

# 4

## Sight and Sounds of Greek Words (Module B)

Consonants, Vowels, and Diphthongs  
Phonology (Part 4)

### Overview

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### 4.0 Introduction

Lessons One and Two introduced the sight and sounds of the twenty-four Greek alphabetical letters. Lesson Three further laid the foundation for Greek phonology with introductory terminology concerning the seventeen Greek consonants, the seven vowels, and eleven diphthongs. Building on this foundation, Lesson Four organizes the seventeen Greek consonants into their two basic phonetical classifications, the stop and continuant consonants.

The best phonological approach to these basic consonantal classifications is to classify them according to which speech organ (throat, teeth or lips) is used while pronouncing them. This largely determines the consonant's phonological family to which it belongs, which in future lessons predicts what morphological changes these same consonants will undergo within words. Whereas the sight and sounds of these Greek consonants have already been presented in the previous three lessons, their organizational classification has not.

If you find some portions of this lesson difficult, reread the difficult sections several times, but not to an excess. Competency of NTGreek does not depend upon learning everything the first time it is presented! Becoming skilled in NTGreek does however, demand practice, resolve, and perseverance.

### 4.1 Phonetic Classification of Greek Consonants

The most functional phonetical classification of consonants is according to which speech organ (throat, teeth and lips) is used in their pronunciation. The consonants are divided in the chart below into two broad categories: the nine

stops and the twelve continuants. The consonants are subdivided again according to the nature of the sound and vocal organs used in producing them.

The chart should be carefully studied for future reference. It will be referred to in later lessons whenever consonantal changes are encountered. Not only should the chart be understood from left to right, but also from top to bottom.

Explanations of the terms used in the chart follow.

<b>STOPS</b>	Classes are the three positions of breath closure.		<b>CLASSES</b>			The nine "stops" are divided into three "classes" and three "orders".	
			<b>Palatal</b>	<b>Dental</b>	<b>Labial</b>		
	<b>Orders</b>	(voiced)	Γ γ	Δ δ	Β β		The orders express both the degree of the vibration in the vocal cords and force in the expiratory breath. Sound is formed by slowing down or briefly stopping the flow of air through the mouth.
		(unvoiced)	Κ κ	Τ τ	Π π		
(aspirate)		Χ χ	Θ θ	Φ φ			

<b>CONTINUANTS</b>	<b>Sibilant</b>	(voiced)		Σ σ		A sibilant is a hissing sound when the breath in the mouth is narrowed. Voiced Σ σ has the ζ sound as the "s" in "is"; if unvoiced, Σ σ is the "s" sound as in "sit".
		(unvoiced)		Σ σ		
	<b>Compound</b>	(voiced)		Ζ ζ		Compounds are a combination of a palatal, dental or labial + σ. Like <i>sigma</i> above, notice that Ζ ζ is both voiced and unvoiced. When voiced, Ζ ζ is pronounced as "dz".
		(unvoiced)	Ξ ξ	Ζ ζ	Ψ ψ	
	<b>Nasal</b>	(voiced)	Γ γ	Ν ν	Μ μ	The sound of nasal continuants is forced up toward the nasal cavity
	<b>Liquid</b>	(voiced)	Λ λ		Ρ ρ	The liquids fall between the classes and the air passage is mostly open.
<b>Semi-consonants</b>	(voiced)	Ι ι	Ρ ρ	Υ υ	These letters serve at times as a vowel or a consonant.	

If the chart is carefully studied now, it will save untold hours of future frustration when these same consonants undergo predictable consonantal changes within words. Study diligently now, or suffer defeat and possible insanity later!

## 4.2 The Nine “Stop” Consonants

A stop consonant is one whose sound is formed by slowing down or abruptly stopping the flow of air through the mouth before being released with an expulsion of breath and sound. The nine stop consonants are *gamma*, *kappa*, *chi*, *delta*, *tau*, *thēta*, *bēta*, *pī*, and *phī*. The stops are classified according to which speech organ (throat, teeth and lips) is predominately operational.

The nine stops are subdivided into three orders and three classes. The classes are *vertically* determined by the three possible positions of breath closure used in producing them: *palatal* (throat), *dental* (teeth), and *labial* (lips). Stops belonging to the same class are considered **cognate**; therefore, a cognate consonant is associated with a particular class.

The orders are *horizontally* determined by whether the stop is voiced, unvoiced, or aspirated. Consonants that belong to the same order are considered coordinate; therefore, a coordinate consonant is associated with a particular

Palatals derive their name from the use of the roof of the mouth’s soft palate.

