

DERIVING A DESCRIPTION OF THE EARLY 19TH CENTURY TAHITIAN DIPHTHONG THROUGH AN ANALYSIS OF CONTEMPORARY POETIC TEXTS

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The Tahitian diphthong has been described inconsistently in the literature. One way to account for this is that it may have undergone transformation, perhaps due to language contact influences or historical processes. This paper will present results of an analysis of diphthong use in early 19th century oral tradition texts. Poetic patterns of word syllable count were examined to determine whether V_1V_2 tokens had been employed by oral poets in the capacity of one or two syllables. Gleaning linguistic knowledge from poetic pattern analysis is a relatively artifact-free way of acquiring native speaker insight; perhaps one of few means available when a form of a language is no longer spoken. The early 19th century description is set as a baseline against which to compare descriptions from the literature. An attempt is made to explain the disparate nature of these descriptions, as well as to determine whether over the last two centuries the diphthong has evolved.

1. INTRODUCTION

In grammars, dictionary introductions, language learning material, and academic papers are to be found a variety of often contradictory descriptions for the Tahitian diphthong. While a trend can be seen for some vowel combinations representing one syllable, such as /ai/, /ei/ and /oi/, and others two syllables, such as /ea/ and /oa/, there are also combinations, such as /eu/, /iu/, and /ou/, for which the descriptions appear nearly evenly split.¹

It may be that a reason for this description variety is that the diphthong has undergone change since first described by Davies in 1823. This could be due either to language contact influences or historical processes. Diachronic change cannot, however, account for what is perhaps the greatest point of controversy: Peltzer and Rossiter explicitly state and Graham and Iorss imply that no V_1V_2 combination ever forms a diphthong. By contrast, the existence of some type of diphthong has been asserted by both of the 19th century and all but the aforementioned 20th century authors.

A new study of the modern diphthong would probably not provide much insight for resolving the description disparity. Even if such a study were more elaborate than previous endeavors, it would still be limited in its ability to detect diachronic change. Instead, an analysis has been undertaken that examines diphthong use from the early 19th century. The data consist of oral

¹ It should be noted that in many of the descriptions, information about diphthong quality or syllable count is implied rather than stated directly.

tradition texts that were collected mostly before 1840; thereby predating both the bulk of any language contact influence and all but Davies' description. It is hoped that results from the analysis of this earlier data might be able to serve as a baseline against which to compare the subsequent descriptions.

Franz Boas warned that the knowledge speakers have of their language is not conscious, and that a native speaker's misinterpretation of a linguist's requests may result in misleading information.² An added benefit of analyzing traditional structured text is that it is free from potential artifacts of linguist - native speaker interaction. It would seem such an approach is also one of few means of linguistic inquiry available when a form of a language is no longer spoken.

2. OVERVIEW OF ANALYSIS

The data consist of presumably all the 19th century oral tradition material that has made its way into publication. The corpus contains 220 unique texts comprising about 75,000 words. Most of the texts were collected before 1840.

The texts exhibit poetic parallelism of semantic content, syntax, syllable count, phonemic features, and at other linguistic levels. The parallelism that will be analyzed here is that of syllable count, as it is a means by which it is possible to observe which two contiguous vowels, in the linguistic competency of the oral poet, formed a diphthong.

The vowels in Tahitian are /a/, /e/, /i/, /o/, /u/, /a:/, /e:/, /i:/, /o:/, and /u:/. The structure of the syllable is (C)V(V) if the diphthong exists, or (C)V₁(V₁) for descriptions that claim that it does not. Among the pro-diphthong descriptions, it is agreed that it is always formed from two contiguous short vowels.³

Below will be described the types of poetic patterns used for detecting the syllable count of V₁V₂ combinations.

