

# Latin pronunciation

(from ancient to ‘modern’)

Luciano Canepari – © 2018<sup>2</sup>

## 1. Vowels & diphthongs \*

i	(ī) /i/ [i], /CiV/ [CiV] CiV, /VjV/ [ViV] ViV, /#jV/ [#jV] #iV <sup>2</sup>
	(ī) /i:/ [ii(C/V), °i] <sup>1</sup>
e	(ē) /ε/ [ε, °ε]
	(ē) /e:/ [ee(C/V), °e] <sup>1</sup>
a	(ā) /ε/ [ε]
	(ā) /a:/ [aa(C/V), °a] <sup>1</sup>
o	(ō) /ɔ/ [ɔ, °ɔ]
	(ō) /o:/ [oo(C/V), °o] <sup>1</sup>
u	(ū) /u/ [u], /CūV/ [CūV] CuV <sup>3</sup>
	(ū) /u:/ [uu(C/V), °u] <sup>1</sup>
y	(ÿ) /y/ [y] <sup>4</sup>
	(ÿ) /y:/ [yy(C/V), °y] <sup>1, 4</sup>
ei	/εi/ [εi, °εi] <sup>5</sup>
ei	(eī) /εi:/ [εi, °εi]
eu	/εu/ [εu, °εu] <sup>5</sup>
ae	(æ) /εe/ [εe] <sup>5</sup>
au	/εu/ [εu] <sup>5</sup>
oe	(œ) /oe/ [oe] <sup>5</sup>
ou	/ɔu/ [ɔu, °ɔu] <sup>5</sup>
ui	/ui/ [ui] <sup>5</sup>

\* Examples for the main Latin vocalic elements:

*vīdīt* /'wi:dit/ [ˈwiidit] ‘he/she saw’ – *vīdīt* /'widit/ [ˈwidit] ‘he/she sees’  
*vēnīt* /'we:nit/ [ˈweenit] ‘he/she came’ – *vēnīt* /'wenit/ [ˈwenit] ‘he/she comes’  
*mālūm* /'ma:lum/ [ˈmaalō] ‘apple’ – *mālūm* /'malum/ [ˈməlō] ‘bad’  
*pōpūlūm* /'po:pulum/ [ˈpoopulō] ‘poplar’ – *pōpūlūm* /'pɔpulum/ [ˈpɔpulō] ‘people’  
*fūrōr* /'fu:rɔr/ [ˈfuurɔr] ‘I steal’ – *fūrōr* /'fʊrɔr/ [ˈfʊrɔr] ‘rage’.

Further useful examples:

*lēgēm* /'le:gem/ [ˈleegē] ‘law’ – *lēgīt* /'legit/ [ˈlegit] ‘he/she reads’  
*vēlūm* /'weelum/ [ˈwelō] ‘veil’ – *pīlūm* /'pilum/ [ˈpilō] ‘hair’ – *vīnūm* /'wi:num/ [ˈwiinō] ‘wine’  
*vittām* /'wittem/ [ˈwittē] ‘peak’ – *sēctām* /'sektem/ [ˈsektē] ‘sect’

fig 1. Classical Latin vowels.

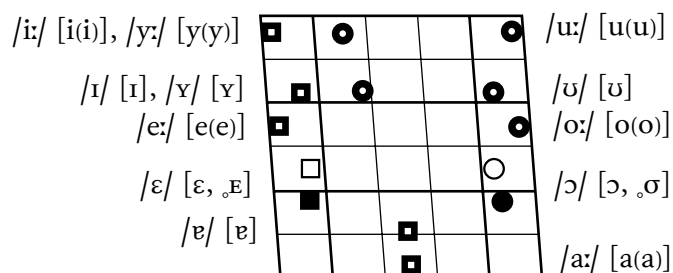


fig 2.1. Classical Latin diphthongs.

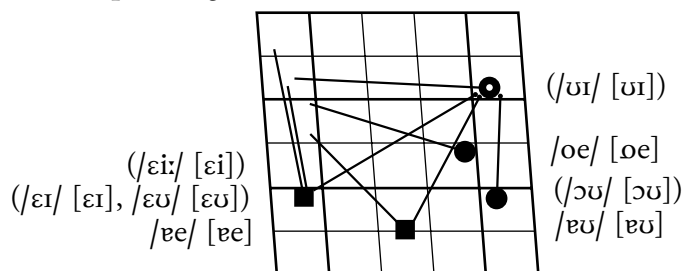


fig 2.2. Classical Latin diphthongs: colloquial variants.

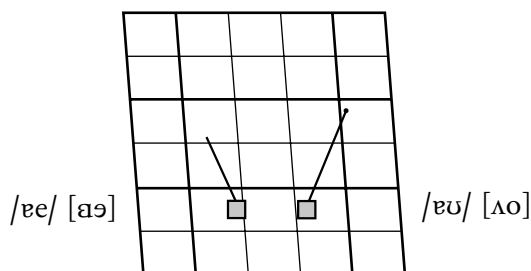
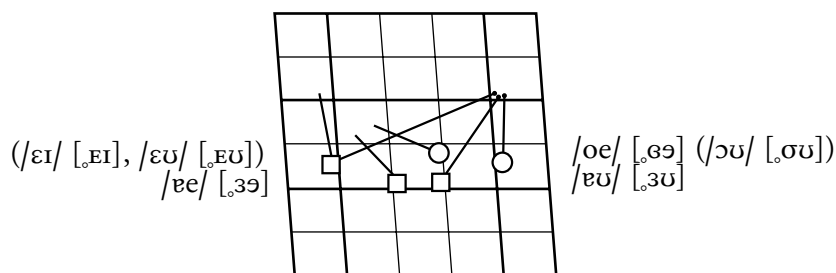
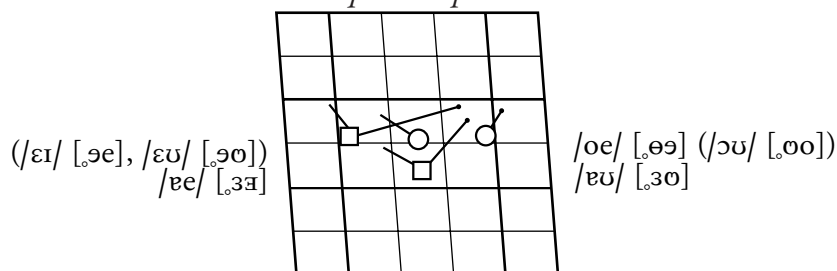


fig 2.3. Classical Latin diphthongs in unstressed syllables (including quicker speech variants).



*In quicker speech.*



sōlēm /'so:lɛm/ ['soolɛ̃] 'sun' – nŭcēm /'nʊkɛm/ ['nʊkɛ̃] 'nut' – lŭcēm /'lu:kɛm/ ['luukɛ̃] '(a) light'

*rūptūm* /'rʊptʊm/ [ˈrʊptũ] ‘broken’ – *cōctūm* /'kɔktʊm/ [ˈkɔktũ] ‘cooked’  
*cūrsūm* /'kʊrsʊm/ [ˈkʊrsũ] ‘course’ – *cōrsūm* /'kɔrsʊm/ [ˈkɔrsũ] ‘Corsican’

And: *praedām* /prædām /'prædɛm/ [ˈprædɛ̃] ‘prey’  
*coenām* /cœnām /'kœnɛm/ [ˈkœnɛ̃] ‘supper’  
*aurūm* /'ɛʊrʊm/ [ˈɛʊrũ] ‘gold’.

fig 3. Classical Latin nasalized vowels.