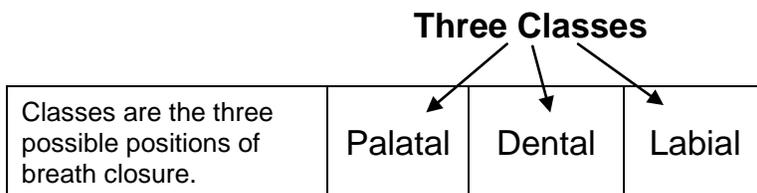
order. A consonant is *voiced* when the vocal chords vibrate as the air passes through. As a simple exercise, place your fingers on your

voice box and pronounce the voiced stops. You will feel the vocal cords vibrate if pronouncing these consonants properly. Stops are *unvoiced* when the vocal chords are slack in pronunciation. *Aspiration* denotes that pronunciation is accompanied with a strong emission of breath which results in an “h” sound.

The correlation between the nine stops is conveniently represented below in the chart. This arrangement is commonly called the Square of Stops.

		CLASSES			
		Palatal	Dental	Labial	
O R D E R S	Voiced	Γ γ	Δ δ	Β β	<i>Coordinate</i>
	Unvoiced	Κ κ	Τ τ	Π π	<i>Coordinate</i>
	Aspirate	Χ χ	Θ θ	Φ φ	<i>Coordinate</i>
		<i>Cognate</i>	<i>Cognate</i>	<i>Cognate</i>	

The Square of Stops' chart is now further explained. The chart's explanation moves from left to right (their classes: palatal, dental, and labial), and then from top to bottom (their order: voiced, unvoiced, and aspirate).



The above chart reflects the three possible positions of breath closure when pronouncing the stops: palatal, dental, and labial. The progression from left to right begins with the sound produced in the back of the oral cavity in the throat, moving toward the front with the tongue and teeth, and then the lips.

	Palatal	Dental	Labial
Voiced	Γ γ <sup>1</sup>	Δ δ <sup>1</sup>	Β β <sup>1</sup>
Unvoiced	Κ κ <sup>2</sup>	Τ τ <sup>2</sup>	Π π <sup>2</sup>
Aspirate	Χ χ <sup>3</sup>	Θ θ <sup>3</sup>	Φ φ <sup>3</sup>

1. Consonants pronounced with the aid of the vocal cords are voiced consonants. The vocal cords vibrate as the air passes through the oral cavity. *Gamma*, *delta*, and *bēta* belong to this order.
2. Consonants pronounced without the aid of the vocal cords are unvoiced consonants. The vocal cords do not vibrate as the air passes through the oral cavity. *Kappa*, *tau*, and *pī* belong to this order.
3. Consonants pronounced with a strong emission of breath are aspirate consonants. *Chī*, *thēta*, and *phī* belong to this order. These consonants are grouped with and treated as stop consonants because when their phoneme interacts with adjacent sounds in words, they behave like stops.

*Gamma* belongs to the same voiced order and is coordinate with the consonants *delta* and *bēta*. *Kappa* belongs to the same unvoiced order and is coordinate with the consonants *tau* and *pī*. *Chī* belongs to the same aspirated order and is coordinate with *thēta* and *phī*.

### 4.2.1 The Palatal Stops (*Gamma, Kappa, Chi*)

Palatal stop consonants belong to the same class because they are formed in back of the throat by the closure of the tongue near or touching the hard palate in the oral cavity. Palatal stop consonants are distinct according to their separate order as voiced (*gamma*), unvoiced (*kappa*), and aspirate (*chi*).

	Palatal	Dental	Labial
Voiced	Γ γ	Δ δ	Β β
Unvoiced	Κ κ	Τ τ	Π π
Aspirate	Χ χ	Θ θ	Φ φ

#### 4.2.1.1 *Gamma*

*Gamma* may be a voiced stop consonant or a nasal continuant. Its pronunciation as a voiced stop is like the hard “g” in “gate.” However, when the consonant occurs before itself or another palatal stop consonant (γγ, γκ, and γχ) or *xs̄* (γξ), the combination undergoes phonemic change and is pronounced as a nasal continuant consonant. Its phonemic change will be studied later in §4.3.3.1.

#### 4.2.1.2 *Kappa*

*Kappa* is an unvoiced stop consonant because the vocal cords are not used while pronouncing its phonetic value.