2.1. *Lexically anchored matching count patterns*

These are patterns where variable lexical material of equal syllable count is anchored before, after, or within a quantity of unchanging material.⁴ For example, in the text in (1)⁵:

² "[Linguistic] categories which are formed always remain unconscious, and that for this reason the processes which lead to their formation can be followed without the misleading and disturbing factors of secondary explanations ... Cases are rare in which [an indigenous] people have begun to speculate about linguistic categories, and these speculations are almost always so clearly affected by the faulty reasoning that has led to secondary explanations, that they are readily recognized as such" (Boas 1911:70-71)

³ In order to limit the effects of potentially interfering phonological processes, V₁V₂ combinations that are preceded or followed by a short vowel or that straddle morpheme boundaries will be excluded from the analysis.

⁴ In many instances of lexically anchored matching count patterns, there is a leading or trailing member whose count does not match. This is perhaps a transitional device.

(1) Extract from *Warning by messengers of the pa'i-atua service* (Henry 1928:158-159):

1. E noho i ni'a i te mahora

e **noho** *i* *niʔa* *i* *te mahora* **PAUSE**
 IMPERF-ASP to-sit DIR-OBJ on DIR-OBJ the yard PAUSE
 1 2 1 2 1 1 3
 And sit upon the lawn

2. E noho e upu i te ahoa

e **noho** *e* *ʔupu* *i* *te ʔaho:ʔa*
 IMPERF-ASP to-sit IMPER-ASP to-recite-a-prayer DIR-OBJ the brush-clearing-prayer
 1 2 1 2 1 1 3
 To recite the *ahoa* (life giving)

the lexically anchored pattern is:

PAUSE e noho <8 syllables>

We notice here that the anchoring material precedes the variable material.

2.2. Lexically anchored incremental and decremental syllable count patterns

These are patterns where the syllable count of the variable lexical material either increments or decrements by one with each new pattern member. In (2) we see a decremental pattern:

(2) Extract from *Te parau a Honoura* (Henry 1895:256-291):

1. Tia a'era te ie, mau a'era te hoe, ...

tiʔa *aʔe* *ra* **te ʔie** **PAUSE** *mau* *aʔe* *ra* **te hoe** **PAUSE** ...
 to-stand upward there the sail PAUSE fastened upward there the paddle PAUSE ...
 2 2 1 1 ? ? 2 1 1 ?
 The sails were set, the paddle guided, ...

2. Te tia ra te ie, mau a'era te hoe, ...

te *tiʔa* *ra* **te ʔie** **PAUSE** *mau* *aʔe* *ra* **te hoe** **PAUSE** ...
 CONT-ASP to-stand there the sail PAUSE fastened upward there the paddle PAUSE ...

⁵ In all text examples the first line consists of surface orthography as found in the published text. The second line contains IPA reconstructions of the surface forms based on information from the *Dictionnaire Tahitien-Français* (Académie Tahitienne - Te Fare Vana'a 1999). Bold text in the second line designates lexically anchoring material, and italicized text lexically variable material. Unless indicated by a leading "...", each new line begins with a syntactic pause. The third line provides a morpheme by morpheme analysis. The fourth line shows the syllable count for each word for which the count can be determined. If the count cannot be determined, there will be a question mark instead of a number. The fifth line presents the translation provided in the published text.

1 2 1 1 ? ? 2 1 1 ?
 The sails were still set, and the paddle guided, ...

3. Te tia ra te ie, te mau ra te hoe, ...

te *tiʔa* *ra* **te ʔie PAUSE** *te* *mau* *ra* **te hoe PAUSE** ...
 CONT-ASP to-stand there the sail PAUSE CONT-ASP to-fasten there the paddle PAUSE ...
 1 2 1 1 ? 1 ? 1 1 ?
 The sails were still set, the paddle still guided, ...

The lexically anchored pattern here is:

PAUSE <variable material> **te ʔie PAUSE** <variable material> **te hoe PAUSE**

We find the variable word /mau/ present in all members of (2), and therefore unascertainable as to syllable count. However, subtracting /mau/ from each of the members will not affect the relative count. Summing up the counts for the other variable words indicates a relative count that decrements from 8 to 7 to 6.