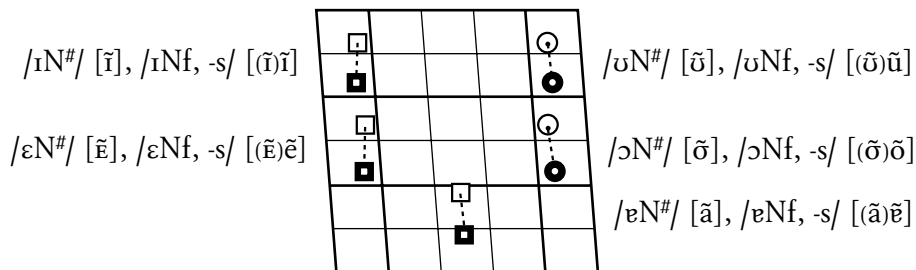
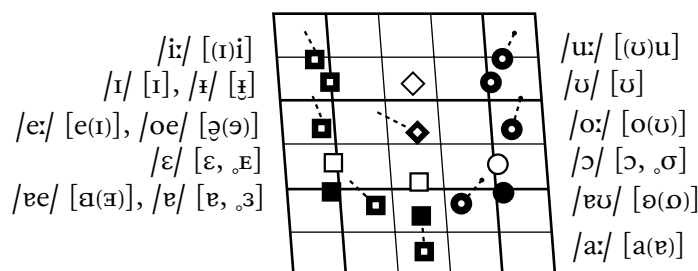


fig 4. Rural/popular Latin vowels & diphthongs (with no /y:, ɣ/, but with /ɣ/ [ɣ]).



<sup>1</sup> There is a phonetic difference in length between stressed ([ˈ]) and unstressed long vowels ([ː]): *ārā* (abl.) /'a:ra:/ [ˈa:ra], cf *ārā* (nom.) /'a:re/ [ˈa:re].

<sup>2</sup> *Audio*, *peius* (*pejus*), *etiam*, *iam* (*jam*) /'ɛʊdiɔ:, 'pɛiɟʊs, 'ɛtiɐm, 'jɛm/ [ˈɛʊdiɔ, 'pɛiɟʊs, 'ɛtiɐ̃, 'jɛ̃ɛ̃]. For metrical reasons, certain dictionaries and grammars, unfortunately, mark as ‘long’ the *short vowels* that precede *iV*, which –in reality– are /'VɪjV/ [ˈVɪjV], *eg pēĩs*.

<sup>3</sup> *Puer*, *puella* /'pʊɛr, pʊ'ɛllɐ/ [ˈpʊɛr, pʊ'ɛ̃llɐ]. But *quV*, *nguV* are /kw, ngw/ [k̟, ŋ̟, k̟̃, -g̃] (fig 6).

<sup>4</sup> Rounded, generally used in Greek loans, and appear in the vocogram boxes just to the right of those of /i:, ɪ/ [ii, ɪ].

<sup>5</sup> There occur various vowel sequences, which are true phonetic diphthongs, even if phonemically we prefer to consider them simply as sequences, just like consonant sequences.

The two more frequent sequences (in lexemes) are: *au* /ɛʊ/ [ɛʊ] and *ae* (æ) /ɛɛ/ [ɛɛ] (which is derived from archaic *ai* /ae/ [ɛɛ]; quite frequent as desinential grammeme); *oe* (œ) /oe/ [oe] is rare; while *ei* /ɛi/ [ɛi], *eu* /ɛʊ/ [ɛʊ], *ui* /ʊi/ [ʊi] are decidedly rarer; even more so are *eĩ* /ɛi:/ [ɛi], *yi* /ɣi/ [ɣi], and *ou* /ɔʊ/ [ɔʊ], which only occurs lexically in the conjunction *prout*, although in phono-texts we also find -o V-, /o:ʰV, ɔʰV/. We can even find triphthongs formed by -ae + V- /ɛɛʰV/, provided there are neither interruptions, nor stress increases on the initial vowels.

In cases like *aes*, *aeris* we have /'æes, 'æeris/ ['æes, 'æeris] (*æ*s, *æ*ris, short diphthongs), while *aer*, *aeris* (often indicated as *aër*, *aëris*), are, instead, /'aæ:r, 'aæris/ ['aæer, 'aæeris] (long diphthongs), from Greek ἀήρ. Also: *poena* /'pœnə/ ['pœnə] (short diphthongs), but *poema*, *poematis* (or *poëma*, *poëmatis*) /pœ'ei:mə, pœ'ei:mætis/ [pœ'ei:mə, pœ'ei:mætis] (hiatuses) from Greek ποίημα. We also have cases like *aunculus* /'eʊŋkʊlus/ [eʊŋkʊlus] (from *avunculus* /'eʷŋkʊlus/ [eʷŋkʊlus]).

fig 4 includes the possible alternative /ɛ̃/ phoneme, which could occur, before /m, p, b, f/ or after /w/, in words like *optimus*, *manipulus*, *libet*, *pontifex*, *virtus*.

## 2. Consonants (here shown in alphabetical order, but see fig 5)

<i>b</i>	/b/ [b] <sup>6</sup>
<i>c, k</i>	/k/ [k] <sup>7</sup>
<i>ch</i>	/kh/ [kh] <sup>7</sup>
<i>d</i>	/d/ [d] <sup>6</sup>
<i>f</i>	/f/ [f]
<i>g</i>	/g/ [g, ɣ], /gN/ [ŋN, ŋN] <i>gn, gm</i> <sup>8</sup> , and <i>ngu+V</i> /ngw/ [ŋɣ̃, ŋɣ̃] <sup>13</sup>
<i>h</i>	/h/ [h/fi] <sup>9</sup>
<i>l</i>	/l/ [l], /lV/ [lV] <i>lV</i> , /l#/ [ɫ#] <i>l#</i> , /lC/ [ɫC] <i>lC</i> , /ll/ [ɫl] <i>ll</i> <sup>10, 18</sup>
<i>m</i>	/m/ [m], /Vm#/ [ṽṽ̃, ṽ̃] - <i>Vm</i> (#, V-), /N(♯)C/ [N≡C] <i>m(♯)C</i> <sup>11</sup>
<i>n</i>	/n/ [n], /VnC/ [VN≡C] <i>VnC</i> , but /Vnf, -s/ [ṽṽ̃f, ṽ̃f, -s] <i>Vnf, Vns</i> <sup>12</sup>
<i>p</i>	/p/ [p] <sup>7</sup>
<i>ph</i>	/ph/ [ph] <sup>7</sup>
<i>qu</i>	/kw/ [k̥, ḳ], and <i>ngu+V</i> /gw/ [ŋɣ̃, ŋɣ̃] <sup>13</sup>
<i>r</i>	/r/ [r], <i>rh</i> /r(h)~(h)r/ <sup>14, 18</sup>
<i>s</i>	/s/ [s], [z] + /b, d, g/; <i>b, d, g</i> , but not before /m, n; r; l/ <i>m, n, r, l</i> <sup>15, 16</sup>
<i>t</i>	/t/ [t], <i>tiV</i> /tiV/ [tiV] <sup>7</sup>
<i>th</i>	/th/ [th] <sup>7</sup>
<i>v</i>	/w/ [w]
<i>x</i>	/ks/ [ks] <sup>17</sup>
<i>z</i>	/z/ [z] <sup>18, 19</sup>

fig 5. Classical Latin consonants, with taxophones, & popular/rural variants between ( ).