“Unvoiced” never means a consonant is not pronounced. Although consonants may undergo phonemic changes, there are not any true silent consonants in Greek words. The vocal cords are inactive while pronouncing the three unvoiced stops, although it is difficult to discern because the voice is used in sounding the accompanying vowel.

#### 4.2.1.3 *Chi*

*Chi* is an aspirated stop consonant and its phonetic sound is easily confused with *kappa* unless remembered that the breath is not entirely cut off with *chi*. *Chi* appears to correspond orthographically with the English letter “x”, however its phonetic value does not. *Chi* is a Greek letter that does not actually correspond to any English alphabetical letter.

*Chī*'s phonetic sound approximates the “ch” in the English words “**chemist**,” “**chiasmus**,” and the “k” in “**kiosk**.” Breath flows with the consonant and is not interrupted as with the unvoiced stop consonant of kappa. Try this: form the mouth for *kappa* and then pronounce “h” through it. The emission of breath should produce a strong aspirated “kh”.



A consonant's name is formed with the help of a vowel, but its phonetic value does not include that vowel. For example, *chī* is the name for the letter Χ χ, but when *chī* appears in a word, its phonetic value is simply “kh” without the vowel sound “ī”.

It may be helpful to hear the distinction between *kappa* and *chī*.

[Listen](#)

χρησιϋ κρισιν καυχησις κατεχειν

#### 4.2.2 The Dental Stops (*Delta, Tau, Thēta*)

Dental stop consonants belong to the same class because they are formed with the tip of the tongue behind the upper teeth. Some prefer the term “alveolar” as more accurate, since the tongue is placed against the alveolar ridge rather than only the teeth. “Dental” will be used in this grammar since the word “teeth” is easier for most to associate with “dental”.

	Palatal	Dental	Labial
Voiced	Γ γ	Δ δ	Β β
Unvoiced	Κ κ	Τ τ	Π π
Aspirate	Χ χ	Θ θ	Φ φ

Each of the three dental consonants is distinct according to its separate order as voiced (delta), unvoiced (tau), and aspirate (thēta).

Practice the following words that have these dental stop consonants. They are presented in their respective orders.

[Listen](#)

**Δ δ** (voiced) δελτα, δη, δημος, δεω, δια, αποδω, ενδικον, διδασκω, παιδος, συνδεω, Λυδδα, καρδια

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**Τ τ** (unvoiced) ταυ, ταυτα, πετομαι, πιπτω, λυτρον, κατα, δεκτος, βατανην, αστηρ, τοτε, τομος

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**Θ θ** (aspirate) θητα, τεθη, συνθλαω, πιθος, παθημα, παθος, επιτιθει, αρθητι, βαθος, θειω, θελω

### 4.2.3 The Labial Stops (*Bēta, Pī, Phī*)

Labial stop consonants belong to the same class because they are formed by closing, nearly closing, or rounding the lips. The lips are essential for the airflow's momentary restriction. As a simple exercise, try to say these consonants without the use of the lips.

	Palatal	Dental	Labial
Voiced	Γ γ	Δ δ	Β β
Unvoiced	Κ κ	Τ τ	Π π
Aspirate	Χ χ	Θ θ	Φ φ

Each of the three labial consonants is distinct according to its separate order as voiced (*bēta*), unvoiced (*pī*), and aspirate (*phī*). Practice the following words which have these labial stop consonants.

[Listen](#)

**Β β** (voiced) βητα, βαθει, βοσκω, βοηθεω, εβαλεν, καβος

[Listen](#)

**Π π** (unvoiced) Πι, πιστις, πλανος, λειπει, θαπτω, επι

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Φ φ (aspirate) Φι, φοβη, φιλος, στρεφω, εφαγεν, τεφρω

### 4.3 The Continuant Consonants

Stop consonants and their orders were discussed in §4.2. The focus now turns to a second major phonetic classification of Greek consonants: the continuants.

Continuant consonants restrict the passage of air (but not stopped), causing friction while the sound continues. The continuants are subdivided into the sibilant, compound, nasal, liquid, and the so-called semi-consonants. The semi-consonants will receive further attention in later lessons.

