4 Sight and Sounds of Greek Words (Module B)

Consonants, Vowels, and Diphthongs
Phonology (Part 4)

§4.0 Introduction

Lessons One and Two introduced the sight and sounds of the individual twenty-four Greek alphabetical letters and familiarized the student with simple consonant-vowel and vowel-consonant combinations. Lesson Three 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 phonetic classifications, the stop and continuant consonants.

Consonants may be classified as either a stop or a continuant consonant.

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

The purpose of this course of study is to prepare anyone interested in verbal inspiration of Scripture to read the Greek New Testament for himself or herself. The foundational belief for this is that God chose the Greek language as the written medium for the saints' understanding the New Testament, since all of the New Testament was written in Greek.

This Greek course is for the circle of saints who have one thing in common: the desire to read the Greek New Testament as the original writers communicated. One would think that many aspire to know the intricate details of God's message, and not to trust something as important to someone else's judgment. However, this is sadly not the case. Perhaps they believe that translations are good enough, or someone else's opinion is correct on the basis they have more scholarship or sanctity. Nonetheless, dependence and trust is only as good as the person or object in which it is placed.

What does the foregoing have to do with learning Greek phonology? It has everything to do with it. Eagerness to acquire a working knowledge of the language within several years will be met with difficulties that prove dispiriting, especially if going at it alone. In your enthusiasm of learning NTGreek, you will naturally tell others what you are learning. In many cases, these same people will be those who distract—or even worse—discourage you from continuing to study NTGreek for a variety of reasons. Unless your purpose for studying the language is kept clearly in mind, their persuasiveness will dull your focus, and inevitably, study of Greek will be cast aside. The Greek New Testament is the New Testament (making translations irrelevant per verbal inspiration), or it is not!

If you find some portions of this lesson difficult, reread the difficult sections several times. Spend extra time on these problem areas, but not to an excess. It may be helpful to remember that 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 Greek consonants may be charted to indicate their relationship to one another in several ways. Perhaps the most functional phonetic classification is according to what speech organ (throat, teeth and lips) used in their pronunciation. The consonants are divided in the chart below into two broad categories: the nine ***stops*** and the twelve ***continuants***, with one consonant serving double-duty in the latter category (Γ γ). They 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 in words 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 (§§4.2 – 4.3).

			Classes			
	Classes are the three positions of breath closure.		**Palatal**	**Dental**	**Labial**	The nine "stops" are divided into three "classes" and three "orders".
STOPS	**Orders**	(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	

CONTINUANTS	**Sibilant** (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		
	Compound (voiced)		Ζ ζ		Compounds are a combination of a palatal, dental or labial + **σ**. Like *sigma* 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	
	Nasal (voiced)	Γ γ	Ν ν	Μ μ	The sound of nasal continuants is forced up toward the nasal cavity
	Liquid (voiced)	Λ λ	Ρ ρ		The liquids fall between the classes and the air passage is mostly open.
	Semi-consonants (voiced)	Ι ι	Ρ ρ	Υ υ	These letters serve at times as a vowel or a consonant.

If the above chart is studied now, it will save untold hours of future frustration and study when, in future lessons, these Greek consonants undergo predictable consonantal changes within words. It is your choice whether you will study diligently now, or suffer defeat and possible insanity later.

