in Yoruba as [i]. Other approximations are as follows:

(i) [ø], [œ] will be merged with [o]
(ii) [ə], [e] will be merged with [a]
(iii) [U] will be merged with [u]
(iv) [y] and [Y] will both be realized as a combination of [i] and [u].

2.2 The Consonant Systems

When we compare the inventories of consonants we find that there are also several cases which indicate asymmetry between German and Yoruba consonants.

The following is a chart of Yoruba consonants.

PLACE MANNER	BILABIAL	LABIO DENTAL	ALVE-OLAR	PALATO ALVEOLAR	PALATAL	VELAR	LABIO VELAR	GLOTTAL
STOPS	b		t d	ʤ		k g	k p g b	
AFFRI-CATES								
NASALS	m		n		ŋ	Ŋ		
FRICA TIVES		f	s	ʃ				h
LATERAL			I					
TRILL			r					
CENTRAL APPROXI-MANTS					j		w	

Figure 3: Yoruba Phonetic Chart Of Consonants

As it will become clear in the comparison with German, the speaker of Yoruba operates with a relatively simple sound inventory. What is given here is the inventory of the sounds of standard Yoruba. The sound inventories vary in complexity from dialect to dialect.[2]

The following is a chart of German consonants.

PLACE MANNER	BILABIAL	LABIO DENTAL	ALVE-OLAR	PALATO ALVEOLAR	PALATAL	VELAR	LABIO VELAR	GLOTTAL
STOPS	p b		t d			k g		
AFFRI-CATES		p f	t^s	t ʃ				
NASALS	m		n			Ŋ		
FRICA TIVES		f v	s z	ʃ (3)	e	x		h
LATERAL			I					
TRILL			r				R	
CENTRAL APPROXI-MANTS			ɾ		ʃ		R	

Figure 4: German Consonant Chart

The comparison of the consonant inventories of Yoruba and German shows consonants to which attention has to be paid in teaching German to Yoruba speaking learners.

The background of a simplified sound inventory on the part of native speakers of Yoruba has implications for the learning of a language such as German, with a more complex sound inventory. It reflects itself in pronunciation problems, which are either vocalic or consonantal in nature. The problem is more common with poor language learners than with good language learners[3]. Even for proficient advanced non-native students of German vocalic interference problems seem to be highly resistant to change. However, consonantal interference problems are retained only with the more deficient language learners. It is reasonable to posit a correlation between the persistence of consonantal interference problems and language aptitude on the part of the learner. Since language learning involves the ability to switch completely to the system of another language the success of this ability will indicate a high degree of language aptitude. It is in this regard that it is necessary to distinguish between deficient Yoruba learners of German and proficient learners. Proficient

learners are expected to have pronunciation problems only with vocalic interference while the deficient learners have their problems right at the lower level of consonantal interference.

Among the stops, the voiceless bilabial stop [p] would have been an item for special attention in teaching, however, through the mediation of English, the sound is not a problem, except for some Yoruba speakers among the completely illiterate.

In spite of fact that Yoruba learner has come into contact with some non-native consonants through English, there are still several consonants of German which pose problems for Yoruba speaking learners, especially those earlier referred to as deficient learners. All the affricates [p^f], [t^s] [t∫] fall into this category. The fricative sounds pose the most serious problems, particularly in light of the inability of most deficient learners to differentiate between a voiced fricative and its voiceless counterpart. Thus, very often there is a mixing up of the [f]/ [v] and [s]/ [z] pairs.

Another fricative sound that has a strange distribution is the glottal fricative [h] which very frequently occurs where it is not expected and fails to occur where it is expected.

3 Methodology of Data Collection

The predictions of errors given above were tested by establishing actually occurring errors. Given that pronunciation errors are the focus of the present study, informants were tested purely for their productive articulation ability rather than for their auditory discrimination ability. Auditory discrimination tests seek to find out whether the learner has been able to perceive differences in sounds, while productive articulation tests establish the correctness of sound production. Errors of productive articulation may occur with or without problems of auditory discriminations. The data collection for this study has been restricted to the former as a preliminary effort in probing into the problems of Yoruba learners of German.