		Palatal	Dental	Labial	
<b>Sibilant</b>	voiced		Σ σ ς		A sibilant is a hissing sound when the breath in the mouth is narrowed. Voiced Σ σ has the ζ sound as the “s” in “is”; if unvoiced, the Σ σ is the “s” sound as in “sit”.
	unvoiced		Σ σ ς		
<b>Compound</b>	voiced		Ζ ζ		Compounds are a combination of a palatal, dental, or labial + σ. Like <i>sigma</i> above, notice that Ζ ζ is both voiced and unvoiced.
	unvoiced	Ξ ξ	Ζ ζ	Ψ ψ	
<b>Nasal</b>	voiced	Γ γ <sup>1</sup>	Ν ν <sup>2</sup>	Μ μ <sup>3</sup>	The sound of nasal continuants is forced up toward the nasal cavity
<b>Liquid</b>	unvoiced	Λ λ      Ρ ρ			The liquids fall between the classes and the air passage is mostly open.
<b>Semi-consonants</b>		Ι ι	Ρ ρ	Υ υ	These letters serve at times as a vowel or a consonant.

The continuant sounds may be released through the mouth or the nose. If released through the mouth, the continuant’s sound is a hissing noise (the “s” sound as in “sit”). Breath is forced through a narrow passage between the tip of the tongue and the teeth so that resulting friction produces a hissing sound. These consonants are sibilant consonants. *Sigma* is the only simple or pure sibilant in Greek, and *zēta*, *xi*, and *psi* are considered as compound sibilants.

If a sound is released through the nose, its sound produces one of three nasal consonants respective to its class. Observe that all nasals are voiced, and sometimes *gamma* is a nasal, whereas *mū* and *nū* are always nasal consonants.

1. If *gamma* comes before another palatal stop (*kappa*, *gamma*, or *chi*) or *ksi*, its phonemic sound is a voiced *gamma-nasal*.
2. If the continuant is *nū*, its phonemic sound is a voiced *nū-nasal*.
3. If the continuant is *mū*, its phonemic sound is a voiced *mū-nasal*.

Finally, two liquid continuant sounds are also in Greek: *lambda* and *rho*. They allow breath to pass through the oral cavity without friction. They actually acquired their name from the rippling nature of the sound.

With this brief introduction to continuant consonants, the five subcategories will now be discussed in greater depth, beginning with the sibilant consonant.

### 4.3.1 The Sibilant Consonant (*Sigma*)

*Sigma* is the only “pure” sibilant consonant. Its sound is by bringing the tip of the tongue near the teeth, allowing air to pass over the tongue that produces a hissing (< Latin *sibilans*, “to hiss”).

When *sigma* is voiced, it has the “z” sound as the “s” in “is.” It is voiced before the voiced consonants *gamma*, *bēta*, *delta*, and *mū*. When *sigma* is unvoiced, it has the phonemic “s” sound as in “sit.”

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Σ σ (voiced) κοσμος, ασβεστος, προσδοκα, δεσμη, σχισμα

[Listen](#)

Σ σ (unvoiced) σιγμα, συ, σε, σον, εστιν, σωμα, γλωσσα

*Zēta*, *ksi*, and *psi* are considered by some as compound sibilants, for they make a slight hissing sound because of their composite sound nature. However, it is better to categorize these consonants as compound consonants and not as sibilant consonants, because of their interaction with other consonants when words undergo predictable phonetic consonantal changes.

### 4.3.2 The Compound Consonants (*Zēta*, *Xsī*, *Psi*)

Compound consonants fuse two individual phonetic sounds into one letter. Depending on whether the pure sibilant *sigma* is voiced or unvoiced determines the resultant compound consonant's sound. The following combinations of a stop consonant and a sibilant produce its respective compound phonetic sound.

**Palatal:** γ (voiced stop) + σ (unvoiced) = ξ → "xs" sound  
 κ (unvoiced stop) + σ (unvoiced) = ξ → "xs" sound  
 χ (aspirate stop) + σ (unvoiced) = ξ → "xs" sound

**Dental:** δ (voiced stop) + σ (voiced) = ζ → "dz" sound  
 τ (unvoiced stop) + σ (unvoiced) = ζ → "dz" sound  
 Θ (aspirate stop) + σ (unvoiced) = ζ → "dz" sound

**Labial:** β (voiced stop) + σ (unvoiced) = ψ → "ps" sound  
 π (unvoiced stop) + σ (unvoiced) = ψ → "ps" sound  
 φ (aspirate stop) + σ (unvoiced) = ψ → "ps" sound

The significance of compound consonants will become apparent in future lessons when words undergo predictable phonetic consonantal changes. It is important to become acquainted with their phonetic sounds in respect to syllabification.

