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The Signs and Sounds of Classical Greek

Writing: the Alphabet, Accent and Breathing Marks, Punctuation

The Alphabet

- 1.1
- |    | <i>capital</i> | <i>lower case</i> | <i>name</i>                 |    | <i>capital</i> | <i>lower case</i> | <i>name</i>                 |
|----|----------------|-------------------|-----------------------------|----|----------------|-------------------|-----------------------------|
| 1  | <b>A</b>       | α                 | ἄλφα <i>alpha</i>           | 13 | <b>N</b>       | ν                 | νϋ <i>nu</i>                |
| 2  | <b>B</b>       | β                 | βῆτα <i>beta</i>            | 14 | Ξ              | ξ                 | ξεῖ (ξῖ) <i>xi</i>          |
| 3  | Γ              | γ                 | γάμμα <i>gamma</i>          | 15 | <b>O</b>       | ο                 | ὀ μικρόν<br><i>omicron</i>  |
| 4  | <b>Δ</b>       | δ                 | δέλτα <i>delta</i>          | 16 | Π              | π                 | πεῖ (πῖ) <i>pi</i>          |
| 5  | <b>E</b>       | ε                 | ἕ ψιλόν <i>epsilon</i>      | 17 | <b>P</b>       | ρ                 | ῥω <i>rho</i>               |
| 6  | <b>Z</b>       | ζ                 | ζῆτα <i>zeta</i>            | 18 | <b>Σ, C</b>    | σ, ς, ϙ           | σίγμα/σίγμα<br><i>sigma</i> |
| 7  | <b>H</b>       | η                 | ῆτα <i>eta</i>              | 19 | <b>T</b>       | τ                 | ταϋ <i>tau</i>              |
| 8  | <b>Θ</b>       | θ                 | θῆτα <i>theta</i>           | 20 | <b>Υ</b>       | υ                 | ϋ ψιλόν<br><i>upsilon</i>   |
| 9  | <b>I</b>       | ι                 | ῑωτα <i>iota</i>            | 21 | <b>Φ</b>       | φ                 | φεῖ (φῖ) <i>phi</i>         |
| 10 | <b>K</b>       | κ                 | κάππα <i>kappa</i>          | 22 | <b>X</b>       | χ                 | χεῖ (χῖ) <i>chi</i>         |
| 11 | <b>Λ</b>       | λ                 | λά(μ)βδα<br><i>la(m)bda</i> | 23 | <b>Ψ</b>       | ψ                 | ψεῖ (ψῖ) <i>psi</i>         |
| 12 | <b>M</b>       | μ                 | μϋ <i>mu</i>                | 24 | <b>Ω</b>       | ω                 | ὦ μέγα <i>omega</i>         |
- 1.2
- Several other letters were used in Greek alphabets during and before the classical period. Of these, the following will be used in this book:

<i>letter</i>	<i>name</i>
Ϝ	<i>digamma</i> or <i>wau</i> (→1.31, 1.74, 9.13); the symbols <i>u</i> or <i>w</i> are also used as an equivalent of this.
Ϙ	<i>koppa</i> (→9.13)
ϙ	<i>stigma</i> (→9.13)
Ϡ	<i>san</i> or <i>sampi</i> (→9.13)

Not part of any Greek alphabet, but frequently used in the transcription of reconstructed Greek, is the sign *y*, *yod* (→1.31, 1.74); this is also often written as *i* or as *j*.

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*Particulars*

- 1.3 For the pronunciation (and phonetic categorization) of the letters, →1.14–33. α, ε, η, ι, ο, υ and ω represent vowels; the other letters represent consonants, apart from ζ, ξ and ψ, which each represent two consonants.
- 1.4 **Lower case sigma** is conventionally written σ in all positions except at the end of a word, where it is written ς: e.g. Σώστρατος, στάσις. Some text editions use so-called ‘lunate’ sigma C/c in all positions: e.g. Cώστρατος, ςτάσις.
- 1.5 Some specific spelling conventions pertain to **diphthongs** (combinations of two vowels that are pronounced in a single syllable):
- Only the first part of diphthongs is **capitalized**: e.g. Αἴγυπτος, Εὐριπίδης.
  - In three diphthongs ending in iota, the iota is conventionally printed underneath the first vowel: αῖ, ηῖ and ωῖ. This is called **iota subscript**. Alternatively, these diphthongs are sometimes printed with **iota adscript**: αι, ηι, ωι. Iota subscript is not used with capitals: e.g. Ἀῖδης, Ὠιδῆ (lower case ῶδῆ). For a complete list of diphthongs, their pronunciation, and details concerning iota subscript, →1.20–3. For accents and breathings on diphthongs, →1.8.