2.3. Non-lexically anchored patterns exhibiting phonological parallelism

There is a type of pattern which demonstrates phonological parallelism with little or no lexical anchoring. As with lexically anchored patterns, the syllable counts can either remain static, or change incrementally or decrementally. A matching syllable count example is given in (3):

(3) Extract from *Heralding of the fish* (Henry 1928:433-436):

1. o Tahiti niu roa,
ʔo *ta:hiti niu* *roa* **PAUSE**
 PROP-NOUN Tahiti foundation long PAUSE
 1 3 ? ?
 Tahiti the long tract of land,
2. O Hiti roa i ni'a.
ʔo *hiti* *roa* *i* *niʔa* **PAUSE**
 PROP-NOUN border long DIR-OBJ up PAUSE
 1 2 ? 1 2
 The long upper border.

The only anchoring material here is the meager "**PAUSE ʔo**". The bulk of poetic structure rests in word matching with /roa/, partial morpheme matching between /ta:hiti/ and /hiti/, and partial phoneme matching between /niu/ and /niʔa/.

A syllable count has not yet been determined for the vowel combination /oa/ of /roa/. However, if /roa/ is subtracted from both members of the pattern, then in the variable material we are left with a count of three syllables for /ta:hiti/ and unknown count for /niu/ in line 1, and two syllables for /hiti/, one for /i/, and two for /ni?a/ (or five in all) in line 2. This suggests that /iu/ in /niu/ is comprised of two syllables.

2.4. *Non-lexically anchored patterns exhibiting semantic parallelism*

In this type of pattern, the words of each member convey the same meaning, but in different ways. Syllable count can either remaining static, increment, or decrement. In (4) we see an example of decremental syllable count:

(4) Extract from *Ti leaves plucking ceremony for umu-tî* (Henry 1928:215-216):

1. ... e haere ana'e;

... e	haere ana'e	PAUSE
... IMPERF-ASP to-go	IMPERATIVE	PAUSE
... 1	?	3
... all go.		

2. na oe e haere,

na:	ʔoe	e	haere	PAUSE
STRONG-ALIEN-POSS	you-SG	IMPERF-ASP to-go	PAUSE	
1	?	1	?	
You will go,				

3. e haere 'oe ...

e	haere	ʔoe ...
IMPERF-ASP to-go	you-SG	...
1	?	?
you will go ...		

The anchoring material here is the very meager "PAUSE". The poetic structure is found only in a recurrence of some of the words, and in equivalence of meaning.

Insufficient instances of this type of pattern have been examined to justify their incorporation into the current analysis. Although it is presumed that many more of these patterns exist, they have proved difficult to locate as they are generally more resistant to computationally-assisted detection.

2.5. Determining the short vowel sequences that constitute a diphthong

In the following patterns we will attempt to discover whether a given V_1V_2 sequence represents one or two syllables.

(5) Extract from *The raising of the sky of Rumia* (Henry 1928: 409-413):

1. E pûpû tohe roa te pûpû i tô ê ai

e		pu:pu:	<i>tohe</i>		roa	te	pu:pu:	i		to:	?e:	ai
EQUATIVE	shell	posterior	long	the	shell	PERF-ASP	pull	separate	AI-PART			
1		2	2	?	1	2	1			1	1	?

A long *Turritella* shell was what drew out

2. te mata one o Atea ia ...

te	mata	one	o		a:tea	ia	...
the	eye	sand	WEAK-INALIEN-POSS	Atea	to	...	
1	2	2	1		?	?	

the face of the sand of Atea to ...

3. E pûpû taratara te pûpû i tô ê ai

e		pu:pu:	<i>taratara</i>	te	pu:pu:	i		to:	?e:	ai
EQUATIVE	shell	spiny	the	shell	PERF-ASP	pull	separate	AI-PART		
1		2	4	1	2	1		1	1	?

It was a prickly shell that drew out

4. te mata one o Atea ia ...

te	mata	one	o		a:tea	ia	...
the	eye	sand	WEAK-INALIEN-POSS	Atea	to	...	
1	2	2	1		?	?	

the face of the sand of Atea to ...

5. E pûpû fa'ahiti te pûpû i tô ê ai

e		pu:pu:	<i>fa'ahiti</i>	te	pu:pu:	i		to:	?e:	ai
EQUATIVE	shell	pronounced	the	shell	PERF-ASP	pull	separate	AI-PART		
1		2	4	1	2	1		1	1	?