The blended phonetic sounds of compound consonants break apart, while at the same time, bridging syllables when they occur within words. However, the consonant itself actually belongs to only one syllable. For example, σφζω has two syllables, σφ - ζω. When pronouncing σφζω, it sounds more like σφδ-σω (the second *sigma* is voiced, hence the "dz" sound).

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**Z ζ** (voiced)      σφζω, κραζω, φωτιζω, βαπτιζω  
 (σφ-ζω) (κρα-ζω) (φω-τι-ζω) (βα-πτι-ζω)

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**Z ζ** (unvoiced)      ζωη, ζαω, ζητεω, ζυγος, ζοφος, ζεω  
 (ζω-η) (ζα-ω) (ζη-τε-ω) (ζυ-γος) (ζο-φος) (ζε-ω)

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Ξ ξ (unvoiced)      εξωθεν, εξω, εξουσια, δεξιος  
(ε-ξω-θεν) (ε-ξω) (ε-ζου-σι-α) (δε-ξι-ος)

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Ψ ψ (unvoiced)      ψυχη, οψια, θλιψις, ψαλμος, διψαω  
(ψυ-χη) (ο-ψι-α) (θλι-ψις) (ψαλ-μος) (δι-ψα-ω)

Voiced *zēta* is never the first letter in a word. It will be helpful to remember that the voiced compound consonant *zēta* is a combination of voiced *delta* + voiced *sigma*. When *zēta* is unvoiced, it has the simple “z” sound, whereas both *xsī* and *psī* are always unvoiced because of the unvoiced *sigma*.

Some grammars consider compound consonants as “double consonants.” This only leads to confusion later when syllabification is discussed. For now, know the distinction between single, double, compound consonants, and consonantal clusters as defined below.

**4.3.2.1** Single consonants (β, γ, δ, etc.) that are not part of a double consonant, compound consonant, or does not belong to a consonantal cluster. Two single consonants may follow one another (as in the fourth and sixth examples below).

[Listen](#)

δη, ενεχω, ενος, καρδια, κατα, πανδοχει

**4.3.2.2** Double consonants (γγ, σσ, ββ, etc.) are a pair of identical consonants in juxtaposition with one another and each consonant has its own phonemic sound. Syllable division always occurs between double consonants. Syllable division (syllabification) will be comprehensively examined in Lesson Five. For now, observe how the four words below are divided.

πολ-λη    ομ-μα-των    νε-οσ-σος    σαβ-βα-σιν

Notice also that when possible, a new syllable begins with a consonant.

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πολλη, ομματων, νεοσσοσ, σαββασιν

**4.3.2.3** Compound Consonants (*zēta*, *xsī*, *psī*) are single consonants that have a compound phonetic sound.

**4.3.2.4** Consonantal clusters are two or more adjacent consonants that are never divided while pronouncing a word. There are more than fifty consonantal clusters in NTGreek. They usually retain the sound they have separately, except that they are rapidly blended together. A complete list of consonantal clusters will be cited in Lesson Five.

### **4.3.3 The Nasal Consonants (*Gamma*, *Nū*, *Mū*)**

Three continuant consonants are “nasal” because their sound is forced up into the nasal cavity and released through the nose. All three nasal consonants are always voiced and are divided into their respective classes of palatal (*gamma*), dental (*nū*), and labial (*mū*).

Try this: lightly pinch your nose with your forefinger and thumb to restrict the flow of air while pronouncing these consonants. It is impossible to pronounce them since air is forced up and flows into the nasal cavity.

**4.3.3.1** The nasal-gamma has already been discussed as a palatal stop consonant (cf. §4.2.1.1). It is pronounced like the hard “g” as in “gate.” However, four other possible phonetic sounds are related with this continuant consonant.

When *gamma* occurs before another palatal stop (*gamma*, *kappa*, *chi*) or *xsī*, it undergoes a phonemic change. The following examples illustrate the different possible *gamma*-nasal combinations.

1. When *gamma* immediately occurs before another *gamma* (*γγ*), the double consonant combination produces the nasal sound of “ng” as in the English words “thing”, “king” or “finger”.

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αγγελος, φεγγος, συγγενης, Ναγγαι  
(αγ-γε-λος) (φεγ-γος) (συγ-γε-νης) (Ναγ-γαι)

2. When *gamma* immediately precedes the palatal consonant *kappa* (*γκ*), the consonantal combination produces the nasal sound of “nch” as in “anchor”.