**Accents and Breathings**

- 1.6 Three accent signs are conventionally used in Greek texts:
- the **acute** accent ´: e.g. ἄ, ἐ, ὁ, αἰ, οἰ;
  - the **grave** accent `: e.g. ἄ, ἐ, ὁ, ὕ, αἰ, οἰ (written only on the final syllable of a word);
  - the **circumflex** accent ˘ (also frequently written ˆ): e.g. ᾱ, ῆ, αῤ, οῖ (written only on long vowels or diphthongs).
- For the value of these accents and the basic principles of Greek accentuation, →24.
- 1.7 Two breathing signs are conventionally used in Greek texts, written on words that begin with a vowel or diphthong, or with ρ:
- the **smooth breathing** (*spiritus lenis*) ˆ: e.g. ὄρος, αὐτή, ῆ;
  - the **rough breathing** (*spiritus asper*) ˆ: e.g. ὀρος, αὐτη, ῆ.
- A rough breathing indicates **aspiration**, i.e. a [h]-sound preceding the opening vowel/diphthong of a word (→1.27). In addition, words beginning with ρ are written with a rough breathing (e.g. ῥίπτω). A smooth breathing indicates the lack of aspiration.
- 1.8 The following conventions pertain to the placement of accents and breathing marks:

- Accents and breathing marks are written only on vowels (and the rough breathing on ρ). When written on a **capitalized** vowel or ρ, accents and breathings are placed **before** the letter:

ὁ Ἑρατοσθένης

ὁ Ἀδμητος

ἡ Ῥόδος

- When written on a **diphthong**, accents and breathings are written on the second vowel:

αἰτεῖν

οἶος

ποιήσον

οὔκουv

Εὐριπίδης

παιδεῦον

However, when an accent and/or breathing is written on a **diphthong with an iota subscript**, it is written on the first vowel. This convention is followed even in cases where adscript iota is used (in certain text editions, or if the diphthong is capitalized):

ῥῶκουv (adscript: ῶικουv)

ῥῖ (adscript: ῥι)

᾿Αἰδης

- In combinations of breathing marks and accents, acute or grave accents are written after (i.e. to the right of) breathing marks (e.g. οὔκουv, ᾱ, ᾿Αδμητος); the circumflex is placed above breathing marks (e.g. εἶδος, ῶ, ᾿Ηρα).

## Punctuation

### 1.9 Modern editions of Greek texts use the following signs of punctuation:

- the **period** (.): serves the same function as in English usage;
- the **comma** (,): serves the same function as in English usage;
- the **high dot** (·): roughly the equivalent of the English semi-colon (;) and colon (:);
- the **question mark** (ς): the equivalent of the English question mark (?);
- the **apostrophe** ('): used to indicate elision of a vowel (→1.34–8);
- dashes (—) or parenthesis signs ( ( ) ) are used to mark parentheses; the dash is also used by some editors to mark interrupted/incomplete utterances in dramatic texts; other editors use three dots ( . . . ).

Modern editions are inconsistent in their use of **quotation marks**: some editions are printed entirely without quotation marks (often with a capital letter at the start of the quoted speech – this convention is followed in this book), some use “ . . . ” or ‘ . . . ’; finally, some text editions (particularly those printed in France and Italy) use « . . . ».

**Note 1:** Modern punctuation of Ancient Greek texts traditionally follows the conventions used in modern languages (and therefore varies according to where an edition is printed): it often does not reflect the probable ancient intonation and/or writing conventions.

Further Diacritical Signs

- 1.10 Apart from the breathings, accents and punctuation signs listed above, the following signs are used:
- the **diaeresis** ¨ : written on the second of two vowels to indicate that they do not form a diphthong (e.g. δαΐζω, ᾗπνος);
  - the **coronis** ’ (sign identical to a smooth breathing): used to indicate **crasis**, the merging of a word ending with a vowel/diphthong and a word beginning with a vowel/diphthong: e.g. ταῦτό (= τὸ αὐτό), κᾶτα (= καὶ εἴτα); for details, →1.43–5.

