

Anejos de Veleia

Series Minor 39

NOEMÍ MONCUNILL MARTÍ  
MANUEL RAMÍREZ-SÁNCHEZ  
(EDS.)

## Aprender la escritura, olvidar la escritura

Nuevas perspectivas sobre  
la historia de la escritura  
en el Occidente romano

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# ANEJOS DE VELEIA

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APRENDER LA ESCRITURA,  
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en el Occidente romano

# VELEIA

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*Veleia*

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MANUEL RAMÍREZ-SÁNCHEZ  
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Universidad del País Vasco Euskal Herriko Unibertsitatea

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# AN ACUTE PROBLEM: GLIDES, DIPHTHONGS AND VOWELS IN THE OSCAN ALPHABET

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*Abstract:* Around 300 BC, the Oscan alphabet underwent a reform whereby it acquired two new letters, <í> and <ú>. In this chapter I examine the use of <í> in inscriptions from this period in order to explain why it was more variable than use of <ú> for writers of Oscan at this early stage in the use of the reformed alphabet. Looking at these early inscriptions also suggests reasons for the development of the strange system whereby /j/ was represented by <í> at the end of a diphthong, but by <i> in other positions, while /w/ was represented by <v> everywhere.

*Keywords:* Oscan, alphabet, reform, Capua, glides, diphthongs, vowels.

## Un problema acuto: semivocali, dittonghi e vocali nell'alfabeto osco

*Sommario:* Verso 300 a.c. l'alfabeto osco ha acquisito due lettere nuove, <í> e <ú>. In questo capitolo faccio un'indagine sull'uso di <í> del periodo per spiegare perchè è stata usata in un modo meno coerente di <ú>. Queste iscrizioni arcaiche suggeriscono anche una possibile spiegazione per il sistema che usa <í> per /j/ alla fine di un dittongo, ma <i> per /j/ in altri posizioni, mentre <v> rappresenta /w/ ovunque.

*Parole chiave:* Osco, alfabeto, riforma, Capua, semivocali, dittonghi, vocali.

## 1. INTRODUCTION<sup>1</sup>

The Oscan alphabet was created on the basis of the Etruscan alphabet, with influence from either the Greek alphabet or another of the alphabets of ancient Italy leading to the inclusion of the letters <b>, <d> and <g>, which were lacking in the Etruscan alphabet (Crawford *et al.* 2011, 19)<sup>2</sup>. As the name suggests, the alphabet was used to write Oscan (and only Oscan, as far as we know)<sup>3</sup>. The earliest inscription certainly showing the alphabet appears to be from the late fifth or early fourth century BC (Agostiniani & Facchetti 2009; see also Tikkanen 2020, 109-19).

Around 300 BC, the alphabet underwent a reform, whereby the letters <ú> and <í> were adopted. After a brief period of uncertainty, the former was used to represent the vowel /o/, which Oscan had but Etruscan lacked, while <í> was used in two contexts, firstly for the vowel /e/, which Etruscan also lacked, and secondly to represent the off-glide of the diphthongs /ai/, /ei/ and /oi/ (Lejeune 1975; Crawford *et al.* 2011, 20-24).

In this article I will focus on the period of uncertainty just mentioned, and in particular on the series of inscriptions straddling 300 BC from Capua, known as the *iúvila* inscriptions, which show the shift from the unreformed

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<sup>1</sup> I first started thinking about the matters discussed here as the result of a presentation at Cambridge in 2016 by Karin Westin Tikkanen on “Archaic Spelling Reforms: dealing with the Sabellian vowel shift. The origin, spread and aftermath of <í> and <ú>”, at a conference held under the auspices of the Greek in Italy project (funded by the Arts and Humanities Research Council of Great Britain). Subsequently, she very kindly shared with me the slides of her talk and encouraged me to publish my ideas. We focus on different aspects of the issue, and I look forward to seeing her views in print. I am also grateful to Gabriela de Tord Basterra, for sharing with me her drawings of the inscriptions from Capua. I am glad to acknowledge the support of the Stiftelsen Riksbankens Jubileumsfond, which funds my Pro Futura Scientia Fellowship based at the Swedish Collegium for Advanced Study in Uppsala and the Centre for Research in the Arts, Social Sciences and Humanities in Cambridge.

<sup>2</sup> When individual graphemes are being discussed, they are enclosed within angled brackets: < >. Phonemes and sequences of phonemes are enclosed within / /, phones within [ ] (phonetic transcription is as broad as possible). Phonemes and phones are represented according to the conventions of the IPA alphabet, as laid out in the IPA Handbook (International Phonetic Association 1999). Reconstructed forms are preceded by an asterisk: \*. They use the standard orthography of historical linguistic and Indo-Europeanist literature. This leads to some inconsistencies in the writing of glides: in the IPA, as the second element of a diphthong they are written with the appropriate vowel symbol /i/, /u/, whereas elsewhere they are written as /j/ and /w/; in reconstructions they are written as \**j̥* and \**w̥* respectively. As is customary, I give letters and words in the Oscan alphabet in **bold** (except where quoting Crawford *et al.* 2011, who use italics). When referring to Oscan inscriptions I generally give the reference to both Crawford *et al.* 2011 and Rix 2002; but the text is taken from Crawford *et al.*

<sup>3</sup> It is also known as the ‘National’ or ‘Native’ Oscan alphabet. Oscan was also written using the Greek, Latin and Etruscan alphabets.

version (i.e. without <í> and <ú>) to the reformed version of the alphabet (Franchi de Bellis 1981, 25-31; Crawford *et al.* 2011, 27-9). We will see that in the inscriptions from the time when the reform was underway but not yet entirely established, there is much more variation in the use of <í> than there is in <ú>.