	bilabial	labiodental	dental	dentovelar	alveolar	alveovelar	prepalatal	palatal	postpalatal	prevelar	velar	prevelolabial	velolabial	laryngeal
Nasal	m [m]		[n]	n	[ɲ]		[ɲ]	[ɲ]	(ɲ)	[ŋ]	[ŋ]			
Stop	p b		t d					(c ɟ)	[k ɡ]	k ɡ	[k ɡ̃]	[k ɡ̃]		[ʔ]
Constrictive	(φ β)	f	s [z]-(ð)		(z)			(ç)	(ʝ)	(ʝ)				
Approximant								j					w	h [ɦ]
Tap					r									
Lateral			[l]	[ɫ-ɫ]	l	[ɫ]-(ɾ)	[ɫ]							

<sup>6</sup> /b, d/ become /p, t/ [p, t] when followed by voiceless consonants: *urbs*, *obtu-*

*sus*, *adpatruus* /ʊrps, ɔp'tu:sus, ɛt'pɛtrʊs/ [ʊrps, ɔp'tu:sus, ɛt'pɛtrʊs], except for insistence. Of course, we have *x* /ks/ [ks], *ie* 'cs', as in *rex* /rɛks/ [rɛks]. In sentences, *ab*, *sub*, *ad* assimilate to following consonants, according to usual word formation rules (nowadays, crystalized in the current spelling of Latin texts).

This produces geminates, in fluente speech, with the possibility to keep their place of articulation before other stops or nasals. However, voicing is lost before voiceless consonants: *ad portas* /ɛp'pɔrtas, ɛt'p-/ [ɛp'pɔrtas], *ad quem* /ɛk'kwɛm, ɛt-'kwɛm/ [ɛk'kwɛ̃̃], *sub monte* /sʊm'mɔntɛ, sʊb'm-/ [sʊm'mɔntɛ], *sub die* /sʊd'diɛ, sʊb-'d-/ [sʊd'diɛ], *sub fine morbi* /sʊf'fi:nɛ 'mɔrbi:/ [sʊf'fi:nɛ 'mɔrbi].

<sup>7</sup> 'Aspirated' voiceless stop, actually the sequence /kh/ [kh], mainly in Greek loans, as a phonostyleme (for φ, θ, χ). Of two adjoining 'aspirated' stops, the first one loses its 'aspiration': *phthisis* /ph'thɪsɪs/ [p'thɪsɪs].

<sup>8</sup> In clear and precise pronunciation, /gN/ (ie /g/ + nasal) can be [gN]. The highly controversial matter about [ɲn] and [gn], for *gn*, is simply a tiny realization difference for /gn/. In fact, even in word-initial position in a phrase, we have [ɲn]: *tibi gnarigabo* /tɪbɪɲnari'ga:bo:, tɪbi:/ [tɪbɪɲnari'gaabo, tɪbi-]. In addition, any form with *gn-* are mainly archaic: *nosco* /'no:sko:/ ['noosko] (← *gnosco*) –including the name *Gnaeus* /g'næus/ [g'næus] – or, in any case, with variants in *n-*: (*g*)*naritas* / (g)'na:rita:s/ [(g)'naaritas], thus also [tɪbɪnari'gaabo, tɪbi-]. We equally have *tegmen* /tɛgmɛn/ [tɛɲmɛn], or [tɛgmɛn] for insistence (more systematically so in rural and popular speech). For *ngu* see *g* and *qu*.

<sup>9</sup> Rather weak, even in preclassical age, and not rarely voiced; between vowels, by then = /θ/: *nihil* /'ni:l/ ['niɪ̃, 'nɪɦɪ̃], *mihi* /'mi:i, 'mi:/ ['mi, 'mi].

<sup>10</sup> Thus, velarized alveolar lateral, /l/ [ɭ], before a pause or a consonant. But /ll/ [ɭɭ] and /li:, li, li/ [ɭi(i), ɭɪ, ɭj]. Up to the end of the preclassical age, [ɭ] also occurred before non-front vowels (including /ɛ, a:/), as shown by *famulus* /fɛmʊlʊs/ [fɛmʊ-ɭʊs] or *simulare* /sɪmʊ'la:rɛ/ [sɪmʊ'laarɛ] (vs *familia* /fɛ'mɪlɪɛ/ [fɛ'mɪlɪɛ] or *similis* /sɪ'mɪlɪs/ [sɪ'mɪlɪs]) where, by assimilation, the vowels which preceded [ɭ] had become back ones.

<sup>11</sup> *Word-finally*, either before a pause or a vowel beginning a following word, *m* simply nasalizes the vowels, [ɪ, ɛ, ɛ̃, ɔ, ɔ̃], by lengthening them into narrow closing diphthongs if stressed, [ɪ̃ɪ̃, ɛ̃ɛ̃, ɛ̃ɛ̃, ɔ̃ɔ̃, ɔ̃ɔ̃]. Let observe: *pulchrum est* ['pʊɭkhrʊst], *pulchra es* ['pʊɭkhrɛs].

When final before a consonant, *m* behaves as /n<sup>(#)</sup>C/: [m] + /p, b, m/; [n] + /t, d, n/; [ɲ] + /k, g; kw, gw/ ([ɭ, ɠ; ɭ, ɠ]). But, *m* is dropped, while nasalizing a preceding vowel, when followed by /j, w, h/ (even [ʔ] by emphasis). When followed by /f, s/, before /r, l/, it is either dropped nasalizing the vowel, or completely assimilated. Let us just consider a couple of exaples: *cum grano salis*, *cum libro* /kʊn'gra:no 'sɛlis; kʊl'li:bro:, kʊm'li:bro:/ [kʊɲ'graano 'sɛlis; kʊɭ'li:bro, kʊ̃'li:bro].

Word-internal *m* is kept, becoming homorganic to a following consonant: *quamquam* /kʷɛnkʷɛm/ [kʷɛɲkʷɛ̃], *omnis* /'ɔnnɪs/ ['ɔnnɪs]. In our phonemic transcriptions, we simplify a bit, using /Vm/ for nasal(ized) vowels, [Ṽ]. The same is done for /kw, gw/ [ɭ, ɭ; ɠ, ɠ].

<sup>12</sup> Alveolar before a vowel, but homorganic to a following consonant, except

for *nf* and *ns*, where nasalization (as in the preceding case) and lengthening occur, in stressed syllables: *confero*, *constans*, *constantis*, *mens*, *mentis* /<sup>h</sup>kɔ̃nfɛrɔː, <sup>h</sup>kɔ̃nstɛns, kɔ̃nstɛntɪs, <sup>h</sup>mɛns, <sup>h</sup>mɛntɪs/ [k<sup>h</sup>ɔ̃ɔ̃fɛrɔ, k<sup>h</sup>ɔ̃ɔ̃stɛs, kɔ̃stɛntɪs, <sup>h</sup>mɛ̃ɛs, <sup>h</sup>mɛntɪs].

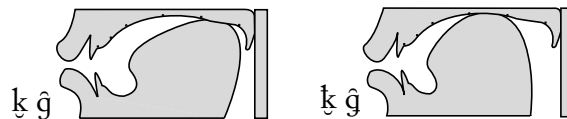
(Traditionally, for metrical reasons –by forcing things, given the very limited written possibilities– this fact is shown as /V:/, but also keeping *n*: \**cōnfērō*, \**cōnstāns*, \**cōnstāntīs*, \**mēns*, *mēntīs*. This lets people think we may have \*<sup>h</sup>[koomfɛrɔː, <sup>h</sup>koonstaans, koonstɛntɪs, <sup>h</sup>meens, <sup>h</sup>mɛntɪs], where excessively long vowels, in unstressed syllables, are clearly surprising, at least in everyday language.