It was a sharp-edged shell that spread out

6. te mata one o Atea ia ...

te	mata	one	o		a:tea	ia	...
the	eye	sand	WEAK-INALIEN-POSS	Atea	to	...	
1	2	2	1		?	?	

the face of the sand of Atea to ...

The lexically anchored pattern here appears to be:

PAUSE e pu:pʊ: <4 syllables> te pu:pʊ: i to: ʔe: ai te mata one o artea ia

The three words /ai/, /a:tea/, and /ia/, although containing V₁V₂ combinations of interest, are ignored because they form part of the repeating anchoring material. The words we shall compare are /tohe roa/ from line 1, /taratara/ from line 3, and /faʔahiti/ from line 5. As both /taratara/ and /faʔahiti/ are clearly each comprised of four syllables, and /tohe/ of two syllables, we deduce that the short vowel combination /oa/ in /roa/ represents two syllables.

(6) Another extract from *The raising of the sky of Rumia* (Henry 1928: 409-413):

1. ... no te matamata o te ra'i

... no:	te matamata o:	te raʔi
... STRONG-INALIEN-POSS	the spot	WEAK-INALIEN-POSS the sky
1	1 4	1 2

... the gaps of the sky still

2. i oraora,

i	<i>oraora</i>	PAUSE
PERF-ASP	attached	PAUSE
1	4	

adhering

3. e no te tautinana o te ra'i

ʔe no:	te tautinana o:	te raʔi
and STRONG-INALIEN-POSS	the sewing	WEAK-INALIEN-POSS the sky
1 1	1 ?	1 2

[gap in Henry's translation]

4. i te fenua. ...

i	<i>te fenua</i>	PAUSE	...
DIR-OBJ	the land	PAUSE	...
1	1 ?		

to the earth. ...

5. ... te 'ere'ere o te ra'i

... te ʔereʔere o:	te raʔi
... the black	WEAK-INALIEN-POSS the sky
1 4 1	1 2

... until the darkness

6. i te ô hia,
i *te ?o:hia* **PAUSE**
 DIR-OBJ the to-dig-PASSIVE PAUSE
 1 1 ?
 was excluded, ...

Here the poetic pattern is:

te <4 syllables> **o:** **te ra?i i** <4 syllables> **PAUSE**

The words for comparison in the first set of variable material are /matamata/, /tautinana/, and /?ere?ere/. The words /matamata/ and /?ere?ere/ are each made up of four syllables. As the /tinana/ portion of /tautinana/ consists of three syllables, it would appear that the vowel combination /au/ in /tau/ is a diphthong.

The variable material from the second set is /oraora/, /te fenua/ and /te ?o:hia/. As /oraora/ is unambiguously made up of four syllables, four syllables will also be assumed for both /te fenua/ and /te ?o:hia/. This implies that /ua/ in /te fenua/ represents two syllables, as does the vowel combination /ia/ in /te ?o:hia/.

The question may arise of how we can be sure that this pattern is not instead incremental or decremental. If it were decremental, then /te fenua/ would need to be made up of three syllables, which would be the case if /ua/ in /te fenua/ represented a diphthong. However, /te ?o:hia/ would then need to be comprised of just two syllables, which is not possible. If the pattern were incremental, then /te fenua/ would need to be made up of five syllables, which is also not possible. Therefore, we assume that we are dealing with a matching count.

We saw in (5) above that /oa/ appeared to consist of two syllables. It turns out that in over a dozen other patterns in the corpus, /oa/ consistently represents two syllables as well. In the next example we are going to build on a heterosyllabic theory of /oa/ in order to analyze some new vowel combinations. After a sufficient amount of information has been obtained for a given combination, it is often necessary to base new analyses on those prior findings because contiguous short vowels are quite common in the variable material.

(7) Extract from *Disorder dispelled* (Henry 1928: 415-420):

1. E tuna tari'a roroa,
e **tuna tari'a roroa** **PAUSE**
 EQUATIVE eel ear very-long PAUSE
 1 2 3 3
 The eel with long ears (pectoral fins)

2. e tuhura i te aro o Tane.