4.2 The Nine "Stop" Consonants

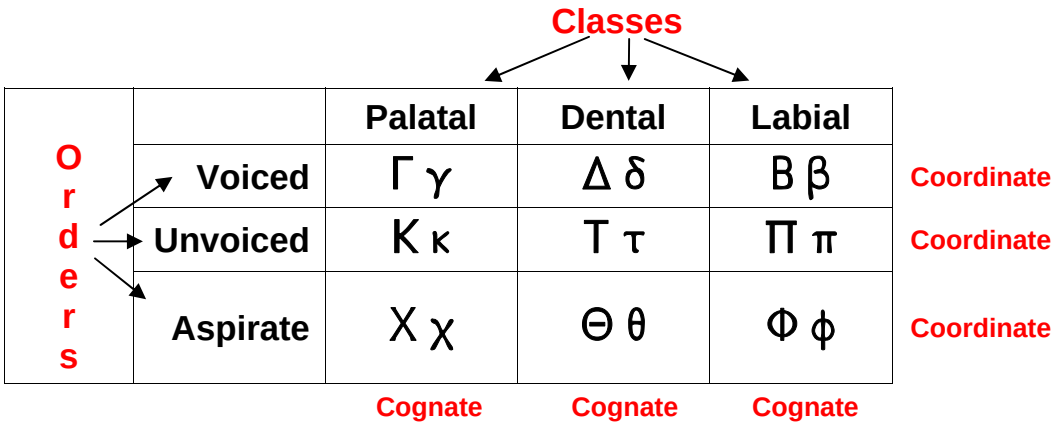
A ***stop*** is a consonant whose sound is formed by slowing down or abruptly stopping the flow of air through the mouth before being released with an expulsion of breath and sound. The nine stop consonants are Γ γ, Κ κ, Χ χ, Δ δ, Τ τ, Θ θ, Β β, Π π, and Φ ϕ. The stops are classified according to which 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 *labials* (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***, and consonants that belong to the same order are considered ***coordinate***; therefore, a coordinate consonant is associated with a particular order. A consonant is *voiced* when the vocal chords vibrate as the air passes through (all vowels are voiced). 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 the consonant's pronunciation is accompanied with a strong emission of breath which results in an "h" sound.

> Palatals derive their name from the use of the soft palate (*i.e.*, the roof of the mouth in their pronunciation). They are also called velar stops and (inaccurately) guttural and throat mutes by some grammars.

The relationship between the nine stops may be conveniently represented below in the chart. This arrangement is commonly called the **Square of Stops**.



The different relationships of the nine stops with one another will now be further illustrated individually, beginning on the next page. The explanation of the chart will first move from left to right (differentiating between the three classes: palatal, dental, and labial), and then from top to bottom (differentiating between their order: voiced, unvoiced, and aspirate).

The Three Classes

Classes are the three possible positions of breath closure.	Palatal	Dental	Labial

The chart above 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 finally the lips.

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

The Three Orders
1. Voiced
2. Unvoiced
3. Aspirate

1. A stop consonant pronounced <u>with</u> the aid of the vocal cords is called ***voiced***. The vocal cords vibrate as the air passes through the oral cavity. The three consonants that belong to this order are: Γ γ, Δ δ, and Β β.
2. A stop consonant pronounced <u>without</u> the aid of the vocal cords is called ***unvoiced***. The vocal cords do not vibrate as the air passes through the oral cavity. The three consonants that belong to this order are: Κ κ, Τ τ and Π π.
3. A stop consonant pronounced with a <u>strong emission of breath</u> is called ***aspirate***. The three consonants that belong to this order are: Χ χ, Θ θ and Φ ϕ. The three aspirates are placed with the stop consonants because when their phoneme interacts with following sounds in words, they behave like stops. Therefore, these consonants are grouped with and treated as stops.

Γ γ belongs to the same voiced order and is coordinate with the consonants Δ δ and Β β. Κ κ belongs to the same unvoiced order and is coordinate with the consonants Τ τ and Π π. Χ χ belongs to the same aspirated order and is coordinate with Θ θ and Φ ϕ.

§4.2.1 The Palatal Stops (Γ γ, Κ κ, and Χ χ)

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 ("palatal" < Latin *palātum*, "palette"). The three palatal

consonants are *gamma*, *kappa*, and *chī*. The three palatal consonants are distinct according to its separate order as voiced (Γ γ), unvoiced (Κ κ), and aspirate (Χ χ).

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

The Three Orders
1. Voiced
2. Unvoiced
3. Aspirate

The voiced phonetic pronunciation of Γ γ (*gamma*) will be considered first.

§4.2.11 Γ γ (*gamma*) listen γαμμα, γη, γης, γημας

Gamma may be either a voiced stop consonant, or a nasal continuant. When Γ γ is pronounced as a voiced stop, its pronunciation is like the hard "g" in "**g**ate". However, when Γ γ occurs before itself or another palatal stop consonant (γγ, γκ, and γχ) or ξ (γξ), the combination undergoes phonemic change. This change will be studied later when we come to the *gamma nasal* (§4.3.31)

§4.2.12 Κ κ (*kappa*) listen καππα, κατα, κοπος, Κορε

Κ κ (*kappa*) is an unvoiced stop consonant, meaning the vocal cords are not used when pronouncing the phonetic value of this stop consonant.