In word-final position, in phrases with *in*, *non*, we find that *n* /n/ assimilates not only to stops and nasals, but also to /j, w/ [ɲj, ŋw] (including /ni(ː), nɪ, nj/ [ɲi(i), ɲɪ, ɲj], word-internally, in popular and rural speech). However, it does not assimilate before /r, l/, as –on the contrary– it does in word-internal position. Anyway, in popular and rural speech, such assimilations were frequent, if not normal, even before word-internal /r, l/.

Before a vowel, *n* remains /n/ [n], although it is not resyllabified with it, when stress is present: *in agrum* /ɪn'ɛgrum/ [ɪn'ɛgrũ] (not \*<sup>h</sup>[ɪn'ɛgrũ]).

<sup>13</sup> Labio-(pre)velar stops (cf 6): voiceless, *qui* /<sup>h</sup>kwi:/ [<sup>h</sup>k̟iː], or voiced, *languor* /<sup>h</sup>lɛŋgwɔːr/ [<sup>h</sup>lɛŋg̟ɔːr]; /gw/ [g̟] occurs only between /n/ and vowels different from /u/. However, in rural and popular speech, /kw, gw/ [k̟, g̟; g, g̟] were practically replaced by /k, g/ [k, g] (including [k̟, g̟], and even [c, ɟ], before front vowels, in addition to /gm/ [gm, gm]).

fig 6. Velolabial & prevelolabial stops [k̟, g̟; k̟, g̟] /kw, gw/.



<sup>14</sup> Generally, alveolar tap, [ɾ], both in stressed and unstressed syllables, with the possibility of either ‘aspiration’ [rh], or ‘preaspiration’ [hr], for *rh*, *ρ*, in Greek loans, as a phonostyleme.

<sup>15</sup> *Disgregatio*, *Lesbos* /disgrɛ'gatiɔː, <sup>h</sup>lɛsbɔs/ [ɾɪzgrɛ'gatiɔ, <sup>h</sup>lɛzbɔs]; but *disiungo* (*disju-*), *asma* /dis'jũgoː, <sup>h</sup>asmɛ/ [ɾɪs'jũŋgo, <sup>h</sup>aasmɛ].

<sup>16</sup> Obviously, *sc* is always /sk/ [sk, sk̟]: *scio* /<sup>h</sup>skioː/ [<sup>h</sup>sk̟io]. In rural speech, /s/ before any /C/ tended to become [ʃ, ʃ̟; ʒ, ʒ̟].

<sup>17</sup> The change from /ks/ to /gz/ for *exV-* /ɛksV-/ [ɛksV-] decidedly belongs to periods after the classical age, while the change of (initial) *x-* /ks → s/ happened even later than in classical age, thus, it is equally a non-neutral peculiarity.

<sup>18</sup> It generally occurs in Greek loans, as a phonostyleme (for ζ). Since, in addition to [z], it also had further possible variants, [zz] and [dz] (not [dʒ], stopstricative), it is hardly surprising that in verse it could ‘lengthen syllables’.

<sup>18</sup> In addition to what already indicated above, in *popular* and *rural* speech, any voiceless simple consonants, between any voiced phones (either vocoids, or contoids), tended to become lenis, [C̰], or half-voiced, [C̰̰]. Furthermore, again popular and rural speech, between vowels, often had the continuous contoids shown

between ( ) in the table of consonants, including [z] for /r/ and [ʒ] for /l/ [ʎ].

Let us observe that /ph, th, kh/ [ph, th, kh, kh/ are phono-stylemes for Greek loans with original φ, θ, χ /ph, th, kh/ [ph, th, kh, kh/. In popular or rural speech they were replaced by plain /p, t, k/ [p, t, k, k, c].

Furthermore, [ʔ] could freely occur before vowels in word-initial position, after pause or in stressed syllable, especially for emphasis. Let us add that words like *sua-vis*, *suesco* and *Suetonius* were generally treated differently in current language and in verse. In fact, /#swV-/ [swV-] were often changed into [sʊV-] for metrical reasons.

### 3. Length & stress

*Length* is phonemic both for the vowels, as already seen, and for the consonants, also combined together, especially for the vowels with different timbres: *venit* /'wɛ-nɪt/ ['wɛnɪt] 'he/she/it comes' vs *venit* /'wɛ:nɪt/ ['weenɪt] 'he/she/it came', *populum* /'pɔpulum/ ['pɔpulũ] 'people' vs *populum* /'po:pulum/ ['po:pulũ] 'poplar', *malum* /'mɛlum/ ['mɛlũ] 'bad' vs *malum* /'ma:lum/ ['ma:lũ] 'apple'; *male* /'mɛlɛ/ ['mɛlɛ] 'badly' vs *malle* /'mɛllɛ/ ['mɛllɛ] 'to prefer', *sumus* /'sumus/ ['sumus] 'we are' vs *summus* /'summus/ ['summus] 'supreme'.

The short vowels, either stressed or not, are as shown in the vocogram (let us notice a tiny timbre change for [ɛ, ɔ] → [ɛ̃, ɔ̃]). In stressed syllables, either free or checked, the long vowels are phonetically narrow monotimbric diphthongs, /'V:/ [VV] [VVC]: *stella* /'stella/ ['steɛllɛ] (even if directly followed by vowels: *aer* /'æ:r/ ['aaer]).

However, in everyday spoken language, unstressed /'V:/ (either in free or checked syllables) are realized as short vocoids, [̣V]: *stella* /'ste:lla/ ['steɛlla]. But, let us notice very carefully that they keep their original timbres, [i, e, a, o, u; y].

In classical Latin, *stress* depends on the length of the *penultimate syllable* of a word, according the length of its vowel. If the vowel is *short and either in a free syllable, or followed by another vowel*, stress is shifted to the preceding vowel, ie the antepenultimate (or third last, or last but two): *cupido* 'wishful' (dat./abl.) /'kʊpɪdo:/ ['kʊpɪdo] and *cupido* 'desire' (nom.) /kʊ'pɪ:do:/ [kʊ'pi:do]; *democratia* (nom.) 'democracy' (δημοκρατία) /de:mɔ'krɛtɪɛ/ [demɔ'krɛtɪɛ], and *viginti* '20' /wi:gɪnti:/ [wi'gɪnti].

Thus, when the penultimate vowel is long 'by nature', as in *cupido* [kʊ'pɪ:do], or 'by position' (ie 'by convention'), as in *viginti* [wi'gɪnti], it carries (intensive) stress (not a pitch one any longer, as it possibly was in archaic Latin).

Of course, the artistic metrical reading, accompanied by string music, is quite another thing in comparison with *true* language. In fact, it is artificially done in its rather unnatural way, which has its 'deserving' counterpart in the unnaturalness of singing, especially opera singing.

Let us notice well that *iV-* (as already seen above) has a consonantic function, /j/ [j]. Thus, we have *iugum* (or, better, *jugum*) [jʊgũ] /'jʊgum/ (certainly not \*/iʊgum/). Come to think of it, as the use of *u* /ʊ/ [ʊ] and *v* /w/ [w] have already been commonly distinguished, it would be better to also systematically use *j*, instead of *i*, in *iV-* and *ViV* /jV, VjV/ [jV, VjV] (the famous letters of Petrus Ramus, Pierre de

La Ramée, 1515-1572). The provided examples should be carefully considered.

Here are some special cases of seeming ‘irregular’ stress patterns. So we have the *dropping of a final vowel*: *educ(e)* /eˈduːk/ [eˈduuk], *illic(e)* /ɪlˈliːk/ [ɪlˈliik], *addic(e)* /ædˈdiːk/ [ædˈdiik], *adhuc(e)* /ædˈhuːk/ [ædˈhuuk, ædˈh-].