The Alphabet, Breathings, Accents, Punctuation: a Very Brief Historical Overview

- 1.11 The Greeks adopted the **alphabet** from the Phoenicians, presumably in the ninth century BCE, with the first securely dated inscriptions attested in the eighth century BCE. The letters of the Phoenician alphabet all represented consonants, but the Greeks re-assigned the value of some of the letters to represent vowels, and added some letters. Most of the names of the Greek letters are derived from the Phoenician names.

Early Greek alphabets differed strongly from each other, with respect to both the inventory and the shape of the symbols. The East-Ionic alphabet (which had some particular innovations, such as assigning a vowel-sound to the letter H) was eventually adopted throughout the Greek world; in Athens, it was adopted for official state documents in 403/402 BCE, although it may have been introduced earlier for literary works. This is the standardized alphabet given above.

The division between upper and lower case letters is not ancient: small letters (minuscules) were introduced in the ninth/tenth centuries CE by Byzantine scholars; the ancient Greeks themselves only wrote in capital letters (majuscules/uncials). In modern editions, capital letters are conventionally used only at the beginning of names and sometimes at the beginning of a new sentence, a new paragraph, a new speech turn (in dialogues), or to mark the beginning of cited direct speech (the latter convention is followed in this book). Inscriptions are sometimes printed entirely in capital letters in modern editions.

**Note 1:** For the use of the letters of the alphabet as numerals, →9.13.

- 1.12 **Breathing marks** and **accents** were introduced by scholars working in the Library of Alexandria in the Hellenistic period. The system of accentuation adopted in modern text editions, although deriving indirectly from these Hellenistic scholars, is based on treatises by Byzantine scholars.

- 1.13 The Greeks also did not avail themselves systematically of **punctuation** or **word divisions** (although early inscriptions sometimes used the signs : or ÷ for divisions between words or word groups). Both were introduced in Byzantine times and adopted in modern editions.

**Pronunciation: Vowels and Diphthongs**

- 1.14 The (reconstructed) pronunciation of sounds in classical Greek in the following sections is given in the International Phonetic Alphabet (IPA), and with as close an approximation in English or another modern language as possible. IPA symbols are given between square brackets (e.g. [a]). Many IPA symbols are predictable and correspond to standard English usage; some, however, diverge (for these, a guide or the website of the *International Phonetic Association* may be consulted). The symbol : in IPA indicates a long vowel (e.g. [a:]).

**Vowels**

- 1.15 The following are the Greek **vowels**, and their pronunciation. In addition, an approximation of the classical pronunciation is given in English and/or another modern language.

vowel	sound	example	approximation
α	[a]	γάρ [gár] <i>for</i>	<u>a</u> ha, Germ. <u>M</u> ann, Ital. <u>a</u> mare
	[a:]	χώρα [kʰɔːra:] <i>land</i>	a <u>h</u> a, Ital. a <u>m</u> are
ε	[e]	ψέγω [pségɔ:] <i>rebuke</i>	<u>f</u> atal, Fr. cl <u>é</u>
η	[ɛ:]	ἥθος [êːtʰos] <i>character</i>	<u>a</u> ir, Fr. t <u>ê</u> te
ι	[i]	πόλις [pólis] <i>city</i>	<u>f</u> ancy, Fr. é <u>c</u> rit
	[i:]	δελφῖνος [delpʰiːnos] <i>dolphin</i> (gen.)	<u>w</u> eed
ο	[o]	ποτε [pote] <i>once</i>	<u>g</u> o, <u>n</u> otorious, Germ. <u>M</u> otiv
υ	[y]	φύσις [pʰýsis] <i>nature</i>	Fr. <u>l</u> une
	[y:]	μῦθος [mýːtʰos] <i>word, story</i>	Fr. <u>m</u> use, é <u>cl</u> use
ω	[ɔ:]	Πλάτων [plátɔːn] <i>Plato</i>	<u>m</u> ore, <u>n</u> otorious

Below, to distinguish short and long α, ι and υ, the marks ˘ (*breve*, short) and ˉ (*macron*, long) will frequently be used: ᾱ, ῖ, and ῡ are short, ᾶ, ῑ and ΰ are long. ε and ο are always short. η and ω are always long.