"Unvoiced" never means that a consonant is not pronounced. Although consonants may undergo phonemic changes, there are not any true silent consonants in Greek words as there are in English words. Furthermore, 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.

§4.2.13 Χ χ (*chī*) listen χι, χρω, Χριστος, τροχος

Χ χ is an aspirated stop consonant. The phonetic sound of this consonant can be easily confused with *kappa* unless it is remembered that the breath is not entirely cut off with *chī*.

A clear phonetic distinction must be maintained between the two palatal stops, Κ κ and Χ χ. Although *chī* orthographically appears to correspond to the English "x", its phonetic value does not. This is where beginning Greek students are confused. In actuality, *chī* and the English "x" are not equivalent. *Chī* is a Greek alphabetical letter that does not correspond to any English alphabetical letter.

The phonetic sound of Χ χ approximates the "ch" in the English words, "**ch**emist", "**ch**iasmus", and the "k" in "**k**iosk. Breath flows with the consonant and is not interrupted as with the unvoiced consonant Κ κ. Form the mouth for Κ κ 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, the name of the Greek alphabetical character, Χ χ is *chī*, but when *chī* appears in a word, its phonetic value is simply "kh" without the vowel sound "i".

It may be helpful to hear the distinction between Κ κ and Χ χ in the words below:

listen χρησιν κρισιν καυχησις κατεχειν

§4.2.2 The Dental Stops (Δ δ, Τ τ, and Θ θ)

The dental consonants belong to the same class because they are formed with the tip of the tongue behind the upper teeth ("dental" < Latin *dentatus*, "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". Sometimes, dental consonants are called, "linguals" in some grammars, because the tongue also plays a part in the pronunciation of the consonant.

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

The Three Orders
1. Voiced
2. Unvoiced
3. Aspirate

Each of the three dental consonants is distinct according to its separate order as voiced (Δ δ), unvoiced (Τ τ), and aspirate (Θ θ).

Learning the different orders is not as important now as it will be later when consonants will euphonically undergo predictable change within words. It is important for introductory reasons to know that the stop consonants are categorized in these different orders.

Practice the following words that have these dental consonantal stops in them. They are presented in their respective orders.

Δ δ (voiced) listen	δελτα, δη, δημος, δεω, δια, αποδω, ενδικον, διδασκω, παιδος, συνδεω, Λυδδα, καρδια
Τ τ (unvoiced) listen	ταυ, ταυτα, πετομαι, πιπτω, λυτρον, κατα, δεκτος, βατανην, αστηρ, τοτε, τομος
Θ θ (aspirate) listen	θητα, τεθη, συνθλαω, πιθος, παθημα, παθος, επιτιθει, αρθητι, βαθος, θειω, θελω

§4.2.3 The Labial Stops (Β β, Π π, and Φ ϕ)

The labial consonants belong to the same class because they are formed by closing, nearly closing, or rounding the lips ("labial" < Latin *labia*, "lip"). The lips are essential to restrict momentarily the airflow. Thus, labial consonants are so named because the use of the lips is the primary element in their pronunciation. 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

The Three Orders
1. Voiced
2. Unvoiced
3. Aspirate

Each of the three labial consonants is distinct according to its separate order as voiced (Β β), unvoiced (Π π), and aspirate (Φ ϕ). Practice the following words that have these labial consonantal stops in them.

Β β (voiced) listen	βητα, βαθει, βοσκω, βοηθεω, εβαλεν, καβος
Π π (unvoiced) listen	Πι, πιστις, πλανος, λειπει, θαπτω, επι
Φ φ (aspirate) listen	Φι, φοβῃ, φιλος, στρεφω, εφαγεν, τεφροω

§4.3 The Continuant Consonants

Three classes of stops and their orders were introduced in §4.2. The focus now turns to the second major phonetic classification of Greek consonants: the continuants.

A ***continuant*** is a consonant wherein the passage of air is restricted (but not stopped), causing friction while the sound continues. Continuants are sometimes called *fricatives*. The continuants are subdivided into the ***sibilant***, ***compound***, ***nasal*** and ***liquid*** and ***semi-consonants***. The semi-consonants will receive further attention in later lessons.