We can also find the *contraction* of some phonemes into just one: *Mercuri(i)* /mɛrˈkʊriː/ [mɛrˈkʊri] (different from the vocative *Mercuri* /ˈmɛrkʊriː/ [ˈmɛrkʊri]), *Valeri(i)* /vɛˈlɛriː/ [vɛˈlɛri] (voc. *Valeri* /ˈvɛlɛriː/ [ˈvɛlɛri]), *consili(i)* /kɔnˈsɪliː/ [kɔˈsɪli], *imperi(i)* /imˈpɛriː/ [imˈpɛri], *irritat* (from *irrita(v)it*) /ɪrriˈtɑːt/ [ɪrriˈtɑat], different from *irritat* (present) /ɪrriˈtɛt/ [ɪrriˈtɛt], *disturbat* (from *disturba(v)it*) /dɪstʊrˈbɑːt/ [dɪstʊrˈbɑat], different from *disturbat* (present) /dɪstʊrˈbɛt/ [dɪstʊrˈbɛt], *munit* (from *muni(v)it*) /mʊnɪt/ [mʊnɪt], different from *munit* (present) /ˈmuːnɪt/ [ˈmuunɪt].

We also find cases of *oscillation*, depending on whether composition or dropping are more or less evident (including the very origin of certain names) as in: *satin* /sɛˈtɪn ~ ˈsɛtɪn/ [sɛˈtɪn ~ ˈsɛtɪn] (from *satisne* /sɛˈtɪsnɛ/ [sɛˈtɪsnɛ]), *sicin* /sɪˈkɪn ~ ˈsɪkɪn/ [sɪˈkɪn ~ ˈsɪkɪn] (from *sicine* /sɪˈkɪnɛ ~ ˈsɪkɪnɛ/ [sɪˈkɪnɛ ~ ˈsɪkɪnɛ]), *viden* /wɪˈdɛn ~ ˈwɪdɛn/ [wɪˈdɛn ~ ˈwɪdɛn] (from *videsne* /wɪˈdɛsnɛ/ [wɪˈdɛsnɛ]), *tanton* (from *tantone* /tɛnˈtɔːnɛ/ [tɛnˈtɔonɛ]) /tɛnˈtɔːn ~ ˈtɛntɔːn/ [tɛnˈtoon ~ ˈtɛnton], *nostra(ti)s* /nɔˈstrɑːs ~ ˈnɔstrɑːs/ [nɔˈstrɑas ~ ˈnɔstrɑs], *deinde* /dɛˈɪndɛ ~ dɛˈɪndɛ/ [dɛˈɪndɛ ~ dɛˈɪndɛ].

Names: *Camillus* /kɛˈmɪllʊs ~ ˈkɛmɪllʊs/ [kɛˈmɪllʊs ~ ˈkɛmɪllʊs], *Cethegus* /kɛˈθɛːɡʊs ~ ˈkɛθɛːɡʊs/ [kɛˈθɛegʊs ~ ˈkɛθɛgʊs], *Maecenas* (from *Maecena(ti)s*) /mæˈkɛːnɑːs, mæˈkɛːnɑːs/ [mæˈkɛenas, mæˈkɛˈnaas], &c.

Also Greek words and names oscillate, if they maintain their original forms: *satrapen* /sɛˈtrɛpɛn, sɛˈtrɛpɛn/ [sɛˈtrɛpɛn, sɛˈtrɛpɛn], *Acarnan* /ɛˈkɛrnɑːn, ɛˈkɛrnɑːn/ [ɛˈkɛrnɑn, ɛˈkɛrnɑan], *Cleopatra* /klɛˈɔpɛtrɛ, klɛˈɔpɛtrɛ/ [klɛˈɔpɛtrɛ, klɛˈɔpɛtrɛ]. Notice that the ‘normal’ syllabication for clusters of a consonant followed by /r, l/, is /#CC/, while with /m, n/, we have /C#C/. However, for metrical reasons, things could be forced to also produce /C#r, C#l/.

Furthermore, we have to consider the effect of the enclitics *-ce, -ne, -ve, -que, -dem, -met, -nam, -te, -cum*, and *quidem*, which attract stress to the preceding syllable (with possible oscillations): *musaque* /ˈmuːsɛkwɛ, muːˈsɛkwɛ/ [ˈmuusɛkɛ, muːsɛkɛ], which is not at all confused with *musaque* (abl.) /muːˈsaːkwɛ/ [muːˈsaakɛ] not even when stress coincides.

In addition, *utraque* /uːˈtrɛkwɛ, uːˈtrɛkwɛ/ [uːtrɛkɛ, uːtrɛkɛ], equally different from *utraque* /uːˈtraːkwɛ/ [uːtraakɛ], *illene* /ɪllɛnɛ, ɪllɛnɛ/ [ɪllɛnɛ, ɪllɛnɛ], *loquive tacereve* /lɔˈkwɪwɛ tɛˈkɛrɛwɛ, lɔˈkwɪwɛ tɛˈkɛrɛwɛ/ [lɔkɪwɛ tɛˈkɛrɛwɛ, lɔˈkɪwɛ tɛˈkɛrɛwɛ], *egomet* /ɛˈɡɔmɛt, ɛˈɡɔmɛt/ [ɛˈɡɔmɛt, ɛˈɡɔmɛt], *tu quidem* /ˈtuː ˈkwɪdɛm, ˈtuːkwɪdɛm/ [ˈtuː ˈkɪdɛ, ˈtuːkɪdɛ].

The following words are felt to be unitary words (thus, with /\$\$\$\$/): *alicubi, sicubi, necubi, equidem, identidem, utinam, utiquem, undique, itaque* ‘therefore’.

But we have: *itaque* ‘and so’ (ie *et ita*) /ɪˈtɛkwɛ, ɪˈtɛkwɛ/ [ɪtɛkɛ, ɪtɛkɛ], and *pone* ‘behind’ /pɔːnɛ, pɔːnɛ/ [pɔonɛ, pɔˈnɛ] (but *pone!* –imperative– /pɔːnɛ/ [pɔonɛ]).

Compound verbs with *-do, -fit* have two stress possibilities (although the ‘regular’ one is less favored): *circumdo* /kɪrˈkʊmˈdɔː, -ˈdɔː; kɪrˈkʊmˈd- / [kɪrˈkʊnˈdoo, -ˈdɔː; kɪrˈkʊnˈdoo, -ɔː], *satisdo* /sɛtɪsˈdɔː, -ˈdɔː; sɛtɪsˈd- / [sɛtɪzˈdoo, -ˈdɔː; sɛtɪzˈdoo, -ɔː] (also *satis do*),



*pessumdo* /pɛssum'doː, -dɔː; pɛssumd-/ [ˌpɛssʊn'doo, -ɔː; pɛs'sʊndo, -ɔ] (also *pessun-*  
*do*, *pessum do*), *arefit* /aːrɛ'fit, 'aːrɛfit/ [ˌaɹɛ'fit, 'aɹɛfit], *madefit* /mɛdɛ'fit; 'mɛdɛfit/  
[ˌmɛdɛ'fit, 'mɛdɛfit].

Concerning verbs with *-facit*, we only have *arefacit* /ɛrɛ'fɛkɪt/ [ˌɛrɛ'fɛkɪt], *madefa-*  
*cit* /mɛdɛ'fɛkɪt/ [ˌmɛdɛ'fɛkɪt]. In fact, their 'normalized' forms would have been:  
*\*areficit* /aːrɛ'fɪkɪt/ [aːrɛ'fɪkɪt], *\*madeficit* /mɛ'dɛfɪkɪt/ [mɛ'dɛfɪkɪt].