<i>e</i>	<i>tuhura</i>	<i>i</i>	<i>te</i>	<i>aro</i>	<i>o:</i>	<i>tane</i>	PAUSE
IMPERF-ASP	to-advance	DIR-OBJ	the	presence	WEAK-INALIEN-POSS	Tane	PAUSE
1	3	1	1	2	1	2	

shall sport in the presence of Tane.

3. E tuna hihi roroa,

e	tuna	<i>hihi</i>	<i>roroa</i>	<i>PAUSE</i>
EQUATIVE	eel	whisker	very-long	PAUSE
1	2	2	3	

The eel with long barbels

4. e tuhura i te tua o Atea.

<i>e</i>	<i>tuhura</i>	<i>i</i>	<i>te</i>	<i>tua</i>	<i>o:</i>	<i>atea</i>	PAUSE
IMPERF-ASP	to-advance	DIR-OBJ	the	back	WEAK-INALIEN-POSS	Atea	PAUSE
1	3	1	1	?	1	?	

shall sport upon the back of Atea.

5. E tuna hiti popoto,

e	tuna	<i>hihi</i>	<i>popoto</i>	<i>PAUSE</i>
EQUATIVE	eel	whisker	very-short	PAUSE
1	2	2	3	

The eel with short barbels

6. e haere noa i te aro o Tane.

<i>e</i>	<i>haere</i>	<i>noa</i>	<i>i</i>	<i>te</i>	<i>aro</i>	<i>o:</i>	<i>tane</i>	PAUSE
IMPERF-ASP	to-go	CONT	DIR-OBJ	the	presence	WEAK-INALIEN-POSS	Tane	PAUSE
1	?	2	1	1	2	1	2	

shall go freely into the presence of Tane.

The poetic pattern here appears to be the fairly loose:

PAUSE e tuna <17 syllables> PAUSE

The vowel combination /oa/ has been assigned two syllables, resulting in an assignment of 17 syllables for the first member of the pattern. As neither incremental nor decremental analysis will be possible, we conclude that we are seeking a count of 17 syllables for the pattern's other two members as well.

Looking at lines 3 and 4 in the second member of the pattern, we see that the syllable count for the calculable variable words comes to 12, or five less than the 17 we need. This implies that for

the words with unknown syllable count, /tua/ and /a:tea/, each of their five vowels must represent a separate syllable. We conclude, therefore, that in this pattern /ua/ in /tua/ and /ea/ in /a:tea/ are heterosyllabic.

When we take a look at the third member of the pattern, we observe that the syllable count for the calculable variable words is 15. Therefore the word with unknown count /haere/ must be made up of two syllables, which implies that /ae/ in this instance is a diphthong.

3. RESULTS FROM ANALYSIS

In the above examples, we have found instances of where /ae/ and /au/ appear to be diphthongs, and /ea/, /ia/, /iu/, /oa/, and /ua/ appear to be heterosyllabic. The larger study of syllable count patterns from the corpus has yielded the information in table 1.

As would be expected for any language, some vowel combinations can be seen to be more common than others. Also of note is that syllable count is uniform across all the tokens of each word type, as well as for all tokens of 16 out of 20 of the vowel combinations.

The combinations that show a diversity of syllable count are /ia/, /ie/, /io/, and /ui/. These four high vowel initial combinations appear to be tautosyllabic when a vowel initiates the syllable, or when the syllable is initiated by a glottal stop. For example, /ʔia/ is tautosyllabic in the word /ʔia/, /ʔie/ is tautosyllabic in /ʔieʔie/, /ʔio/ is tautosyllabic in /ʔiore/, and /ui/ represents one syllable in /ma:ui/.

We note, however, that the tokens of the other combinations beginning with high vowels are consistently heterosyllabic.⁶ The data show that /ʔiu/ is heterosyllabic in the words /ʔiu/ and /ʔiuʔiu/, /ʔue/ is heterosyllabic in /ta:ʔueʔue/, /ue/ is heterosyllabic in /ueue/, /ʔiu/ is heterosyllabic in /ʔiu/ and /ʔiuʔiu/, and /uo/ is heterosyllabic in /uo/'s lone token /pa:uo/.