		Palatal	Dental	Labial	
CONTINUANTS	**Sibilant** (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		
	Compound (voiced)		Ζ ζ		Compounds are a combination of a palatal, dental, or labial + σ. Like *sigma* 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	
	Nasal (voiced)	Γ γ[1]	Ν ν[2]	Μ μ[3]	The sound of nasal continuants is forced up toward the nasal cavity
	Liquid (voiced)	Λ λ	Ρ ρ		The liquids fall between the classes and the air passage is mostly open.
	Semi-consonants	Ι ι	Ρ ρ	Υ υ	These letters serve at times as a vowel or a consonant.

	It is not necessary to memorize this table of continuant consonants. However, it is vital to observe the overall pattern and to know which ones are voiced and unvoiced. As the lessons progress, mastery of their phonetic sounds will be indispensable to distinguish between many Greek words.

The continuant sounds can be released either through the mouth or through the nose. If released through the mouth, the continuant's sound is a hissing noise (the "s" sound as in "sit"). In this instance, 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 kinds of consonants are called ***sibilant***. *Sigma* is the only simple or pure sibilant in Greek, and *zēta*, *xsī*, and *psī* are often considered as compound sibilants (cf. §4.3.2).

If a continuant sound is released through the nose, its phonemic sound produces one of three nasal consonants, respective to its class (palatal, dental, and labial). Observe that all nasals are voiced, and sometimes Γ γ is a nasal, whereas Μ μ and Ν ν are always considered nasal consonants. The following points pertain to the chart above, and will be more fully developed in §4.3.3.

1. If **Γ γ** (palatal) comes before another palatal stop (κ, γ, and χ), or ξ, its phonemic sounds is a voiced **γ** - nasal (*gamma nasal*; cf. §4.3.31).
2. If the continuant is **Ν ν** (dental), its phonemic sound is a voiced **Ν ν** - nasal.
3. If the continuant is **Μ μ** (labial), its phonemic sound is a voiced **Μ μ** - nasal.

Finally, there are also two ***liquid*** continuant sounds in Greek: *lambda* and *rho*. These consonants are called *liquid* because they are produced by allowing 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 examined in greater depth, beginning with the sibilant consonant.

§4.3.1 The Sibilant Consonant (Σ σ ς)

Sigma is the only "pure" sibilant consonant. It is sounded by the tip of the tongue brought near the teeth or the roof of the mouth, and the sound allowed 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 "i**s**" or "a**s**". *Sigma* is voiced before the voiced consonants γ, β, δ, and μ. When *sigma* is unvoiced, it has the phonemic "s" sound as in "sit". Listen and repeat the Greek words below, paying attention how the voiced and unvoiced *sigma* is pronounced.

Σ σ (voiced) listen	κοσμος, ασβεστος, προσδοκᾳ, δεσμη, σχισμα
Σ σ (unvoiced) listen	σιγμα, συ, σε, σον, εστιν, σωμα, γλωσσα

Three other Greek consonants are considered as compound sibilants: ζ (*zēta*), ξ (*xsī*), and ψ (ps*ī*). These consonants make a slight hissing sound because of their composite sound nature (cf. §3.6.1). However, it is best to consider these consonants as *compound consonants* and not as sibilant consonants, because of their interaction with other consonants when words undergo predictable phonetic consonantal changes. However, there is no harm regarding these consonants as compound sibilants. These three compound consonants will now be examined.

§4.3.2 The Compound Consonants (Ζ ζ, Ξ ξ, and Ψ ψ)

Compound consonants fuse two individual phonetic sounds into one letter. Depending whether the pure sibilant (σ) is voiced or unvoiced, determines the resultant compound consonant's sound. The following combinations of a stop consonant and a sibilant will 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 Greek words undergo predictable phonetic consonantal changes. It is

important now only 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 (medial position). However, the consonant itself actually belongs to only one syllable. For example, σῳζω has two syllables, σῳ and ζω. When pronouncing σῳζω, it sounds more like σῳδ-σω (the *sigma* is voiced in this instance, hence the "dz" sound). Practice the following words, noting that with the voiced Z ζ there is a following "z" sound.