Analysis of spontaneous speech and the use of structured situations are two approaches to language assessment to which Dale (1976) drew attention. The data for the present study were collected through the use of structured

situations, given the fact that most of the subjects do not have possibility for spontaneous speech. While the assessment through spontaneous speech has the advantage of eliciting natural data, that is data free of affectation, data from structured situations on the other hand has the advantage of including sounds that may not necessarily come up in spontaneous speech.

Students from the University of Ibadan and the University of Ilorin, who were students of German either as a major or a subsidiary course were asked to read a prepared list of words. Their utterances were recorded on audio cassettes. The word list comprised of two hundred and forty-two (240) single sounds and sound combinations in different distributional positions. This word-list was taken from Ortman (1976). The subjects were requested to provide background information as to their age, place of birth and upbringing and their previous language experience.

A total of twenty-four students were interviewed, with twenty among them coming from the Yoruba language community. This is the language community that constitutes the focus of the study. Although the focus of the study is the Yoruba language community, the data from the subjects with non-Yoruba background show that there are pronunciation problems traceable not to the subject's mother tongue (Yoruba, Igbo as the case may be) but to English, the official second language in Nigeria.

4 Data Presentation and Analysis

The recorded utterances of the subjects indicate in several instances marked deviations from the standard pronunciations of the German lexical items used in the data collection. A close comparison of the utterances with the German target pronunciations reveals regular patterns of substitution. This fact makes it possible to posit rules that the learners are operating with. The set of data provides an empirical basis for the testing Adebayo's (1995) claim that what she posited for the Yoruba learner of French is also true for the Yoruba learner of German.

4.1 Vocalic Substitution Patterns

It was earlier observed that the Yoruba learner of German, were he or she to learn the language directly, would find it easier to realise some German vowels

more properly than it is the case in learning German through English. What has clearly come out of the study is that subjects tended to read the German words as if they were English words even when the German words would have been better pronounced with an unmediated Yoruba background. This is true particularly with words containing vowels such as [a], [e], [i], [u]

The vocalic substitution patterns occurring as a result of the mediatory role of English are as follows:

i. /a/ - [e] e.g. /badə̂n/ -[beden]
ii. /a/ - [i] e.g. /lebə̂n/ - [liben]
iii. /i/ - [a] e.g. /ʔinezIʃ/- [ʃainisiʃ]
iv. /u/ - [ju] e.g. (word initial)/univə̂rzitєt/ -[junivə̂rsitєt]
v. /u/ -[ɔ] e.g. (word medial)/produckt/ - [prodɔkt]

The influence of the acquired English pronunciation is apparent in the comparison of the outputs given above with the Standard English pronunciation of the following words: Chinese, University and product.
The next set of vocalic substitution errors comes from vowels attested in German but not in Yoruba as shown in the following:

i.	/y/	[iu] e.g. /mydə̂/	[miude]
ii.	/y/	[u] e.g. /fy:ə̂/	[fu]
iii.	/ø/	[o] e.g. /gə̂hø:ə̂/	[geho]
iv.	/œ/	[o] e.g. /œfnə̂n/	[ofnen]
v.	/ə̂/	[є] e.g. /fragə̂/	[fragɛ]

The absence of contrastive long vowels in Yoruba shows up in the inability of the subjects to differentiate between long and short vowels in their pronunciation of German words.