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αγκυρα, συγκαλεω, ηνεγκα, εγκοπη, ογκος  
(αγ-κυ-ρα) (συγ-κα-λε-ω) (η-νεγ-κα) (εγ-κο-πη) (ογ-κος)

3. When *gamma* immediately precedes the palatal consonant *chī* (γχ), the consonantal combination is pronounced like γκ but only with more breath.

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συγχεω, ελεγχει, ελεγχε, εγχριω, λογχη  
(συγ-χε-ω) (ε-λεγ-χει) (ε-λεγ-χε) (εγ-χρι-ω) (λογ-χη)

4. When *gamma* immediately precedes the compound consonant *xsī* (γξ), the consonantal combination produces the nasal sound of “nks” as in the English words “**inks**” and “**oinks**,” or the “nx” as in “**lynx**.”

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σφιγξ, λαρυγξ, φαρυγξ, σαλπιγξ  
(σφιγξ) (λα-ρυγξ) (φα-ρυγξ) (σαλ-πιγξ)

- 4.3.3.2** The nasal-*hū* is a dental continuant consonant. The tongue is pressed against the alveolar ridge with its sound forced up through the nasal cavity. It is voiced like all nasal continuants.

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νυ, εννυχα, εστιν, εν, ναι, νεκρος, νικη  
(νυ) (εν-νυ-χα) (ε-στιν) (εν) (ναι) (νε-κρος) (νι-κη)

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νευω, παν, παλιν, ον, ονειδος, ονινημι  
(νευ-ω) (παν) (πα-λιν) (ον) (ο-νει-δος) (ο-νι-νη-μι)



Observe that every above syllable has something in common. Whether it is a single or multi-syllable word, every Greek syllable (like English) must only contain either one vowel or diphthong.

**4.3.3.3** The nasal-*mū* is a labial continuant consonant. The sound of the letter is formed by the rounding of the lips, with most of the sound allowed to pass through the nasal cavity instead of the mouth. Like all nasal continuants, *mū* makes the nose resonate with a slight vibration. Like the other two nasal continuants, the nasal *mū* is also voiced.

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μυ, αμελει, εμου, καμνω, μονον, μαλλον, μνεια  
(μυ) (α-με-λει) (ε-μου) (κα-μνω) (μο-νον) (μαλ-λον) (μνει-α)

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καμμω, λαμβδα, πεμπει, βλασφημα, στομνος  
(καμ-μω) (λαμ-βδα) (πεμ-πει) (βλασ-φη-μα) (στο-μνος)

#### 4.3.4 The Liquid Consonants (*Lambda*, *Rhō*)

*Lambda* and *Rhō* are continuant liquids. Their phonemic sounds are produced by allowing the air to pass through the oral cavity without friction. As with all continuatives, it is possible to continue their sound as long as desired. In some cases, this may affect how long a double *lambda* or *rhō* is sustained. In some Greek grammars, *mū* and *nū* are also considered liquid consonants.

**4.3.4.1** The Liquid *Lambda* is produced by both placing the tip of the tongue against the alveolar ridge of the mouth, or against the teeth, and allowing the sound to pass around the side of the tongue. *Lambda* falls somewhere between the palatal and dental sounds because of the initial placement of the tongue. Its phonetic sound is produced exactly like the English “L”.

#### 4.3.4.2 The Liquid *Rhō*

*Rhō* was originally trilled by the tip of the tongue against the roof of the mouth while at the same time allowing the “rr” sound to pass around it. A similar phonemic sound is not in the English language. Most nonnative speakers will pronounce the *rhō* as a palatal by almost allowing the tip of the tongue to touch the roof of the mouth (or rolled back) and saying the sound “rr”.



Whenever *rhō* begins a word, it is aspirated to aid in its pronunciation. When pronounced in a word, its aspiration is almost negligible. As the spelling of its name indicates (*rhō*), a flow of breath accompanies the letter, however, only so when it begins a syllable.

### 4.3.5 The Semi-Consonants (*Iōta*, *Upsilon*, *Rhō*)

Greek grammars customarily refer to certain sounds as semi-consonants or semi-vowels in addition to the seventeen consonants because of their phonemic sound-shifts in certain Greek words. These letters are *iōta*, *upsilon*, and *rhō*. Sometimes, these letters may serve double duty, as both a consonant and vowel. Of these three letters, only *iōta* receives attention here, because the other letters pertain to the development of the Greek phonological system, and not its stage in New Testament Greek.

Whenever *iōta* precedes a long vowel at the beginning of a word, its phonetic sound is a voiced palate like the “i” in “onion” or “minion.” The phonetic value resembles the English “y” as in “yes” or “yam,” and its phonetic sound goes with the following long vowel (as one syllable).