This article's aim, in the first place, is very modest: to explain why it is that the use of <í> was apparently more problematic than use of <ú> for writers of Oscan at this early stage in the use of the reformed alphabet. However, an understanding of how the relationship between graphemes and phonemes played out at this early stage will also be shown to have wider implications, both for the relative chronology for the adoption of <í> in particular contexts, and in explaining some peculiarities of the use of <í> in the reformed alphabet once established.

For reference, in figure 1 I provide a breakdown of the usual spellings used in the unreformed and reformed alphabets to write vowels, diphthongs and glides of Oscan, which will be relevant for the discussion.

	Unreformed alphabet	Reformed alphabet
/u/	u	u
/o/	u	ú
/a/	a	a
/ɛ/	e	e
/e/	i	í
/i/	i	i
/ai/, /ei/, /oi/	ai, ei, ui	aí, eí, úí
/au/, /ɛu/, /ou/	av, ev, uv	av, ev, úv
/w/	v	v
/j/	i	i

FIGURE 1

Vowels, diphthongs and glides in the Oscan alphabet

## 2. THE TEXTS AND THEIR READINGS

The early *iúvila* inscriptions are written on terracotta, but tufa began to be used about the same time as the reformed alphabet, and the majority of our texts were written on this much rougher and more friable surface. Along

with occasional instances of damage that some stones have undergone, this has a —sometimes significant— consequence on the certainty of readings of texts, especially with regard to the symbols for <í> and <ú>, which are distinguished from <i> and <u> only by the addition of a short horizontal line and a dot respectively (thus: **Ī**, **Ū**). Below I give the texts as presented in the edition of Crawford *et al.* (2011)<sup>4</sup>, along with variant readings relevant to the use of <í> and <ú> in the editions of Franchi de Bellis (1981) and Rix (2002)<sup>5</sup>.

### Capua 20

Side A: minieís kaísillieís minateís ner(trak) | ekas iuvilas iuveí<sup>6</sup> flagiuí | stahint

Side B: ekas iúvilas iuveí flagiuí stahínt | minnieís kaísillieís minateís ner(trak)

Franchi de Bellis (16) A: iúveí B: minateis<sup>7</sup>

Rix (Cp 25) B: iúveí

<sup>4</sup> Underlined sections were no longer visible to the editors, but are restored on the basis of earlier editions. Vacats and interpuncts have been removed.

<sup>5</sup> I omit Capua 23/Cp 13 (Franchi de Bellis 7) for which Crawford *et al.* give **eidú[í]s** | **mam(erttiaís)** [s]akrid, while Franchi de Bellis has **eidu(is)**. Since the tile on which the inscription appears is broken just where the diacritic of the <ú> would be, it is impossible to know whether **eidú[í]s** or **eidu(is)** is correct. As there are no other instances of the reformed letters in this inscription it may date to before their invention.

<sup>6</sup> Crawford *et al.* (2011, 416) comment that “the photograph in Heurgon makes it clear the *u* of *iuveí* in B has no diacritical, contra Bücheler (from impression from Iannelli) and von Planta (‘nur angedeutet’) and ST [= Rix 2002]”. The reference is to Heurgon (1942 no. 12, plates 1.1 and 2.2). There is some confusion between Sides A and B here, as Heurgon and von Planta give the inscriptions in the reverse order to Franchi de Bellis, Rix and Crawford *et al.*, so that their ‘Side A’ is Crawford *et al.*’s ‘Side B’ and vice versa. Bücheler (1874, 609) makes it clear that he is referring to Crawford *et al.*’s Side A: he gives the text as **Minieís Kaísillieís Minateís ner. ekas iúvilas Iúveí Flagiuí stahint** and then adds “auf den andern kleiner und kürzer und schlechter beschriebenen Seite steht **Minnieís** mit doppeltem *n*”. Von Planta’s (1982-1987, 2.522, no. 138) comment on the “angedeutet” diacritic of **iúveí** is with reference to the form in his Side B (i.e. Crawford *et al.*’s side A). His reading differs from Crawford *et al.*’s only in (Crawford *et al.*’s) Side A **iúveí**. Only Rix prints **iúveí** in (Crawford *et al.*’s) Side B. On the basis of Heurgon’s photos, in which the writing is exceptionally clear, Crawford’s reading seems to be correct.

<sup>7</sup> Franchi de Bellis (1981, 132) states that she is following von Planta (1982-1987, 2.522, no. 138) for the no longer visible sections but in fact he prints **iúveí**, **minateís**; the <í> is clear in both words in Heurgon’s photos.