Because of the limited amount of data, it would be difficult to say with much certainty what is occurring. However, because /ia/, /ie/, /io/, and /ui/ all begin with a high vowel, it is possible that in some environments the initial high vowel, at times preceded by a presumably weak glottal stop, has become semi-vocalic. If so, the resulting glide-vowel combination may be tautosyllabic at the phonetic level. However, such a tautosyllabic glide-vowel combination would not, strictly speaking, constitute a diphthong.

⁶ Evidence is lacking for the combination /ua/. No corpus pattern could be found containing a contrastable vowel combination in variable material that was initiated by /u/ or /ʔu/.

Table 1. Syllable counts for V₁V₂ combinations, with word context and number of tokens.⁷

V ₁ V ₂	One syllable	Two syllables
/ae/	/haere/:2, /mamae/:1, /paepae/:1, /pi:hae/:1, /ra:pae/:1, /tae/:1	
/ai/	/ai/:1, /aitu/:1, /hau?ai/:1, /mai/:2, /maita?i/:1, /mai?u?u/:1, /tahatai/:1, /tamaiti/:1, /tarai/:2, /vai/:1, /vaira?a/:1, /?ai/:1, /?aihamu/:1	
/ao/	/tao/:1, /tao?a/:1, /?ao?ao/:1	
/au/	/fafau/:1, /naupa/:1, /parau/:1, /pu:rau/:1, /rau/:1, /tautinana/:1, /?atau/:1	
/ea/		/artea/:2, /fea/:1, /mea/:1, /tea/:1
/ei/	/heiva/:1, /nei/:3, /tei/:1, /?ei/:1	
/eo/		/feo/:2
/eu/		/peu/:1, /?eu/:1
/ia/	/?ia/:1	/aniania/:1, /piria/:1, /rahirahia/:1, /ru:mia/:1, /?o:hia/:1
/ie/	/?ie?ie/:1	/hiehie/:1
/io/	/?iore/:1	/tio/:1
/iu/		/niu/:2, /?iu/:1, /?iu?iu/:1
/oa/		/fa?atoa/:1, /hoa/:3, /moa/:4, /noa/:2, /roa/:3, /roroa/:1, /toa/:2
/oe/	/moe/:2, /moemoea/:1	
/oi/	/ho:poi/:2, /roroi/:1	
/ou/	/fa?ahou/:1, /pou/:2, /unouno?o/:1	
/ua/		/atua/:2, /fenua/:2, /mua/:4, /pua?a/:3, /rua/:1, /to:a:hua/:1, /tua/:5, /tupua/:1
/ue/		/pe:?ue/:1, /ta:?ue?ue/:2, /ueue/:2
/ui/	/ma:ui/:2	/nui/:3, /tuitui/:1
/uo/		/pa:uo/:1

⁷ Because of their lesser frequency, an exhaustive search of the corpus was undertaken for patterns that included the combinations /ao/, /ea/, /eo/, /eu/, /ie/, /io/, /iu/, /oe/, /oi/, /ou/, /ue/, and /uo/.

4. CORRELATION BETWEEN DESCRIPTIONS IN LITERATURE AND CURRENT ANALYSIS

Table 2 gives a correlation between results from the current analysis and fifteen descriptions of the diphthong in the literature. Because the tautosyllabic instances of /ia/, /ie/, /io/, and /ui/ may have been due to the initial vowels becoming glides rather than representing true diphthongs, those single syllable instances are not included in the table.⁸

Among the descriptions that appear to be most at odds with the results from the analysis are, not surprisingly, the one that proposes that all V_1V_2 combinations constitute a diphthong (i.e. Tryon 1970, where there is agreement for only 8 out of 20 combinations⁹), and those that propose that the Tahitian diphthong does not exist at all (i.e. Rossiter, Iorss, Graham, and Peltzer, where there is agreement for 12 out of 20 combinations).