**Note 1:** In conventional Anglophone pronunciation of Ancient Greek, ε is usually pronounced [ɛ] as in *get*, η is often (especially in America) pronounced [ɛ:] as in *made*, ι is usually pronounced [i] as in *win*, and ο is often pronounced [ɒ] as in *got*.

Phonetic Details

- 1.16 Vowels are produced by the uninterrupted flow of air from the vocal cords through the mouth (as opposed to consonants, which involve a complete or partial interruption of the air flow, →1.25).
- 1.17 The **quality** of a vowel (its sound) is determined by three factors:
- **height** (or ‘openness’): the vertical position of the tongue relative to the roof of the mouth: for example, ι and υ are ‘high’ (‘close’) vowels, because the tongue is high in the mouth when they are pronounced; α is a ‘low’ (‘open’) vowel;
  - **backness**: the position of the tongue relative to the back of the mouth: for example, ι is a ‘front’ vowel, because the tongue is positioned towards the front of the mouth when it is pronounced; ο is a ‘back’ vowel; α is a ‘central’ vowel;
  - **roundedness**: whether the lips are rounded or not: for example, υ and ο are ‘rounded’ because the lips are rounded when they are pronounced; ι, ε and α are ‘unrounded’.
- 1.18 The **quantity** (length) of a vowel is determined primarily by the duration of its pronunciation, although there are often changes in quality between long and short vowels as well. Note that the letters α, ι and υ are used to represent both short and long vowels. The long equivalent of ε is either η or ‘spurious’ ει; the long equivalent of ο is either ω or ‘spurious’ ου (→1.23).
- 1.19 Using these variables, the vowel system of classical Attic may be represented as follows (the outer triangle represents long vowels, the inner triangle short vowels; rounded vowels are underlined):

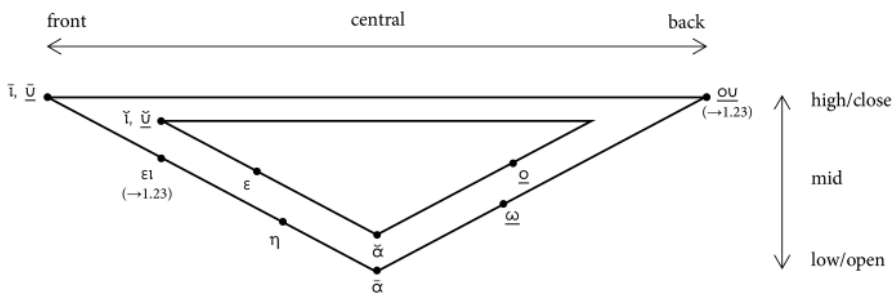


Figure 1.1: Vowel triangle: the vowel system of classical Attic

Diphthongs

- 1.20 Greek has thirteen **diphthongs**, combinations of two vowels that are pronounced in a single syllable. The second part of a diphthong is always either ι or υ. On the basis of the quantity of the first vowel, a distinction is made between ‘short’ and ‘long’ diphthongs (although the resulting syllable is always long for the purposes of metre and accentuation, except for final -οι/-αι in certain words; for details →24.7, 24.10).

Short Diphthongs

1.21 The following are the **short diphthongs**:

diphthong	sound	example	approximation
αι	[ai]	καινός [kainós] <i>new</i>	<i>high</i> , <i>eye</i> (with short first vowel)
ει	[e:] (earlier [ei])	πειθω [pé:tʰɔ:] <i>persuade</i>	<i>made</i> , Germ. <i>Beet</i> (earlier <i>eight</i> , <i>hey</i> )
οι	[oi]	λοιπός [loipós] <i>remaining</i>	Afrik. <i>rooibos</i> (with short first vowel)
υι	[yj]	μυῖα [myjá] <i>fly</i>	Fr. <i>huit</i> , <i>halleluja</i>
αυ	[au]	ταῦρος [taûros] <i>bull</i>	<i>how</i> (with short first vowel)
ευ	[eu]	εὖρος [eûros] <i>width</i>	(no close equivalent available) a glide from <i>get</i> to <i>wide</i> ; cf. Cockney <i>bell</i>
ου	[o:] (earlier [ou], later [u:])	πούς [pó:s] <i>foot</i>	<i>mode</i> (earlier <i>low</i> , later <i>pool</i> )

**Note 1:** υ as second part of a diphthong was presumably closer to [u] (as in Engl. *do*) than to [y]. Moreover, ι and υ in diphthongs were not pronounced exactly like the equivalent single vowels, but as sounds approximating ‘semivowels’ [j] and [w] (as in Engl. *you* and *wave*); this was particularly the case when the diphthong preceded a vowel, in which case ι/υ was pronounced as a glide between the vowel sounds (as in Engl. *hey you* and *new wave*). For the semivowels, also →1.31.