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ἰωτα, Ἰησους, ἰωσιαν, ἰωαννου, συνηων, ἰωμενος

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# 4

Study Guide  
Sight and Sounds of Greek Words (Module B)  
Phonology (Part 4)

**Exercise One: Short Answer.** Briefly answer the following questions.

1. What are the two major phonetic classifications of consonants?
2. What are the nine “stop” consonants?
3. What constitutes a “stop” consonant?
4. Classify the following stop consonants according their class and order.
  - a. Κ κ -
  - b. Γ γ -
  - c. Τ τ -
  - d. Χ χ -
  - e. Β β -
  - f. Π π -
  - g. Θ θ -
  - h. Φ φ -
  - i. Δ δ -
5. What determines whether a consonant is “voiced” or “unvoiced”?

6. What constitutes a “palatal stop” and how many are there?
  
7. What constitutes a “dental stop” and how many are there?
  
8. What constitutes a “labial stop” and how many are there?
  
9. *Gamma* coordinates with what other voiced stops?
  
10. *Kappa* coordinates with what other unvoiced stops?
  
11. *Chī* coordinates with what other aspirated stops?
  
12. *Chī* is cognate with what other palatal stops?
  
13. *Thēta* is cognate with what other dental stops?

14. *Phī* is cognate with what other labial stops?

15. Fill in the following “Square of Stops” chart with the appropriate consonants.

	Palatal	Dental	Labial
Voiced			
Unvoiced			
Aspirate			

16. What does “aspiration” indicate while pronouncing an aspirated consonant and to which English sound does it correspond?

17. What makes a consonant a continuant consonant?

18. What are the five-continuant subcategories consonants?

19. What consonant is the only pure sibilant in Greek? Why?

20. What are the three compound consonants?

21. Before the three palatal stops  $\gamma$ ,  $\kappa$ ,  $\chi$ , and  $\xi$ , the *gamma* undergoes a phonemic change. How are these combinations pronounced?

- a.  $\gamma\gamma$  -
- b.  $\gamma\kappa$  -
- c.  $\gamma\chi$  -
- d.  $\gamma\xi$  -

22. Fill in the following chart with the appropriate consonants.

<b>STOPS</b>	Classes are the three positions of breath closure.		<b>CLASSES</b>			The nine "stops" are divided into three "classes" and three "orders".
			<b>Palatal</b>	<b>Dental</b>	<b>Labial</b>	
	<b>O r d e r s</b>	(voiced)				The orders express both the degree of the vibration in the vocal cords and force in the expiratory breath. Sound is formed by slowing down or briefly stopping the flow of air through the mouth.
		(unvoiced)				
(aspirate)						

<b>CONTINUANTS</b>	<b>Sibilant</b>	(voiced)			A sibilant is a hissing sound when the breath in the mouth is narrowed. Voiced $\Sigma \sigma$ has the $\zeta$ sound as the "s" in "is"; if unvoiced, $\Sigma \sigma$ is the "s" sound as in "sit".	
		(unvoiced)				
	<b>Compound</b>	(voiced)			Compounds are a combination of a guttural, dental or labial + $\sigma$ . Like <i>sigma</i> above, notice that $\mathbf{Z \zeta}$ is both voiced and unvoiced. When voiced, $\mathbf{Z \zeta}$ is pronounced as "dz".	
		(unvoiced)				
	<b>Nasal</b>	(voiced)			The sound of nasal continuants is forced up toward the nasal cavity	
	<b>Liquid</b>	(voiced)				The liquids fall between the classes and the air passage is mostly open.
	<b>Semi-consonants</b>	(voiced)				These letters serve at times as a vowel or a consonant.

23. What are the three nasal consonants and why are they called “nasals”?

### Exercise Two: True or False Questions

1. All consonants may be classified as either a stop or continuant consonant. There are NO exceptions. True False
2. The stop consonants are subdivided according to the nature of their sound and vocal organs used in producing them. True False
3. *Gamma* may be classified as either a voiced palatal stop or as a voiced nasal continuant. True False
4. The two liquid voiced continuants are *lambda* and *rho*. True False
5. The three aspirate stop consonants are *phi*, *chi*, and *xi*. True False
6. The three palatal stop consonants are *gamma*, *kappa*, and *chi*. True False
7. The three labial stop consonants are *beta*, *pi*, and *theta*. True False
8. The three nasal voiced continuant consonants are *gamma*, *mu* and *nu*. True False
9. A cognate consonant is associated with a particular order. True False
10. A coordinate consonant is associated with a particular order. True False
11. The three orders are voiced, unvoiced, and aspirate. True False
12. The three classes are palatal, dental, and aspirate. True False
13. *Gamma* belongs to the same voiced order and is coordinate with the stop consonants *delta* and *beta*. True False