Capua 24<sup>8</sup>

Side A: [1-2]ḱ(ieís) paḱ(ieís) [c. 5]vii(úm) | paḱ(ieís) medikid | túvtik(ud)  
kapv(anud) | sakraítír<sup>9</sup> ka(sit)<sup>10</sup> | damsennias | pas fiét<sup>11</sup> pústr(eí) | iúkleí  
vehii(anasúm) | medik(id) minive | kersna[s]ias

Side B: [sak]ra[ít]ír | kas[it dam]s[en]nias pas fi[í]et | pústreí iúkleí  
| <v>ehiianasúm | a<v>t sakrim | fakiíad<sup>12</sup> kasit | medik(i)ḱ túvtik(ud) |  
kapv(anud) adpúd | fiét<sup>13</sup>

Franchi de Bellis (17) A: [helle]vii(eís), B: fakiíad, fiét

Rix (Cp 34 and Cp 33) A: sakraítír, kaşít, mi(nieís) B: sakra]ítír, fiét, fakiíad

## Capua 25 (Franchi de Bellis 22)

ek(úk) iúvil(ú) s(e)p(ieis) | kalúvieis<sup>14</sup> iní|m fratrúm | múinik(ú) est | fí-  
siais púm|periais pas pr|ai mamerttia]is set sakrasia]s | pettieis me|ddikikiai  
fuf]ens

Rix (Cp 30): kalúvieís, múíník(ú), fíisiaís, pumperiaís, me|ddikikiai

<sup>8</sup> I took photographs of Capua 24, Capua 26, Capua 27 and Capua 28 at the Museo Archeologico dell'Antica Capua, Santa Maria Capua Vetere (24/09/2013) and the Museo Campano, Capua (25/09/2015). Katherine McDonald has also kindly allowed me to see her photos of the same inscriptions (11/02/2015).

<sup>9</sup> From photos, I think the reading **sakraítír** rather than **sakraitír** is doubtful; the horizontal of the <í> could be the result of damage to the stone that cuts diagonally across the text and finishes just at the mid-point of the first <i>. But I am reluctant to go against the evidence of all the editors. I agree with Crawford *et al.* and Franchi de Bellis, against Rix, that there is not <í> in the final syllable

<sup>10</sup> "To see anything after *ka* is in our view wishful thinking" (Crawford *et al.* 2011, 425). I cannot make out anything in my photos.

<sup>11</sup> "The diacritical of the *i* merges with a damaged patch" (Crawford *et al.* 2011, 425).

<sup>12</sup> "Reversed diacritical on the second *i*" (Crawford *et al.* 2011, 425). Based on my autopsy and photos, I agree with this reading. The first <i> is perhaps an afterthought: it is rather close to the <k>, and smaller and fainter than both <k> and <í> on either side.

<sup>13</sup> "Reversed diacritical on the second *i*" (Crawford *et al.* 2011, 423). The horizontal here is much longer than in **fakiíad** (and below centre); presumably this is why the letter has often been taken by editors as <í>, unlike in **fakiíad**.

<sup>14</sup> "The apparent interpunct before the second *i* of *kalúvieis* is accidental damage, not an aberrant diacritical" (Crawford *et al.* 2011, 427).

Capua 26<sup>15</sup>

ęk(úk) iúvil(ú) s(e)p(ieis) ka|lúvieis inim<sup>16</sup> | fraþrúm múi|nik(ú)<sup>17</sup> est  
 f̄is̄ais | púmp̄er̄iais pra|i mamert̄t̄iais | pas set ker̄ss<n>|asias I pet̄t̄iē[i]s<sup>18</sup>  
 meddiki<a>i<sup>19</sup> | f̄ufens

Franchi de Bellis (23): inim, pet̄t̄iēi[s], meddikią̄

Rix (Cp 29): f̄is̄iais, pet̄t̄iēis

## Capua 27 (Franchi de Bellis 19)

Text A: sęp̄iēis heleviiēis s̄úm

Text B: mi(niēis) anni|iēi(s) medik|kiaí t̄úv(t̄íkaí) | iúvilam | pr̄úft(en)s |  
 p̄úmp̄eri/a(s) | falēnia/s<sup>20</sup>

Rix (Cp 28) B: fale(r)niias

## Capua 28/Cp 27

sep̄is | helevi(is) | p̄úmpe- | fale(nias) / r(ias) | iúvil(ú) de(kiēis) | virriiēis |  
 medikiā<sup>21</sup>

Franchi De Bellis (18): medikia(f)

As can be seen by the footnotes on the appropriate texts, Rix quite often varies from the readings of Franchi de Bellis and Crawford *et al.* Where I have been able to check against the photos I have, I have agreed with their readings over those of Rix (who I suspect may have tended to ‘regularise’ the spellings of the inscriptions). Consequently, in what follows I always follow the readings of either Crawford *et al.* or Franchi de Bellis; where they disagree I use the evidence of my own autopsy/photographs where possible, and otherwise leave the matter open (see the footnotes on the relevant inscription for more discussion).

In addition to the *iúvila* texts from Capua, which are unique in providing a range of inscriptions from the same area and in the same genre over a chron-

<sup>15</sup> Since both Capua 25 and Capua 26 were apparently written to commemorate the same occasion, they may have shared an author and/or stonecutter. Certainly their (non-)usage of <í> is very similar, but we cannot be certain of this.

<sup>16</sup> On the basis of the photos, I agree with Crawford *et al.* that the reading is *inim*.

<sup>17</sup> “The diacritical of the first *u* [of line 3] is clear, of the second neither visible nor to be excluded” (Crawford *et al.* 2011, 429)

<sup>18</sup> My photos show <í> clearly; like Crawford *et al.*, but contra Franchi de Bellis, I cannot see the final [i].

<sup>19</sup> Crawford *et al.* attribute the apparent horizontal of the line-final <í> to damage, contra Franchi de Bellis. My photos do not allow me to tell.