A further manifestation of contrastive pronunciation problems with regard to vowels comes in the handling of German diphthongs and a monophthong orthographically indicated as double vowels.[5] These problematic diphthongs and double vowels are handled in diverse ways. One way is to pronounce the word bearing the diphthong according to the English pattern as exemplified by the following:

i. /au/ [ɔ,o] e.g. /pauzə̂/ [pos]

Another is by converting the diphthongs into monophthongs such as in

ii. /ɔY/ - [ɔ] e.g. /dɔytʃ/ [dɔʃ]
iii. /ai/ - [i] e.g. /vaitə̂n/ [vit^{s}en]

The system of the native Yoruba surfaces in the way of handling the long monophthong orthographically rendered as double vowels, (i.e) rather than have
Orthographic 'ie' - phonetic [i:]
We have
Orthographic 'ie' - phonetic [iє]

Hence the following examples

examples

i.	'wieder'	[viє da]
ii.	'Dienst'	[diє nst]
iii.	'Lied'	[liє d]

4.2 Consonantal Substitution Patterns

As errors of pronunciation show up in vocalic substitution, so do they in consonantal segments. Here the two dominant factors of consonantal substitutions are the peculiarities of the German consonantal system and the Yoruba mother tongue interference factor. In relatively few cases involving, Greco-Latin international words, we see the influence of English as the source of consonantal substitutions.

Among the examples of substitutions emanating from the peculiarities of the German consonantal system are those involving consonants, which occur in German, but neither in English nor in Yoruba. These consonants are substituted by the Yoruba learner with proximate sounds as shown in the following set of examples:

i.	/x/	[k] e.g. /maxən/	[makɛn]
ii.	/x/	[ʃ] e.g. /buxən/	[buʃɛn]
iii.	/c/	[ʃ] e.g. /rictIc/	[riʃtiʃ]
iv.	/t^{s}/	[t] e.g. /t^{s}a:l/	[tal]

Related to the peculiarities of the German consonantal system are those errors determined by the Yoruba learners' knowledge of the rules of German orthography, as well as the rules of German phonology. Of the former we have cases where graphic forms and phonetic forms vary from each other. In German orthography the following rules apply, among others.

(i) 's' becomes 'z' in word or syllable initial position

(ii) 's' becomes 'ʃ' before voiceless obstruents, such as 'p' and 't'

(iii) the 'g' is not realized in non final 'ŋg' combinations

(iv) 'z' is realized as on affricate 'ts'

(v) 'w' is realized as 'v'

(vi) 'v' is realized as 'f'

Yoruba learners' of German not yet familiar with these orthographic rules exhibit the following patterns of substitution:

(i)	/z/	[s] e.g. /zɔnə/	[sonɛ]
(ii)	/ʃ/	[s] e.g. /ʃtehen/	[stehen]
(iii)	/ŋ/	[ŋg] e.g. /ziŋə n/	[siŋgɛn]
(iv)	/ts/	[z] e.g. /tsuk/	[zug]
(v)	/v/	[w] e.g. /vaitsən/	[wizɛn]
(vi)	/f/	[v] e.g. /fa:tə/	[vata]

In the examples cited above, we see that the learners in the study overlook the orthographic rules and simply settle for the graphic forms in their pronunciation.

A German phonological rule that has turned out to be relevant in the language learning process is that which devoices obstruents in the final position. Not paying attention to this rule, the learners bring about substitutions such as the following:

(i)	/t/ -	[d] e.g. /bad/	-	[bat]
(ii)	/t/ -	[d] e.g. /land/	-	[lant]

The next category of deviant consonantal substitutions is made up of sounds occurring in certain Greco-Latin International words received by the learners through English. Each of these words, though international, is peculiarly pronounced in each European language that has adopted it. Hence, a single learner or speaker of two or more European languages has to pronounce the same word in different ways depending on which language is being spoken. Here, however, we find with certain categories of Yoruba learners of German that those words are pronounced as if they were ordinary English words. The following substitutions attest to that observation:

(i)	/-t^{s}ions/	[-ʃn] e.g.	/fuŋkt^{s}ion/	[fɔŋ kʃn]
(ii)	/-gi/	[-d3i] e.g.	/psycologi/	[saikɔlɔd3i]
(iii)	/-j-/	[-d3-] e.g.	/objɛ krif/	[ɔbd3ɛktiv]

Certain other deviant consonantal substitutions are brought about by the influence of the Yoruba consonantal system. Some of the predictions coming out of a systematic comparison of the consonant inventories of Yoruba and German were authenticated through the linguistic performance of the subjects in the study.