**Note 2:** υι occurs only before vowels.

Long Diphthongs

1.22 In **long** diphthongs, if the second part is ι, it is written in most texts *under* the first letter (**iota subscript**):

diphthong	sound	example	approximation
αι̣	[a:i]	ᾄδω [a:ídɔ:] <i>sing</i>	<i>rye</i>
ει̣	[ε:i]	κομιδῇ [komidê:i] <i>entirely</i>	Fr. <i>appareil</i>
οι̣	[ɔ:i]	τραγῳδίᾱ [tragɔ:idió:] <i>tragedy</i>	<i>noise</i> (with long first vowel)
αυ̣	[a:u]	ταὐτό [ta:utó] <i>the same</i>	<i>how</i> (with long first vowel)
ηυ̣	[ε:u]	ἠῦρον [hê:uron] <i>found</i>	(similar to ευ̣, but with long first vowel)
ωυ̣	[ɔ:u]	ἑωυτόν [heɔ:utón] <i>himself</i> (Ion., →25.14)	a glide from <i>more</i> to <i>wide</i> ; cf. <i>saw</i>

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**Note 1:** The ι as second part of long diphthongs was gradually lost in the pronunciation of post-classical Greek, and subsequently also in writing. Iota subscript was then introduced to indicate the original presence of the sound. In an increasing number of modern text editions, the iota is written as a full letter: **iota adscript** (ηι instead of η, αι instead of α, ωι instead of ω). Observe that αι in this system is ambiguous (it can be both a ‘short’ and a ‘long’ diphthong; but →1.8 above for the position of accents and breathing marks).

**Note 2:** The ι as second part of η was probably lost already in the classical period. This sound then appears to have merged with ει.

**Note 3:** In conventional Anglophone pronunciation of Ancient Greek, iota subscript is usually not pronounced (i.e. η is pronounced as η, etc.).

### ‘Spurious’ Diphthongs ει and ου

- 1.23 Two developments contributed to a peculiar feature of Greek (particularly Attic-Ionic) spelling:

- a long e-sound and a long o-sound, [e:] and [o:], came into use as the result of contraction (→1.58–65) or compensatory lengthening (→1.67–9); these were distinct from – namely ‘higher’ (→1.17–19) than – the older long vowels [ε:] (eventually written η) and [ο:] (eventually written ω);
- the pronunciation of the diphthongs [ei] and [ou] gradually shifted towards [e:] and [o:] as well (they were monophthongized).

As a result, in the late fifth century, the digraphs ει and ου began to be used to represent [e:] and [o:], not just when these sounds developed from the older ‘genuine’ diphthongs (at that time no longer pronounced as such), but *also* when they resulted from contraction or compensatory lengthening. This spelling was later standardized.

Because ει and ου in such cases represent sounds which were never genuine diphthongs, they are normally called ‘**spurious**’ diphthongs.

**Note 1:** Below, ē and ō will occasionally be used to represent [e:] and [o:] when resulting from contraction or compensatory lengthening, in order to distinguish them from ‘genuine’ diphthongs. It may be noted that E and O was the spelling for both long [e:]/[o:] and short [e]/[o] in Attic inscriptions up to the late fifth century BCE: the use of EI and OY made it possible to distinguish the long vowels from short [e] and [o].

**Note 2:** The pronunciation of ου (whether originally genuine or ‘spurious’) soon shifted to [u:] (the pronunciation was fronted and raised, →1.17–19).