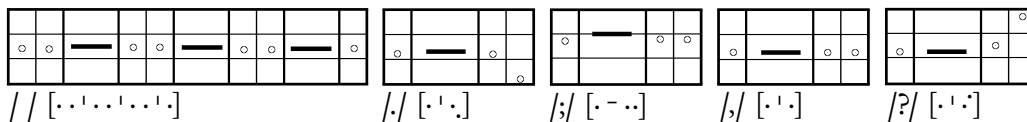
There are further possible oscillations, in sentences, in cases like: *apud me* /'ɛpʊd  
'mɛː, ɛ'pʊdmɛː/ [ˌɛpʊd 'mɛɛ, ɛ'pʊdmɛ, 'ɛpʊm 'mɛɛ, ɛ'pʊmmɛ], *pater mi* /'pɛtɛr 'mɪː,  
pɛ'tɛrmɪː/ [ˌpɛtɛr 'mɪi, pɛ'tɛrmi], *morem gerit* /'moːrɛm 'gɛrɪt, moː'rɛmgɛrɪt/  
[ˌmoː-  
rɛŋ 'gɛrɪt, moː'rɛŋgɛrɪt], *operam dare* /'ɔpɛrɛm 'dɛrɛ, ɔpɛ'rɛmdɛrɛ/ [ˌɔpɛrɛn 'dɛrɛ, ɔ-  
pɛ'rɛndɛrɛ].

Many of us, at school, will have carefully 'learned' *unicuique suum* as \*/uːnɪkʊ-  
'ɪkwɛ 'sʊm/ 'may all get their due', while its true realization is /uːnɪ'kwɪkwɛ 'sʊm/  
[ˌunɪ'kwɪkɛ 'sʊ̃], with the diphthong *ui* /'ʊi/ ['ʊi]. Let us add an observation about  
*exiguitas*, which has to be pronounced /ɛksɪ'gʊɪtas/ [ɛksɪ'gʊɪtas], not \*/ɛk'sɪgwɪtas/  
[ɛk'sɪgɪtas]; in fact, /gw/ [g̊] only occurs after /n/ [ŋ].

### 4. Intonation

The following intonation patterns are based on reliable deductions, going  
backwards, from Romance results to the original language, and favoring nearby  
territorial realities. Let us complete this concise outline of Classical Latin pronun-  
ciation, by also providing possible intonation patterns. They can safely be accepted  
as plausible and utilizable, with no real problems, nor strained interpretations.

fig 7. Classical Latin intonation patterns.



### 5. Text

Here is the Aesopian fable, in Latin. Let us pay particular attention to: *circum-*  
*dabat* /kɪr'kundɛbɛt/.

*Olim inter se Aquilo et Sol uter fortior esset certabant, cum viatorem quendam pae-  
nula amictum procedentem conspexerunt; atque ipsorum fortiolem existimandum es-  
se consenserunt, qui efficeret ut viator ille paenulam deponeret.*

*Aquilo autem vehementissime furere coepit; sed, quo fortiores flatus emittebat, eo  
artius se circumdabat paenula; tandem, viribus destitutus, propositum suum omisit.  
Tum Sol caelum clarissima luce illustravit; mox vero viator, calore victus, paenulam e-  
xuit. Itaque Aquilo, quamvis invite, confessus est solem esse fortiolem.*

*Tibi placuit fabula? Libetne eam repetere?*

*Academic Italian pronunciation*

[ˈɔːlim· ˌɪntɛrˈsɛː] ˈaːkwilo· ɛtˈsɔːlː| ˈuːtɛr· ˈfɔːrtʃɔr· ˌɛsːɛtː| ʧɛrtabantːː| kumviaˈtɔː-  
rem ˈkʷɛnːdam·| ˌpɛːnula aˈmiktumː| ˌprɔʃɛˈdɛntɛmːː| ˌkɔnspekˈsɛːruntː| ˈatːkweː| ip-  
ˈsɔːrum· ˈfɔrtʃɔːremːː| ɛgzistiˈmanːdum· ˌɛsːsɛː| ˌkɔnsɛnˈsɛːruntː| ˈkwi· ʎɛffɪʃɛrɛtːː| ut-  
viˈator· ˌɪlːɛː| ˈpɛːnulam· dɛˈpɔːnɛrɛtː||

ˈaːkwilo· ˌaːutemː| ˌvɛɛmɛnˈtɪsːɪmɛ· ˈfuːrɛrɛ· ˌʧɛːpɪtː|| ˈsɛdː kʷɔfɔrtʃɔːrɛs· ˈflaːtus·  
ɛmɪtˈtɛːbatː·| ɛoˈarːtʃʊs· viˈator· ʃɛʧjɪrˈkumːdabat· ˈpɛːnulaː| ˈtanːdɛm· ˌvɪˈrɪbus ˌdɛs-  
tɪˈtuːtusː| ˌprɔˈpɔːzɪtʊm· ˌsuːumː| ɔˈmɪzɪtː|| ˌtʊmː| ˈsɔːlːː| ˈʧɛːlum· ˌklaˈrɪssɪma ˈluːʧɛː| ɪl-  
lusˈtraːvɪtː| ˈmɔks· ˌvɛːroː| viˈator· ˌkaˈlɔːrɛ ˈvɪktʊsː| ʎˈpɛːnulam· ʎˈɛgzɪwɪtː|| ˌɪːtakweː·  
ˈaːkwiloː| ˌkʷamvɪs ɪŋˈvɪrɛː| ˌkɔŋˈfɛsːsʊs· ˌɛsːtː| ʎˈsɔːlɛm· ɛsɛfɔrtʃɔːremː||

ʧˈtɪbɪ ˈplakwɪtː· ʧˈfabulaː| ʧˈlɪbɛtne ɛamrɛˈpɛɪtɛrɛː||].

*Classical pronunciation*

[ˈoolɪ̃· ˌɪntɛrˈsɛeː] ˈɛkɪlo· ɛtˈsootː| ˈuːtɛr· ˈfɔrtɪɔr· ˌɛsɛtː| ˌkɛrˈtaabɛntːː| ˌkɔwɪaˈtoorɛŋ  
ˈkɛndɛ̃| ˌpɛɛnula ɛˈmɪktumː| ˌprɔkɛˈdɛntɛ̃ː| ˌkɔspɛkˈseeruntː| ˈɛtˌkɛː| ɪpˈsoorũ· ˌfɔrtɪ-  
ˈoorɛ̃ː| ɛkˌsɪstɪˈmɛndũ· ˌɛsɛeː| ˌkɔsɛ̃ˈseeruntː| ˈkɪi· ʎɛffɪkɛrɛtːː| ˌutwɪˈaator· ˌɪlːɛː| ˈpɛɛnũ-  
lɛn· dɛˈpoonɛrɛtː||