The most outstanding fact of the Yoruba consonantal system is related to the issue of voicing in segments. Specifically, as shown in the inventory earlier given, voicing as a contrastive feature in segments is synchronically restricted to stop segments, that is alveolar and labio-velar stops. All other segments in the consonant inventory are either only voiced or only voiceless. Speaking generally Yoruba has only voiceless fricatives.

This restriction to voiceless fricatives poses a problem for the Yoruba learner of German, who has to handle words where voicing is contrastive. This accounts

for the substitution of voiceless fricatives for virtually all occurrences of fricatives. For reasons which are not discernible today only learners from the Oyo subset of the Yoruba language community exhibit interference problems based on contrasts in fricative sounds. For this group of Yoruba speakers there is a total absence of the voiceless palato-alveolar fricative [ʃ], although this sound occurs in standard Yoruba. Speakers of the Oyo dialect of Yoruba regularly utilize the [s] for all cases involving the use of their [s] or [ʃ].

It is also not uncommon to find with this group of Yoruba speakers (who form the bulk of the subjects in the study) hyper corrective tendencies in which natively non-occurring voiced fricatives are wrongly realized in the target language. It would have been expected that these voiced fricatives would completely be omitted. In actual fact, however, they do occur hyper correctively. For instance in the English word 'post-office' a realization like 'postɔvis' is commonly attested. This is also what accounts for the variant pronunciations of the following English words in the speech of Oyo Yoruba speakers of English:

(i)	Favour	[vevɔ]	-	[fefɔ]
(ii)	Fever	[viva]	-	[fifa]

The problem of contrastive voicing in fricatives in the speech of the above mentioned category of Yoruba speakers is further revealed in the difficulty of making a distinction between the English words 'zeal' and 'seal' as both often come out as [sil]. Another example is the pair 'zinc' and 'sink' which both are realized as [siŋk]. "Zone" also comes out as [son].

We will now proceed to show how these problems show up in the performance of Yoruba learners of German. They are revealed in the following substitutions.

(i)	/ʃ/	[s] e.g.	/ʃon/	[son]
			/ʃnit/	[snit]
(ii)	/v/	[f] e.g.	/vidə/	[fida]
			/vasa/	[fasa]

Although there is evidence in the speech of Yoruba speakers of English for an [s] for /z/ substitution, an evidence which is clearly an interference error, the situation is not as straightforward in the Yoruba-German language contact. The fact that phonetic [z] in German is orthographically written as 's' makes it

difficult to categorically classify the [s] for /z/ substitution as an interference problem rather than a problem emanating from a lack of sufficient familiarity with German orthographic conventions.

The next set of pronunciation problems is made up of syllable structure interference problems. Yoruba syllable structure rules out consonant cluster occurrences. It also rules out occurrence of closed syllables. The available data show that the Yoruba speaking learner is more able to handle ordinary closed syllable than syllables closed by consonant clusters. Thus, we attest in the pronunciation of such combinations the deletion of the preceding consonant. This occurs most prominently in the clusters containing 'i' and another consonant. The following are some examples:

(i)	/p/	[b] e.g. /halp/	[ab]
(ii)		/gɛlp/	[gɛb]
(ii)	/lf/	[f] e.g. /ɛlf/	[ɛf]
(iv)	/ls/	[s] e.g. /als/	[as]
		/fɛ/s/	[fɛs]

Finally, we address a phenomenal error of pronunciation in the performance of Yoruba learners of German. This group of errors has to do with the use of the glottal fricative [h]. The error is phenomenal, firstly because it is not an interference error, since both Yoruba and German languages have the glottal fricative sound [h]. Secondly, it is not straightforwardly a case of deviant deletion or deviant addition. What we find is that there are learners who generally apply deletion of the sound, while there are those who generally apply addition of the sound. Then we have those who defiantly apply both rules. What is further interesting is that the problem is not restricted to the German learning situation. It is apparent in the English language performance of several Yoruba-Nigerians. There is no evidence yet of the phenomenon in other Nigerian language communities. However, this present study shows that Nigerians who in spite of having a non-Yoruba mother tongue but who grew up, schooled and lived in the Yoruba language community are influenced by the phenomenon.