## Pronunciation: Consonants

### List of Consonants

- 1.24 The following are the Greek **consonants**, and their pronunciation:



consonant	sound	example	approximation
β	[b]	βαίνω [baínɔː] go, walk	<u>bed</u>
γ	[g] before γ, κ, χ: [ŋ]	γυνή [gynéː] woman συγγενής [syŋgenéːs] akin	<u>guy</u> <u>living</u> , <u>hangman</u>
δ	[d]	διά [diá] through	<u>dear</u>
ζ	[zd]	ζοή [zdoéː] life	<u>wisdom</u>
θ	[tʰ]	θάνατος [tʰánatos] death	(word-initial t) <u>Tom</u>
κ	[k]	ἐκ [ek] out of, from	<u>scan</u>
λ	[l]	καλός [kalós] beautiful	<u>lesson</u>
μ	[m]	ῥῆμα [rʰêːma] word	<u>mother</u>
ν	[n]	νύξ [núks] night	<u>nothing</u>
ξ	[ks]	ξίφος [ksípʰos] sword	<u>ex</u>
π	[p]	λείπω [léːpɔː] leave	<u>spot</u>
ρ	[r]	ῥέω [rʰéɔː] flow	<u>rhyme</u> (rolling r)
σ/ς	[s]	βάσις [básis] step	<u>sound</u>
τ	[t]	κράτος [krátos] power	<u>still</u>
φ	[pʰ]	γράφω [grápʰɔː] write	(word-initial p) <u>pot</u>
χ	[kʰ]	ταχύς [takʰýs] quick	<u>chorus</u>
ψ	[ps]	ῥαψωδός [rʰapsɔːidós] rhapsode	<u>lapse</u>

Phonetic Details

1.25 Consonants are sounds produced by the complete or partial interruption of the flow of air by a constriction at some point in the vocal tract: the Greek consonants may be divided into the following categories: stops (labial, velar and dental stops), fricatives, liquids, and nasals (for semivowels, →1.31).

Stops

- 1.26 **Stops** (or **plosives**): sounds produced by the complete interruption of the flow of air. Within this category, three groups may be distinguished, depending on the place of articulation:
- **(bi)labial stops**: the flow of air is interrupted by pressing the lips (Lat. *labia*) together;
  - **dental stops**: the flow of air is interrupted by pressing the tongue against the teeth (Lat. *dentes*);

- **velar stops**: the flow of air is interrupted by pressing the tongue against the roof of the mouth (Lat. *velum*).

The stops may be further divided between:

- **voiced stops**: the vocal cords vibrate;
- **voiceless stops**: the vocal cords do not vibrate;
- **aspirated (voiceless) stops**: the sound is produced together with aspiration (an h-sound: →1.27).

The following are the nine stops of Greek:

	<i>voiced</i>	<i>voiceless</i>	<i>aspirated (voiceless)</i>
<i>labial stops</i>	β [b]	π [p]	φ [p <sup>h</sup> ]
<i>dental stops</i>	δ [d]	τ [t]	θ [t <sup>h</sup> ]
<i>velar stops</i>	γ [g]	κ [k]	χ [k <sup>h</sup> ]

**Note 1:** In conventional Anglophone pronunciation, φ and θ are often pronounced as fricatives ([f] as in Engl. *fast* and [θ] as in *theatre*, respectively). This corresponds to the pronunciation of medieval and modern Greek.

**Note 2:** γ may also be a nasal, →1.29, with n.1.

*Fricatives*

- 1.27 **Fricatives**: sounds produced by ‘squeezing’ air through a constriction at some point in the mouth. The standard Greek alphabet has only one fricative, σ, a voiceless **sibilant** (a sharp ‘hissing’ sound; the obstruction is formed by pressing the tongue against the gums).

In addition, the rough breathing ( ‘ ) represents a fricative, [h].

*Resonants*

- 1.28 The category of **resonants** consists of the nasal consonants μ and ν (and in certain cases γ) and the so-called ‘liquids’ λ and ρ.
- 1.29 **Nasals**: the air flow is completely obstructed in the mouth, but flows through the nose. The Greek alphabet has three nasals (all voiced):
- a **labial nasal**, μ [m]: the flow of air is interrupted by pressing the lips together; air escapes through the nose;
  - a **dental nasal**, ν [n]: the flow of air is interrupted by pressing the tongue against the teeth or gums; air escapes through the nose;
  - a **velar nasal**, γ [ŋ] (only when written before a velar stop – γ, κ, χ): the flow of air is interrupted by pressing the tongue against the roof of the mouth; air escapes through the nose.