If the results from the analysis are seen to be closer to earlier but not later descriptions in the literature, then that fact might suggest that the diphthong has undergone change. However, neither of the 19th century descriptions is a close match.

On the other hand, a close match between the current analysis and recent descriptions would imply that the diphthong has remained more or less unchanged. With this in mind, we note that analysis results most closely correlate with the description in Bickmore 1995, where there is agreement for all vowel combinations but /oe/. Concerning /oe/, which the current analysis describes as a diphthong but Bickmore identifies as heterosyllabic, it may be that a change has indeed occurred. However, it is also possible that /oe/ exhibits some type of variability that will only come to light after review of more data.

Académie Tahitienne 1986 has an incomplete description which matches 15 out of 16 of the vowel combinations. Next closest in similarity are the descriptions by Lemaître 1973 and Corne 1987, which each match 17 out of 20 combinations.

It is of interest that Rossiter, Iorss, Graham, and Peltzer do not allow for a Tahitian diphthong, whereas other authors, most notably Andrews and Andrews (1944:xiii), strongly advocate its existence. Both advocates and deniers could be partially correct if:

1. They are describing different styles of speech.
2. Aspects of those styles of speech are exhibited at the phonetic level.
3. Syllable count is assigned at the phonetic level.

⁸ Davies, Jaussen, Lovy and Bouge, Vernier, Paia and Vernaudon, and Tryon 1970 describe as tautosyllabic some or all of the vowel combinations that begin with /i/. Their predictions will therefore correspond to some of the aforementioned /ia/, /ie/, and /io/ findings from the analysis, although this is not reflected in table 2.

⁹ However Tryon 1997, which is a revised French language version of Tryon 1970, describes V_1V_2 combinations of both one and two syllables.

Table 2. Correlation between descriptions in the literature and the results of the current analysis.

Source	V ₁ V ₂ descriptions that match	V ₁ V ₂ descriptions that differ
Davies (1823:8)	/ae/, /ai/, /ao/, /au/, /ea/, /ei/, /ie/, /io/, /oe/, /oi/, /ou/, /ua/, /uo/	/eo/, /eu/, /ia/, /iu/, /oa/, /ue/, /ui/
Jaussen (1969:7-8) ¹⁰	/ae/, /ai/, /ao/, /au/, /ea/, /ei/, /eo/, /oa/, /oi/, /ou/, /ua/, /ue/, /ui/, /uo/	/eu/, /ia/, /ie/, /io/, /iu/, /oe/
Rossiter (1919:5) ¹¹	/ea/, /eo/, /eu/, /ia/, /ie/, /io/, /iu/, /oa/, /ua/, /ue/, /ui/, /uo/	/ae/, /ai/, /ao/, /au/, /ei/, /oe/, /oi/, /ou/
Lovy and Bouge (1953:8)	/ae/, /ai/, /ao/, /au/, /ei/, /oe/, /oi/, /ou/, /ui/	/ea/, /eo/, /eu/, /ia/, /ie/, /io/, /iu/, /oa/, /ua/, /ue/, /uo/
Vernier (1959:16)	/ai/, /ao/, /au/, /ea/, /ei/, /eo/, /ie/, /oe/, /oi/, /ou/	/ae/, /eu/, /ia/, /io/, /iu/, /oa/, /ua/, /ue/, /ui/, /uo/
Iorss (1961:13)	/ea/, /eo/, /eu/, /ia/, /ie/, /io/, /iu/, /oa/, /ua/, /ue/, /ui/, /uo/	/ae/, /ai/, /ao/, /au/, /ei/, /oe/, /oi/, /ou/
Tryon (1970:5)	/ae/, /ai/, /ao/, /au/, /ei/, /oe/, /oi/, /ou/	/ea/, /eo/, /eu/, /ia/, /ie/, /io/, /iu/, /oa/, /ua/, /ue/, /ui/, /uo/
Graham (1972:ii)	/ea/, /eo/, /eu/, /ia/, /ie/, /io/, /iu/, /oa/, /ua/, /ue/, /ui/, /uo/	/ae/, /ai/, /ao/, /au/, /ei/, /oe/, /oi/, /ou/
Lemaître (1973:14)	/ae/, /ai/, /ao/, /au/, /ea/, /eo/, /eu/, /ia/, /ie/, /io/, /iu/, /oa/, /oi/, /ua/, /ue/, /ui/, /uo/	/ei/, /oe/, /ou/
Académie Tahitienne (1986:5) ¹²	/ae/, /ai/, /ao/, /au/, /ea/, /ei/, /ia/, /ie/, /io/, /oa/, /oi/, /ou/, /ua/, /ue/, /uo/	/eu/
Corne (1987:2)	/ae/, /ai/, /ao/, /au/, /ea/, /ei/, /eo/, /ia/, /ie/, /io/, /oa/, /oi/, /ou/, /ua/, /ue/, /ui/, /uo/	/eu/, /iu/, /oe/
Bickmore (1995:414)	/ae/, /ai/, /ao/, /au/, /ea/, /ei/, /eo/, /eu/, /ia/, /ie/, /io/, /iu/, /oa/, /oi/, /ou/, /ua/, /ue/, /ui/, /uo/	/oe/
Peltzer (1996:21-22)	/ea/, /eo/, /eu/, /ia/, /ie/, /io/, /iu/, /oa/, /ua/, /ue/, /ui/, /uo/	/ae/, /ai/, /ao/, /au/, /ei/, /oe/, /oi/, /ou/
Tryon (1997:12)	/ae/, /ai/, /au/, /ea/, /ei/, /eo/, /ia/, /ie/, /io/, /iu/, /oa/, /oi/, /ua/, /ue/, /ui/, /uo/	/ao/, /eu/, /oe/, /ou/
Paia and Vernaudon (1998:xiii)	/ai/, /ea/, /ei/, /eo/, /eu/, /oa/, /oi/, /ui/	/ae/, /ao/, /au/, /ia/, /ie/, /io/, /iu/, /oe/, /ou/, /ua/, /ue/, /uo/