<sup>20</sup> The photo given by Crawford *et al.* clearly shows only a single <í> in this word (as do the photos I have).

<sup>21</sup> There is no sign of final <í> in the photos, so I follow Franchi de Bellis here.

ological spread across the adoption of the reformed alphabet, there are also a handful of other inscriptions from elsewhere which, on the basis of their spellings, may also belong to the period of uncertainty seen in the *iúvila* inscriptions. Most are difficult, either with regard to their readings or their datings, and are not included here, but I do give one which seems likely to belong to this context<sup>22</sup>.

Bouianum or Saepinum not Aesernia 1/Sa 22<sup>23</sup>

stenis kalaviis g(aaviieis) | anagtiat dííviiai | dunum deded

### 3. VARIATION IN THE USE OF DIACRITICS

In this section I will provide a breakdown of all instances in the inscriptions above where <í> and <ú> are used, or are omitted relative to the expected usage, by inscription and by phonological context. For the etymologies of the various forms I refer the reader to Untermann (2000).

Capua 20, Side A uses:

<í> as the last element of diphthongs: **minieís**, **kaísillieís**, **flagiuí**, **minateís**, **iuveí**

<sup>22</sup> Crawford *et al.* (2011, 23) are mistaken in claiming that Campania or Samnium 6/ZO 1 uses <í> but not <ú>; **upsed**, the only word containing <u>, stands for /u:psed/ (cf. **uupsens**, Pompeii 13/Po 1). Capua 38/Cp 2 is given by Crawford *et al.* (2011, 453-4) as **upfals patir miínieis**, but they comment that they “are very uncertain that the second *i* in *miínieis* really had a diacritical, rather than the paint having flowed into a hole in the surface”. Cumae 7/Cm 17 has [a]fstint according to Crawford *et al.* (2011, 503) but on the basis of my own photos (Museo Nazionale Archeologico, Naples, 01/07/2017), I am not sure that “[t]he apparent diacritical of the *i* is accidental damage”, as they state (although <i> is certainly correct in **afst|ist** for expected **afstíst**). Cumae 9/Cm 13, **stenim kalaiiúum tr<e>(bieis) | aginss urinss úlleis | fakinnss fang<v>am | biass biítam aftiím {a} | anamúm aitatúm | amirikum tíffei -?**, uses <i> for the off-glide of diphthongs, but <í> for /e/ (except perhaps in **amirikum?**) and <iú> for /i:/ (a slightly different reading is provided by Murano 2013, 144). Crawford *et al.* (2011, 507) give a date of 125-50 BC, following Maiuri (1913, 473), who dates the tomb in which the lead tablet was found to this period on the basis “del tipo, della giacitura e del materiale ceramico”. Unless the dating is wrong, this seems to suggest that variants on the reformed system were still in use much later than the Capua inscriptions.

<sup>23</sup> An inscription on a gold ring, known only from a copy of the text. Dated to c. 300 BC by Crawford *et al.* (2011, 985), on the basis of “*i*, but *u* not *ú*”. In fact, the only place where <ú> might be expected is in the final syllable of **dunum** ‘gift’ /dunom/, but /o/ appears to have been raised to [u] before word-final /m/, and is frequently written with <u> in this position, even in inscriptions which otherwise use the reformed alphabet as standard (Buck 1928, 37). But the inscription does diverge from the normal reformed alphabet in using <i> to write the diphthongs in **anagtiat dííviiai**, so it may well be dated to around this period.

<i> for /e/: **stahint** /sta.ent/

<u> for /o/: **iuvilas** /jowilas/, **iuveí** /jowei/, **flagiuí** /flagioi/<sup>24</sup>

#### Capua 20, Side B uses:

<í> as the last element of diphthongs: **minnieís**, **kaísillieís**, **iuveí**, **flagiuí**, **minateís**

<í> for /e/: **stahínt**

<u> and <ú> inconsistently for /o/: **iuvilas**, **iuveí**, **flagiuí**

#### Capua 24 uses:

<í> as the last element of diphthongs: **iúkleí** (× 2), **pústreí**

<í> as the last element of long /i:/: **fiíet**, **fiíet** /fi:ent/, perhaps **fakiíad** /faki:ad/ (?). See Section 4 for more discussion

<í> once, and inconsistently, for /e/: **sakraítir** /sakra.eter/ (unless we should read **sakraítir**; see fn. 9)

<í> perhaps once, and unexpectedly, for /i/: if we read [**helle**]vii(eís) /hellewijeis/ (Franchi de Bellis) rather than [c. 5]vii(úm) (Crawford *et al.*)

<i> for /e/: **medikid**, **medik(id)**, **medik(i)ḍ** /meddekid/, **túvtik(ud)** /towtekid/, [**sak**]ra[ft]ir /sakra.eter/, **sakrim** /sakrem/, **kasit** /kaset/, **minive** /meneve/<sup>25</sup>, and inconsistently in **sakraítir** /sakra.eter/

<ú> for /o/: **pústr(eí)**, **pústreí** /postrei/, **iúkleí** (× 2) /joklei/, **túvtik(ud)**, **adpúd** /adpod/

#### Capua 25 uses:

<í> (once) and <i> for /e/: **iní|m** /enem/, **me|ddikkiai** /meddekjai/, **múinik(ú)** /moineko/

<i> and <í> for /j/: **kalúvieis** /kalowjeis/, **púm|periais** /pomperjais/, **sakrasia|s** /sakrasjas/, **me|ddikkiai**, **pettieis** /pettjeis/, **fiísíais** /fe:sjais/. See below for more discussion.