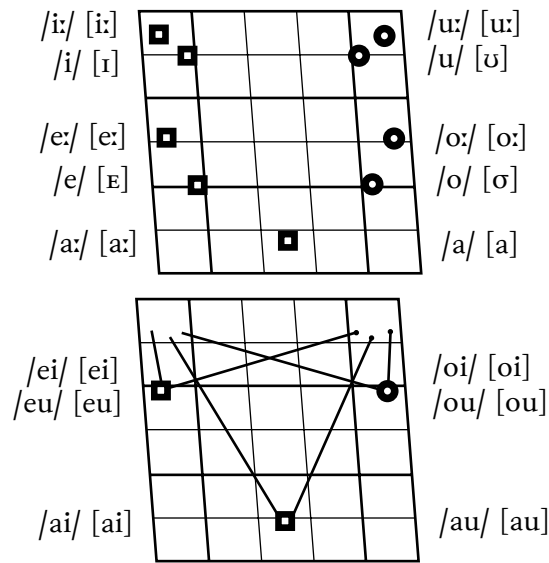
ˈɛkɪlo· ˌɛʊtɛ̃ː| ˌwɛɛmɛnˈtɪssɪmɛ· ˈfuːrɛrɛ· ˌkɔɛpɪtː|| ˈsɛtː ˌkɔfɔrtɪˈoorɛs· ˈflaːtus· ɛ-  
mɪtˈteebɛtː·| ɛoˈɛrtɪʊs· wɪˈaator· ʃɛkɪrˈkɔndɛbɛtː ˈpɛɛnulaː| ˈtɛndɛ̃· ˌwɪɪrɪbus ˌdɛstɪ-  
ˈtuutusː| ˌprɔˈpɔsɪtũ· ˌsũːː| ɔˈmɪɪsɪtː|| ˌtũ· ˈsootːː| ˌkɛɛlɔŋ· ˌklaˈrɪssɪma ˈluukɛː| ˌɪlus-  
ˈtraawɪtː| ˈmɔks· ˌwɛeroː| wɪˈaator· ˌkɛˈloorɛ ˈvɪktʊsː| ʎˈpɛɛnũlɛ̃ː ʎˈɛksɪtː|| ˌɪtɛkɛː· ˈɛ-  
kɪloː| ˌkɛŋwɪs ɪŋˈwɪɪtɛː| ˌkɔˈfɛssʊs· ˌɛsːtː| ʎˈsoolɛ̃ː ɛsɛfɔrtɪˈoorɛ̃ː||

ʧˈtɪbɪˈplɛkɪtː· ʧˈfaabũlɛː| ʧˈlɪbɛtne ɛɛrɛˈpɛtɛrɛː||].

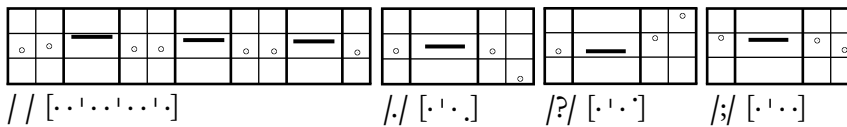
6. *Old Latin*, or *Archaic Latin* (Italic,  $\text{IE}$ ), had five vowels, both short and long, which were phonetically nasalized before  $/\text{NC}, \text{N}^\#\text{/}$ , their timbres remaining unaffected and the nasal being preserved, even before constrictives, with  $[\text{n}\equiv\text{C}]$ . It also had six diphthongs and length opposition for the consonants.

There were no Greek phonostylemes yet, but there was  $z$   $/\text{VzV}/$   $[\text{VzV}]$ , which later became  $r$   $/\text{r}/$   $[\text{r}, \text{z}]$ , or  $\text{Vs}^\#\text{/Vh/}$   $[\text{Vh}]$ , eg *flozis*  $[\text{'}\phi\text{lo:zih}]$  (later *floris*); also, *gn*  $/\text{gn}/$   $[\text{gn}]$ . The phoneme  $/\text{l}/$  was  $[\text{ɫ}]$  before pauses, or consonants (including heterosyllabic  $/\text{j}/$ ,  $/\text{C}^\#\text{j}/$ ), or before back V (including  $/\text{a}, \text{a:}/$ ), but  $[\text{l}]$  before tautosyllabic  $/\text{j}/$ ,  $/^\#\text{Cj}/$ , or before front V; in addition,  $/\text{kw}, \text{gw}/$   $[\text{k}\hat{\text{z}}, \text{g}\hat{\text{z}}, \text{k}\hat{\text{z}}, \text{g}\hat{\text{z}}]$ .

fig 8. Old/Archaic Latin.



m	$[\text{m}]$	n	$[\text{n}]$	$[\text{n}]$	$[\text{n}]$
p b	t d		$[\text{k}\ \text{g}]$	$[\text{k}\hat{\text{z}}\ \text{g}\hat{\text{z}}]$	$[\text{k}\ \text{g}]$ $[\text{k}\hat{\text{z}}\ \text{g}\hat{\text{z}}]$
$\phi\ \beta$	s z		j		w h
	$[\text{z}]$	$\text{r}[\text{l}]$	$\text{ɫ}$		

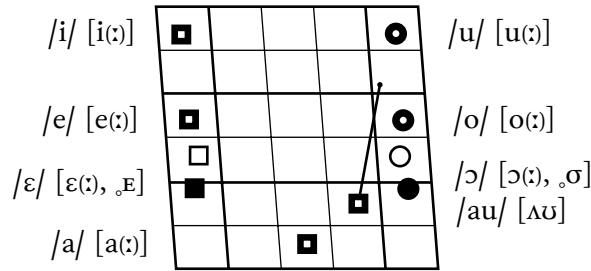


7. *Vulgar Latin*, or *Empire Latin* (Italic, IE), in its *neutral* form stemming from the central area of Italy, had seven short vowels and only one traditional diphthong, /au/ [ΛU]; all vowels were phonemically short, being phonetically lengthened in stressed free syllables. Consonant gemination was distinctive.

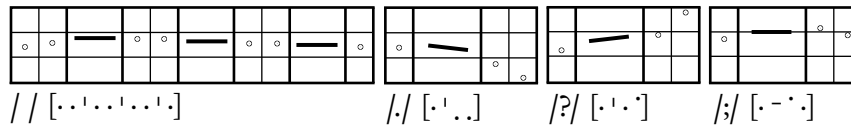
Many words had different stress-patterns from those they had in Classical Latin, eg *filiolum* /fr̥l̥iɔlɔm/ → /fr̥l̥jɔlɔm/ (and unstressed e, u/o followed by a vowel became /j, w/, as well), *integrum* /'intɛgrum/ → /ɪn'tɛgrum/, *decadit* /'de:kadɪt/ → /de:'kadɪt/. It had /VnC/ [Ṽn≡C]), but /VN/ [Ṽ] + /f, s/, and /V#/ [V] (for vowel + final -m, where vowel timbres were unaffected); h had gone to 'zero' by this stage, even in *ch, th, rh* (while *ph* had become /f/).

Also notice: *f, v, z, gn* /f, v, z, gn/ [φ, β, z, gn]. In central Italy, /n, t, d, s, r, l, k, g/ + /j, i, e, ε/ developed to [ɲ, ʧ, ɖ, ʃ, ʒ, c, ɟ] (without absorbing the [j]) by gradual adjustments, like [tj, dj, cj, ɟj] → [tʃj, dʒj, kçj, gɟj] → [tʃ, dʒ, kç, gɟ] → [tʃ, dʒ, tʃ, dʒ].

fig 9. Vulgar/Empire Latin.



m	[ɱ]	n	[ɲ]	ɲ	[ŋ]	[ŋ]
p b	t d		[ʧ ɖ]	[c ɟ]	[k g]	k g
φ β	s [z]		[ʃ]			
		r-l	[ɾ]	[ɾ-ɹ]	j	w



// [· · · · · · · ·]

/./ [· · · ·]

/?/ [· · · ·]

/;/ [· · · ·]

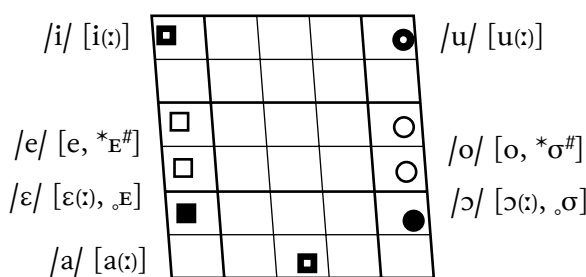
8. *Italian Academic Latin* (Italic, IE) came to have only five vowels in stressed position, /i, ε, a, ɔ, u/, eg even *habēre* or *Rōma* became /a'bɛ:re, 'rɔ:ma/ [a'bɛ:re, 'rɔ:ma] (in spite of Italian *avere* [a've:re], *Roma* [ro:ma]). Similarly to Italian, in unstressed syllables only /e, o/ [e, o] occurred, with intermediate timbres, [ɛ, σ], as a result of vowel adjustments of either half-opening (for final unstressed /e/, o/) or half-closing (for de-stressed /ε, ɔ/), which is typical of neutral Italian pronunciation.