¹⁰ Jaussen's grammar and dictionary was first published in 1861, however the 1969 edition is referenced here.

¹¹ Burbidge (1930:9) and Christensen (1958:i) make use of Rossiter's description.

¹² Académie Tahitienne does not provide descriptions for the same level vowel combinations /eo/, /iu/, /oe/, and /ui/. Therefore, these combinations are absent from both columns.

An indication that more than one style of speech may exist can be found in Coppenrath and Prévost's description of the phenomena of left-shifting /h/ and /ʔ/. They note that while this shifting occurs in "flowing conversation", it is "never produced in sung Tahitian." (1974:10-12).

Corne, in a later and more detailed description of the same phenomena, describes their environment as "natural, spontaneous discourse" (1987:3). Corne has also demonstrated that this shifting is not a recent development, but occurred in the Tahitian of the late 18th century (1984:216-217 and 1987:4-6).

It is not suggested that laryngeal shifting has anything to do with diphthongs, but only that its restriction to conversational speech implies that such a style of speech exists. Perhaps some of the diphthong descriptions reflect a more diphthong-permissive conversational style, whereas others describe an elaborated or sung style devoid of diphthongs.

5. CONCLUSION

A description for the diphthong from the current analysis might be:

In early 19th century Tahitian oral tradition texts, V_1V_2 is a diphthong if:

- i. V_1 is -high.*
- ii. V_1 is equally or more sonorous than V_2 .*
- iii. If V_1 is mid, it is equally or more back than V_2 .*

It may additionally be hypothesized that in some environments /i/ and /u/ in the V_1 position have become phonetically semi-vocalic. Additional evidence is needed to say more about this.

Part of the disparity of diphthong descriptions in the literature may be due to their describing more than one style of speech. Perhaps there exist both a conversational and an elaborated or sung style. The current analysis, however, does not provide evidence for this one way or the other.

Because the early 19th century diphthong is similar to the description in Bickmore 1995 and other recent descriptions, it is proposed that language contact influences and historical processes have had little if any effect on the Tahitian diphthong over the last two centuries.

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