<i> as the last element of diphthongs: **kalúvieis**, **múinik(ú)**, **fiísíais**, **púm|periais**, **pr|ai** /prai/, **mamerttia|is** /mamertjais/, **pettieis**, **me|ddikkiai**

<í> for /e:/: **fiísíais**

<ú> for /o/: **kalúvieis**, **múinik(ú)**, **púm|periais**, **fratrúm**, probably /fra:trom/<sup>26</sup>

#### Capua 26 uses:

<i> and perhaps <í> as the last element of diphthongs: **ka|lúvieis**, **mú|inik(ú)**, **fiísíais**, **púmperiais**, **pr|ai**, **mamerttiais**, perhaps **meddikiaí** (Franchi de Bellis), if not **meddikki<a>i** (Crawford *et al.*)

<sup>24</sup> For /-oi/ as the *o*-stem dative singular in Oscan, see Zair (2016, 53-6).

<sup>25</sup> If this is to be connected with Latin *mīnor*, as commonly supposed (Untermann 2000, 466-7).

<sup>26</sup> On the spelling of Oscan genitive plurals see Zair (2016, 67-8, 81-3).

<i> and <í> for /j/: **ka||úvies**, **púmpериаis**, **mamerttiais**, **kerss<n>|asias** /kersnasjas/, **pettíe|i]s** /pettjeis/, **fjisjais** /fe:sjais/  
 <i> for /e/: **inim**, **múi|nik(ú)**, **meddikki<a>i**  
 <ii> for /e:/: **fjisjais**  
 <ú> for /o/: **iúvil(ú)**, **ka||úvies**, **púmpериаis**, probably **fratrum**

**Capua 27 uses:**

<í> as the final element of diphthongs: **sepíeís**, **helevieís**, **medik|kiaí**  
 <i> for /e/: **medik|kiaí**  
 <i> and <í> for /j/: **medik|kiaí**, **helevieís** [hɛlɛwjeis], **anni|ieí(s)** /annijeis/, **sepíeís** /seppjeis/  
 <ú> for /o/: **súm** /som/, **túv(tikaí)**, **iúvilam**, **prúf(at)t(en)s** /profattens/, **púmperi|a(s)**

**Capua 28 uses:**

<í> as the final element of diphthongs: **virriieís**  
 <i> for /e/: **virriieís** /werrijeis/<sup>27</sup>, **medikiaí**  
 <ú> for /o/: **púmpe-r(ias)**, **iúvil(ú)**

**Bouianum or Saepinum not Aesernia 1 uses:**

<i> as the last element of diphthongs: **anagtiai**, **diíviiai**  
 <í> for /i:/ if **diíviiai** represents /di:wjai/, or  
 <í> for /e:/ if **diíviiai** represents /dje:wjai/<sup>28</sup>

Even without delving any deeper into the details of the orthography of these inscriptions, it is clear that the use of <í> and <i> is, on the whole, much more varied relative to the subsequent established conventions of the reformed alphabet than is the use of <ú> and <u>. In all inscriptions bar Capua 20<sup>29</sup>, <ú> is used consistently for /o/. The writer of Capua 20 Side A appears not be aware of the existence of <ú>, using <u> for all instances of /o/, while Side B is inconsistent, using <ú> once and <u> twice.

By comparison, we find only one inscription in which <í> is used consistently both for /e/ and for the second element of diphthongs, as it is in the

<sup>27</sup> Cf. **virriis** (Capua 33/Cp 36, Murano 2013 no. 1).

<sup>28</sup> Weiss (2012, 153) derives /di:wjai/ from \**diiuijo-* via an (Italo-Celtic) rule \**-ie- > -ii-* from \**dijeuijo-*, with an analogically introduced Lindeman variant \**dij-* for expected \**dī-*. Alternatively, **diíviiai** could represent /dje:wjai/, derived from \**djēuo-* ‘belonging to Jupiter’ (Untermann 2000, 179-80). The change /dj-/ > /j-/ is datable to 300 BC or a little before, but for maintenance of the <di> spelling in the name of the god, cf. **diúveí** (Teruentum 34 A.11, 12, B.14, 15/Sa 1), which is dated to the second century BC (Zair 2016, 110).

<sup>29</sup> And except Bouianum or Saepinum not Aesernia 1, which has no examples of [o].

standard reformed alphabet (Capua 20 Side B). In fact, rather the opposite: Capua 20 Side A, Capua 27 and Capua 28 distinguish between <í> used for the final element of diphthongs and <i> for /e/, while the same division is heavily favoured in Capua 24 (one doubtful example of <í> for /e/). Conversely, Bouianum or Saepinum not Aesernia 1 uses <i> for diphthongs and <íí> for either /i:/ or /e:/, Capua 25 uses <i> for diphthongs and has one instance of <í> for /e/ and <íí> for /e:/ beside <i> for /e/, while Capua 26 seems to prefer <i> for both diphthongs and /e/ (one uncertain case of <í> in a diphthong). The use of <í> for /j/ in Capua 25, Capua 26, Capua 27, and of <íí> rather than <íí> for /e:/ are also foreign to the standard reformed alphabet<sup>30</sup>.