Length and the various vowel sequences also correspond to those found in neutral Italian, although with *ae, oe* /'ɛ, °ɛ, °e/. It preserves CC, [n≡C], but /mC/ [mC]; it rigorously has VsV /VzV/; z is /dz/, and *tiV* (with unstressed *i*) is /tʃjV/, eg *ōtium* [ˈɔtʃjʊm\*] (the example shows both self-gemination, shared by /dz/, /ʃ/, *piscem* [ˈpiʃjɛm\*], and /ɲ/, *lignum* [ˈliɲɲum\*], and audible release, even for /m#/), as can be seen). For c, g, before front vowels, we have /tʃ, dʒ/: *Cyrus* [ˈtʃi:rus], different from *Chiron* [ˈki:ron].

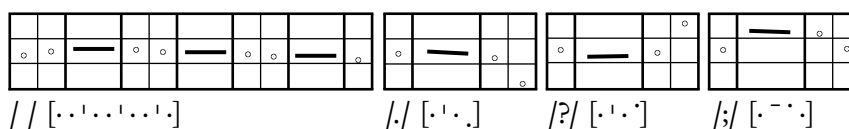
Let us observe that the transcription given in § 5, accurately and clearly follows what we have just said, in spite of cases like *habēre* and *Rōma* seen above. Unfortunately, however, Italian speakers, even university Latin teachers, too often, pronounce Latin not exactly as it should be, according to what we have just said. In fact, they mortify its pronunciation with regional habits, both for the phonemes and intonation (including, often, stress and intonation patterns).

On the other hand, instead of (or in addition to) regional ‘deviations’, too many Italian speakers also introduce, more or less frequently, even ‘neutral Italian deviations’, which are clearly contrary to the criterion accurately established above. Of course, it might be surprising to actually say [a'bɛ:re, 'rɔ:ma], but Italian Academic Latin *is* another language, clearly different from both Classical Latin (cf § 1-5) and its most direct ‘offspring’, ie the current Italian language.

fig 10. Italian Academic Latin.



m	[m]	[ɱ]	n	[ɲ]	ɲ	[ɲ]	[ɲ]
p	b	t	d	tʃ	dʒ	[k]	g
	f	v	s	z	ʃ		
			ts	dz			
			r	[r]-l	[ʃ]	j	w



// [· · · · · · · ·] /./ [· · · ·] /?/ [· · · ·] /;/ [· · · ·]

9. *Church Latin* or *International Latin* (Italic, IE), is similar to Italian Academic Latin, and in fact it should be pronounced exactly like it. However, in Vatican City, it is used by both Italian and foreign clergy. So, it undergoes several different interferences, not only by regional Italian accents, but also by different languages and their several regional accents, also including many different habits in speaking more or less different Academic Latins for each foreign language. Thus, the ideally expected 'pure' pronunciation is very rarely heard, as for Italian Academic Latin, too, as just seen.

fig 11 shows a more 'international' version of the vowel situation, especially as far as the *e*, *o* vowels are concerned, with less different timbres. Of course, the consonants should be realized as shown, for Italian Academic Latin, given in fig 10, but, in reality, more or less systematically, the following (and other) 'deviations' certainly occur, unfortunately.

As for the *vowels*, of course, the exact timbres for *i*, *e* (including *ae*, *oe*), *a*, *o*, *u*, correspond to those used in the different languages, with more or less different results. Thus, Romance and Slavic languages usually have (excepting greater and even worse differences): /i/ [i, ɪ], /ɛ/ [ɛ, ɛ̃, e], /a/ [a, ɐ, A], /ɔ/ [ɔ, ɔ̃, o], /u/ [u, ʊ]. G(erm.) generally has /i/ [i(ː), ɪ], /ɛ/ [ɛ(ː), ɛ(ː), e(ː)], /a/ [a(ː), A(ː), a(ː)] (even ɒ(ː)), /ɔ/ [ɔ(ː), ɔ(ː), o(ː)], /u/ [u(ː), ʊ] (adding *oe* [ø̃, œ] G.).

Not surprisingly, English can have the strangest possible realizations: /i/ [ii, iɪ, ɪ; aɨ, ɑɨ, ɐɨ], /ɛ/ [ɛ, ɛ̃, e, ɛɪ; ii, iɪ], /a/ [a(ː), ɑ(ː), ɐ, ʌ; æ, ɛɪ], /ɔ/ [ɔ(ː), ɔ(ː), o(ː), ɒ; ɑ, σɔ, ʒɔ], /u/ [uu, ʊu, ʊ; ɐ, ʌ, jʊu, jɪu].

As for the *consonants*, let start with *c* before front vowels (including *ae*, *oe*): [tʃ, tʃ̥] I., R(oum.), [s, ʃ] F., P., C(atal.), also [θ] S(pan)., [ts] G. & Sl., [s] E.; *ch*: [k], including E., but [x] G. & Slav; *g*: before front vowels (including *ae*, *oe*): [dʒ, dʒ̥] I., R. (& E.), [ʒ, ʒ̥, ʒ̃, dʒ, dʒ̥] F., P., C., [x, χ, h] S., [g, ɣ] G., Slav; *gn*: [ɲ(ɲ)] I., [ɲ] C., [gn, ɲ] P., F., [gn] R., E., [ɣn] S., [gn] Slav, [gn, ɲn] G.; *h*: [θ] 'zero' I., R., S., P., F., C., [x, h] Slav, [h] G., [h, θ] E.; *j/i*: [j] I., R., Slav, G., [ʒ, ʒ̥, ʒ̃] F., P., [dʒ] E., [j, j̥] Slav, G., [x, χ] S.; *qu*: [kw] I., E., [kw, k] P., S., [k] C., [kw, kv] R., [k, kw, ɥ] F., [kv] Slav, G.; *sc* before front vowels (including *ae*, *oe*): [ʃ(ʃ̥)] I., [stʃ̥] R., [s, ʃ] P., [s] F., E., [s, ʃ̥, sθ] S., [sts] Slav, G.; *ti* + unstressed vowel: [tsj] I., [tsj, sj] R., [sj] P., F., C., [sj, θj] S., [tsi] G., [ʃi] E.; *v*: [v] I., R., P., F., [β, b] S., C., Slav, G., [v, w] E.; *x*: [kstʃ̥, kstʃ̥] I., R., [ks] C., E., [ksts] Slav, G., [gz, ks] F., [s, sθ] S., [s, ʃ, ʃ̥] P.

Of course, also intonation patterns vary a lot, as even stress patterns, although trying to follow 'known' instructions.

fig 11. Church/International Latin.