14. *Kappa* belongs to the same unvoiced order and is coordinate with the stop consonants *tau* and *pi*. True False
15. *Chi* belongs to the same aspirated order and is coordinate with *theta* and *phi*. True False
16. A stop consonant pronounced with the aid of the vocal cords is called “unvoiced.” True False
17. A stop consonant pronounced with a strong emission of breath is called “aspirate.” True False
18. The palatal consonant stops belong to the same class because they are formed in back of the throat by the closure of the tongue near or touching the hard palate in the oral cavity. True False
19. *Gamma* may be either a voiced consonant stop or a nasal continuant. True False
20. Because Greek consonants undergo phonemic changes, some consonants are not pronounced (“silent consonants”). True False

**Exercise Three: Multiple Choice.** Choose the best answer.

1. Which consonant has a final form (*i.e.*, when it ends a word)?
  - a. *kappa*
  - b. *phi*
  - c. *sigma*
  - d. *gamma*
2. Which of the following belong to the stop consonants?
  - a. Γ γ Θ θ Ρ ρ
  - b. Π π Γ γ Τ τ
  - c. Φ φ Κ κ Λ λ
  - d. Α α Δ δ Β β
3. What is associated with aspiration?
  - a. a strong emission of breath
  - b. the lips
  - c. the palate
  - d. the teeth

4. Which of the following are the three orders?
- a. voiced, unvoiced, and aspirate
  - b. nasal, sibilant, and compound
  - c. palatal, dental, and labial
  - d. aspirate, sibilant, and voiced
5. *Kappa* belongs to the same unvoiced order and is coordinate with which consonants?
- a. Τ τ Θ θ
  - b. Θ θ Φ φ
  - c. Δ δ Τ τ
  - d. Π π Τ τ
6. *Thēta* belongs to the same aspirated order and is coordinate with which consonants?
- a. Χ χ Φ φ
  - b. Τ τ Π π
  - c. Δ δ Β β
  - d. Φ φ Τ τ
7. *Bēta* belongs to the same voiced order and is coordinate with which consonants?
- a. Κ κ Π π
  - b. Γ γ Δ δ
  - c. Θ θ Γ γ
  - d. Χ χ Φ φ
8. Compound consonants belong to which consonant classification?
- a. liquid
  - b. continuants
  - c. nasal
  - d. stops
9. What are the three semi-consonant continuant consonants?
- a. Ι ι Ρ ρ Υ υ
  - b. Χ χ Θ θ Φ φ
  - c. Γ γ Ν ν Μ μ
  - d. Ξ ξ Ζ ζ Ψ ψ
10. What are the independent and indispensable sounds in speech?
- a. nasal
  - b. vowels
  - c. consonants
  - d. breathing marks

11. Which example is an illustration of an *iōta* adscript?

a. αι

b. ω

c. αδης = ΑΙΔΗΣ

d. τιμα = ΤΙΜΑ

12. Which of the following are diphthongs?

a. ιε εε αε οο

b. οι υι ιε οε

c. αι ει ευ ηυ

d. οο εε ει ευ

13. Which word has a diaeresis?

a. τιμα

b. ΤΩΙ

c. Μωϋσης

d. none of these

**Exercise Four: Transposition of letters.** Transpose the following Greek capital letters into their corresponding small letters, and the small letters into their corresponding capital letters.

1. ΠΟΙΗΣΟΥΣΙΝ \_\_\_\_\_

7. ΕΠΕΙΤΑ \_\_\_\_\_

2. ΑΔΑΜ \_\_\_\_\_

8. ΚΑΙ \_\_\_\_\_

3. ΕΣΜΕΝ \_\_\_\_\_

9. ΑΔΕΛΦΟΙ \_\_\_\_\_

4. ΠΛΕΙΟΝΕΣ \_\_\_\_\_

10. κυριου \_\_\_\_\_

5. ΜΑΤΑΙΑ \_\_\_\_\_

11. προφητης \_\_\_\_\_

6. ΑΝΘΡΩΠΩΝ \_\_\_\_\_

12. ΚΩΛΥΕΤΕ \_\_\_\_\_