Why should there be such a stark distinction between the variability in the use of <í> and the consistency of <ú>? The answer must have to do with the relative functional load on the symbols <u> and <ú> and <i> and <í> in terms of match to the phonemes of Oscan. The Oscan alphabet had already inherited from the Etruscan alphabet (which had inherited it from the Greek alphabet) an imbalance between symbols for high front vowels and their corresponding glides. Etruscan had the high vowels /i/ and /u/, along with the glides /j/ and /w/. However, while /u/ and /w/ were represented by <u> and <v> respectively, both /i/ and /j/ had to make do with <i>. This situation was continued in Oscan, which also maintained the Etruscan habit of representing the high back off-glide in diphthongs with <v> rather than <u>; naturally, as also in Etruscan, the front equivalent was represented by <i>.

However, Oscan had more phonemic vowels than Etruscan's four, consisting of the low mid vowel /a/, three front vowels, /ɛ/, /e/ and /i/, and two back vowels, /o/ and /u/. As a result, at the time of the initial borrowing of the alphabet, there was a significant overloading of phonemes to letters in Oscan, with <i> representing /i/, /e/ and /j/, and <u> representing /u/ and /o/ (but not /w/, which was written with <v>). This paucity of letters was solved by the invention of <ú> and <í>, but to different extents. With regard to the back vowels, Oscan now had a fully one-to-one match, with <u> available for /u/ only, <ú> for /o/, and <v>, as before, for /w/. On the front axis, however, there was still a problem, since <i> and <í> still had to cover three phonemes, /i/, /e/ and /j/.

Eventually, a consistent system emerged, whereby <i> was reserved for /i/ and for /j/ other than as the off-glide of diphthongs, with <í> representing /e/

<sup>30</sup> The temptation is strong —perhaps rightly— to standardise the spelling by choosing the reading for the uncertain cases that fits with the rest of the inscription. By doing so, we could get consistent <i> for diphthongs and <í> for /e/ in Capua 26. In Capua 24, if *sakraítir* /sakra. eter/ is in fact the right reading, we could explain the single instance of <í> for /e/ as being due to force of habit, since the diphthong /ai/, spelt <aí>, must have been much more frequent than the two vowels in hiatus of /a.e/, 'correctly' spelt <ai>.

and the glide in diphthongs. According to Buck (1928, 42) this is because the off-glide of the diphthong had been lowered to [e], so that <í> is being used here with its normal vocalic value; Latin appears to have undergone a similar change in diphthongs, resulting in the change of spelling from <ai>, <oi> to <ae>, <oe> in the second century BC.

Such an assumption could neatly explain the variation between <aí> and <ai> in some of the Capua inscriptions: where we find <aí>, the writer has prioritised the phonetic reality of the diphthong [ae], while <ai> notates the phonemic diphthong /ai/. However, while this would work for inscriptions which use <í> for both /e/ and diphthongs as in the standard reformed alphabet (Capua 20, Side B), and for inscriptions which use <í> for /e/ and <i> for diphthongs as in Capua 25 (inconsistently), it runs aground on inscriptions which use <i> for /e/ but <í> for diphthongs, as in Capua 20, Side A, Capua 27, Capua 28, Capua 24 (if we read **sakraiṭir** or 'correct' **sakraiṭir** to **sakra<i>ṭir**), and conceivably Capua 26 (if we accept the single possible instance of a diphthong in <í>). This is because if it is <i> that is used for /e/, <í> in the diphthongs cannot be representing [e] by carry-over of the vocalic value.

Now, it is possible that in these inscriptions we simply do not have enough data to know whether their usage of <i> and <í> was consistent: in Capua 27 we have three examples of diphthongs (all with <í>) and one example of /e/ (with <i>) and in Capua 28 there is one, or perhaps two, example(s) of diphthongs (with <í>) and two examples of /e/ (with <i>). Perhaps if we had longer samples of texts by these writers, we would find instances of /e/ with <í>, which could then be used to explain the diphthongs in <í>. But even in the case of Capua 24, where there is inconsistency between <i> and <í> in representation of /e/, I find it hard to say that the <í> in all three instances of diphthongs is due to the influence of the use of <í> for /e/ when we have only one instance of this (which is anyway doubtful; see footnotes 9 and 30) versus ten in which /e/ is written as <i>.

Moreover, this explanation does not explain the few, but hard to dismiss, cases of <í> being used for /j/ outside a diphthong, since in this context there is no reason to suppose lowering. The most straightforward case is **fiísíais** (Capua 25) and **fiísíais** (Capua 26) 'at the festival', which are exactly cognate with Latin *fēriae* and hence come from \**dʰēsjā-*, even though each inscription has four other examples of /j/ being spelt with <i>.

In the same pair of inscriptions we find the same name once spelt **pettieis** (Capua 25), once **pettiē[i]s** (Capua 26), while in another pair **sepiéis** in the genitive (Capua 27) compares with its nominative **sepis** (Capua 28). Here there are more possibilities as to what <í> may represent, since Oscan possessed both names which had a nominative in /-is/ and a genitive in /-jéis/, like **dekis**, **dekieís**, and names which had a nominative in /-es/ and a genitive in

/-e.eis/<sup>31</sup>. So we could suppose either /pɛttjɛis/ or /pɛtte.eis/, /sɛpis/ and /sɛpjɛis/ or /sɛpes/ and /sɛpe.eis/. However, since Capua 26 uses /i/ for its other four examples of /e/, as does Capua 27 (although there is only one example), it seems more likely that <í> represents /j/.