In the following we exemplify deviant deletions of the glottal fricative [h] in the performance of Yoruba learners of German:

(i)	/h/	[φ]	e.g. /hilfə/	[ilfɛ]

(ii) /habə̀n/ [abɛ̀n]

(iii) /hand/ [and]

The following set of examples shows deviant insertion of the glottal fricative, that is, with the [h] occurring where it ought not to occur.

(i)	/φ/	[h] e.g.	/aiə̀r/	[haia]
			/andə̀rs/	[handas]
			/alt/	[halt]
			/als/	[hals]
			/ɛct/	[hɛʃt]
			/ybuŋ/	[hybuŋ]

As some of the examples above show, the deviant distribution of the glottal fricative sometimes brings about problems of comprehension, particularly in cases where the standard form and the deviant form constitute minimal pairs, such as

(i) alt: halt
(ii) als: hals

It is therefore necessary to pay close attention to this and other types of errors.

5 Didactic Procedures Towards Remediation of Errors

The value of a study such as the present one is that it enables the professional linguist or language teacher to localise potential problems of learners who come from a linguistic background such as that of the subject in the study. Two major sources of errors have been considered, namely those that emanate from the peculiarities of the linguistic system of German and those generally referred to as interference errors. The consideration of these two has enabled us in this study to identify those areas in the pronunciation of German which require special attention in dealing with Yoruba-Nigerian learners of German.

Systematic approach to the remediation of errors will be brought by paying attention to the various sources of error earlier discussed. These are the sources producing the vocalic and consonantal substitution patterns already discussed, it has also been found useful to draw the attention of the learners to the relevant parts of German orthography which influence learners' pronunciation.

In correcting learners' errors it is necessary to distinguish between those who produce errors in spite of having perceived contrasts and those who have not been able to perceive any contrasts in the set of sounds. Thus, the first stage in the remediation of errors will consist of sound perception tests based on the identified problematic sounds.

A comprehensive treatment of pronunciation problems of foreign learners of German is contained in Gobel, Graffmann and Heumann (1986). In this work each problematic sound is analysed showing the movement of the vocal organs in the production of the sound. Moreover, practical tips are given as to the shape of the mouth in producing the sound in question. This is to help the learner pronounce the sound appropriately. This is followed by a series of perception tests in which the learner is to identify the sound being considered. The sound is to be identified out of a list of words, which are minimal, or near minimal pairs. Actual drilling in the production of the sound then follows.

The work referred to here is highly useful for the practical purposes of Yoruba learners of German. However, for the practical purposes of Yoruba learners of German who are involved in a mediated acquisition process, there is additional need to address the pronunciation problems carried over from a fixation on the system of English. This can be done by getting the learners to be adequate familiar with German alphabet in contrast to English alphabet. Additionally special attention should be paid to international words of Greco-Latin origin, so that the learners may be accustomed to the form they take in German.

NOTES

1 For further analysis of the concept of fossilization see Selinker (1974) p. 118.

2 A good example is the Oyo dialect, the dialect predominantly spoken in the area where the University of Ibadan and the University of Ilorin are situated. In this dialect, the palato-alveolar fricative [ʃ] is not found in the sound inventory. It is also with the speakers of this dialect that the adaptation to the voicing contrast in the fricative sounds of English or German to be most difficult.

3 A similar distinction between poor language learners and good language learners has been made by Porte (1988).

4 It is to be noted that diphthongs have a rare occurrence in Yoruba, thus the Yoruba speaker tends in speech to covert diphthongs into monophthongs.

5 It is pertinent to note here that the book also presents a chart showing the pronunciation problems of learners of German from six different language backgrounds i.e. Spanish, Italian, French, Portuguese, English and Turkish. The present study is a contribution in the sense that it enables us to see where Yoruba fits in such a chart.

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