In place of Buck's suggestion, which runs into problems with this data, I would explain the variation in the Capua inscriptions on the basis of the imbalance on the front axis relative to the back axis. At the time when <í> was first emerging, it is easy to see that users could be confused about its value: should <í> be seen as the front-axis equivalent of <ú> and hence represent /e/, or should it be seen as the equivalent of <v> and represent /j/? The result was inconsistency and variation in the use of <í>, both within individual inscriptions and across the small corpus. There was no such trigger for variation in use of <ú>, which was consequently adopted for /o/ (and only /o/) much more quickly and consistently.

Back axis	Front axis, possible system 1	Front axis, possible system 2	Front axis, eventual system used in the reformed alphabet
/u/ = <u>	/i/ = <i>	/i/ = <i>	/i/ = <i>
/o/ = <ú>	/e/ = <í>	/e/ = <i>	/e/ = <í>
/au/ = <av> /eu/ = <ev> /ou/ = <úv>	/ai/ = <ai> /ei/ = <ei> /oi/ = <úi>	/ai/ = <aí> /ei/ = <eí> /oi/ = <uí>	/ai/ = <aí> /ei/ = <eí> /oi/ = <uí>
/w/ = <v>	/j/ = <i>	/j/ = <í>	/j/ = <i>

FIGURE 2

Imbalance between phonemes and letters on the front axis compared to the back axis

#### 4. FURTHER THOUGHTS ON THE DEVELOPMENT OF THE OSCAN ALPHABET

At this point, my initial aim of explaining the difference in variability in the use of <í> and <ú> in the Capua inscriptions is complete. Nonetheless, some questions remain about the details in the use of <í> in Capua, which turn out

<sup>31</sup> The evidence for these names, which have not generally been recognised thus far is, as praenomina: αρεξ (Petelia 2), [ga]avíeís (Atina 1.A/Sa 14); as gentilicia: paaristís (Pompeii 51/Po 57), μεεξ (Crimisa 3/Lu 44), bení(eís) (Bouianum 119/tSa 27 = tSa 29, if the expansion of the abbreviation is correct), κοττειηξ (Vibo 5/tLu 3), τουρεειξ (Vibo 7/tLu 7); as cognomen: flakís (Aeclanum 4/Hi 1); uncertain whether praenomen or gentilicium: pakís (Venusia 3), μαραειν (Laos 2.1, .7/Lu 46); female name: pakíu (Pompeii 91/Po 87).

to be relevant also for understanding the way that the conventions of the reformed alphabet came about<sup>32</sup>.

In the first place, if it is correct that inconsistency in the Capua inscriptions is the result of uncertainty as to whether <í> should represent /e/ or /j/, the question remains why nearly all examples of <í> for /j/ are in diphthongs, while /j/ elsewhere is generally represented by <i>; a polarisation which became complete when the reformed alphabet was standardised. One possible reason is the avoidance of polysemy, since a consonant followed by <í> followed by a vowel, such as <tía>, could represent two possible sequences: either /tja/ or /te.a/ (as in e.g. **pútiad** ‘let him/her be able’ /pote.ad/, Capua 33/Cp 36). This could be solved by writing /tja/ as <tia>, which was unlikely to be mistaken for /ti.a/, as this sequence was very uncommon, and anyway could be—and generally was—written /tiia/<sup>33</sup>.

With regard to spellings of the type <aí>, on the other hand, the diphthongs /ai/, /ei/ and /oi/ will have been far more frequent than the sequences /a.e/, /e.e/ and /o.e/. The latter two will have been practically non-existent. The sequence /a.e/ will have been more common, being found in subjunctives of *ā*-stem verbs (as in **sakraítir**), staves formed to roots ending in *-a-* (as in **staíet** ‘they stand’ /sta.e.ent/, Abella 1.B 32/Cm 1), and names with nominatives in *-es/* to stems in *\*ā* (as in **μαραεiv**, Laos 2/Lu 46); but these contexts are still much more infrequent than the diphthong /ai/. Moreover, these cases of vowels in hiatus could be distinguished from diphthongs by the use of <h> as a hiatus marker (as in **stahint**, **stahínt**, **saka(ra)híter** ‘is to be sacrificed’ /sakara.eter/, Teruentum 34.9/Sa 1).

In this case, therefore, although the initial comparison with the use of <u>, <ú> and <v> would have been expected to lead to the generalisation of either <í> or <i> for the glide /j/ both as the final element of diphthongs and elsewhere, other pressures within the system, caused by the phonological patterns of Oscan, meant that <í> continued to be used in diphthongs, while <i> was generalised for /j/ in other contexts.

Another peculiar feature of the reformed alphabet is the spelling of /i:/ as <ií> rather than <ii>, as might be expected. Once again, Buck (1928, 35-6) raises as a possibility that this may be because of a ‘breaking’ of /i:/ to [ie], although he prefers the idea that it is due to avoidance of <ii> because of its other uses. Neither of these explanations is particularly compelling: the breaking ar-

<sup>32</sup> I leave aside Franchi di Bellis’ reading [helle]víi(eís) in Capua 24, which is too uncertain to say anything about.

<sup>33</sup> Original sequences of the type *\*-CiV-* had become *\*-CíV-* early in the history of Oscan (C = consonant, V = vowel); new *-CiV-* sequences arose only in loanwords, by the sound change *\*-yí- > [wij]* (Zair 2016, 117-29), and from *\*-iV-* by shortening of long vowels in non-initial syllables.

gument has the same disadvantages as the idea of lowering in diphthongs discussed above, while the other uses of <ii> were unlikely to cause confusion, since there are very few contexts in which <ii> is otherwise found between two consonants<sup>34</sup>.

A striking usage in this light is <ií> for /e:/ in **fiísais** (Capua 25), which—if the writer wanted to mark length at all—would normally be spelt <í> in the reformed alphabet. Clearly, <í> cannot be marking breaking since we are dealing here with /e:/ not /i:/. Nor is it likely to be a way of clarifying that the vowel is /e:/ not /i:/, since <í> would make more sense for that, and anyway the writer of this inscription only bothers to use <í> to write /e/ once out of four instances (not including this one). The most likely explanation is that <í> here—and originally in <ií> for /i:/ in the reformed alphabet—is being used to mark length.

If this is the case, how did this usage come about? The key, I believe, is in instances where a long /i:/ or /e:/ is found before a vowel, as in **fiíet**, **fiíet** /fi:ent/ (Capua 24; though there is some doubt about the readings: see footnotes 11 and 13)<sup>35</sup>. Now that we know that <í> could initially represent /j/, a spelling like **fiíet** was originally intended to write [fi:jent]. The representation of a purely phonetic glide in this way may seem surprising, but it makes sense that it might have been done precisely at the time of the introduction of the reformed alphabet. For in the unreformed alphabet glides of this sort, apparently arising after both /i/ and /e/, were often written, as in **iiuk** (Capua 15/Cp 8) ‘this (fem. sg.)’ /eok/, **putiiad** (Capua 34.7, 8/Cp 37) ‘may (s)he be able’ /potead/, **tiianeí** (Teinum Sidicinum 26/Si 5 etc.) ‘at Teinum’ /te:anei/, **tiium** ‘you’ (Capua 34.5/Cp 37) /ti:om/.

For a brief period, this habit may have continued into the reformed alphabet, but of course using the new symbol <í> to represent the glide. However, since the relationship between spelling and sound in a word like **fiíet** could also be analysed phonemically as /fi:ent/ instead of phonetically as [fi:jent], <ií> could be reanalysed as a way of marking length, especially since there was already a convention of using two letters for marking length in vowels. This reanalysis was of course further supported by the move away from using <í> to mark /j/, which was presumably a fairly rapid development, since most exam-

<sup>34</sup> In the reformed alphabet, <ii> is basically found in three contexts: to represent double /jj/ between vowels in words like **púmpaiians** ‘Pompeian’ /pompajjans/ (Pompeii 24/Po 3); to represent [ij] after a consonant and before a vowel (e.g. **arkiia** [arkija] Pompeii 65/Po 65, borrowed from Greek Ἀρχία), and in gentilicia like **dekkiiis** (Saepinum 4/Sa 59), where <ii> presumably actually does represent something like /-ies/, and is later replaced with <ií> (Zair 2016, 47-9, 117-19).

<sup>35</sup> There is also **fakiíad**, whose reading is somewhat uncertain (see fn. 12). If the reading is correct, it probably represents /faki(:)ad/ (see Zair 2016, 126-8, although there I thought that this would require a spelling **fakiíad**).

ples in these inscriptions are already spelt <i>. In inscriptions which use <i> for /e/, like Capua 25 and Capua 26, the same thing could happen for /e:/; no example is attested, but the model will have been cases like /te:anɛi/, [te:ɛanɛi], spelt **tiianeī** in the unreformed alphabet, then \***tiianeī** in the early reformed alphabet, before writing of the glide was dropped, as in **tíanud** ‘from Teanum’, datable to 275-250 BC (Teanum Sidicinum 1/nSi 1b, 1c).

## 5. CONCLUSION

The inscriptions, mostly from Capua, that date to the first stages of the adoption of <ú> and <í>, show differences from the way that these signs are used once they have become better established. However, the treatment of <ú> is much more stable than that of <í>: most inscriptions use it consistently for /o/, one does not use it at all, and only one shows use of both <u> and <ú> for /o/. The picture is very different for <í>: some inscriptions use it for /e/ but not in diphthongs, some use it in diphthongs but not for /e/, some use it for /j/, and some show inconsistent usage.

This greater variation in the use of <í> can be explained by the fact that, even after it had been invented, Oscan still had more phonemes than symbols in the front axis; since <ú> represented /o/ and <v> represented /w/, <í> could be considered to be the equivalent of <ú>, and hence used for /e/, or the equivalent of <v>, and hence used for /j/ (or, in practice, could be used inconsistently for one or both).

Investigation of the inscriptions from this unsettled period helps to explain some of the peculiar characteristics of the reformed alphabet once it had settled down. The surprising use of <í> to represent /j/ in diphthongs but not in other contexts is shown not to be original, but to have come about as a way of avoiding the use of <í> in contexts where the phonotactics of Oscan allowed for both /e/ and /j/, and hence resulted in ambiguity. The use of <iú> to represent /i:/ is shown to be the result of reanalysis of cases like **fiíet**, where <iú> before a vowel originally represented a phonetic sequence [i:j].

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Kalitatea adierazteko zigilu bat da **ehupress**. Label horren azpian argitaratzen diren jatorrizko guztiek kanpoko ebaluazio bat gainditu dute, gutxienez bi adituren eskutik gauzatuta, parekoen ebaluazio bikoitz itsua metodoa erabiliz.

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