Z ζ (voiced) listen	σῳζω, κραζω, φωτιζω, βαπτιζω (σῳ-ζω) (κρα-ζω) (φω-τι-ζω) (βα-πτι-ζω)
Z ζ (unvoiced) listen	ζωη, ζαω, ζητεω, ζυγος, ζοφος, ζεω (ζω-η) (ζα-ω) (ζη-τε-ω) (ζυ-γος) (ζο-φος) (ζε-ω)
Ξ ξ (unvoiced) listen	εξωθεν, εξω, εξουσια, δεξιος (ε-ξω-θεν) (ε-ξω) (ε-ζου-σι-α) (δε-ξι-ος)
Ψ ψ (unvoiced) listen	ψυχη, οψια, θλιψις, ψαλμος, διψαω (ψυ-χη) (ο-ψι-α) (θλι-ψις) (ψαλ-μος) (δι-ψα-ω)

A voiced Z ζ is never the first letter in a word. It will be helpful to remember that the voiced compound consonant Z ζ is a combination of voiced δ + voiced σ. If the compound consonant, Z ζ is unvoiced, it has the simple "z" sound, whereas both Ξ ξ and Ψ ψ are always unvoiced because of the unvoiced σ.

Many Greek grammars improperly consider compound consonants as "double" consonants. This leads to confusion later when syllabification is discussed. For now, understand the distinction between single, double, compound consonants and consonantal clusters as outlined and defined below (§§4.3.21—4.3.24).

§4.3.21 Single consonants (β, γ, δ, etc.). A single consonant is a consonant that is not part of a double consonant (§4.3.22), compound consonant (§4.4.23), or does not belong to a consonantal cluster (§4.3.24). Two single consonants may follow one another (as in the fourth and sixth examples below).

listen δη, ενεχω, ενος, καρδια, κατα, πανδοχει

§4.3.22 Double consonants (γγ, σσ, ββ, etc.). A double consonant is a pair of identical consonants in juxtaposition with one another.

listen πολλη, ομματων, νεοσσος, σαββασιν

Syllable division always occurs between double consonants. Syllable division (syllabification) will be comprehensively examined in Lesson Five. For now, observe that the above four words are divided as:

πολ-λη ομ-μα-των νε-οσ-σος σαβ-βα-σιν

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

§4.3.23 The Compound Consonants (Ζ ζ, Ξ ξ, and Ψ ψ). As mentioned before, many introductory Greek grammars improperly confuse the compound consonant phonemic nature with "double consonants". This grammar adopts the nomenclature that a double consonant consists of an identical pair of consonants, each having its separate consonantal value, whereas a compound consonant is a single consonant with a compound phonetic sound (Antonius N. Jannaris, *An Historical Greek Grammar*, p. 31).

§4.3.24 Consonantal clusters (γλ, σκλ, βρ, etc.). A consonantal cluster is two or more consonants in a row that are never divided between syllables when pronouncing the word. There are more than fifty consonantal clusters in NTGreek. In general, consonantal clusters retain the sound they have separately. That is to say, every Greek consonant has the same pronunciation they have separately, except that they are blended together. A complete list of these consonantal clusters will be given in Lesson Five (§5.2).

§4.3.3 The Nasal Consonants (Γ γ, Ν ν, and Μ μ).

Three continuant consonants are called "nasal" because their sound is forced up into the nasal cavity and released through the nose. All three nasal consonants are always voiced (vocal cords vibrate), and are divided into their respective classes: palatal (Γ γ), dental (Ν ν), and labial (Μ μ).

§4.3.31 The Nasal *Gamma*. Γ γ has already been introduced as a stop palatal consonant (cf. §4.2.1). As a palatal stop, it is pronounced like the hard "g" as in "gate". However, there are also four other possible phonetic pronunciations of this consonant as a continuant consonant.

When *gamma* occurs before another palatal stop (γ, κ, and χ) or ξ, the combination of these consonants undergoes a phonemic change. When the *gamma* undergoes this phonemic change, it is called the ***γ - nasal***. The following examples illustrate these different *γ - nasal* combinations.

1. When *gamma* immediately occurs before another *gamma* in a word (γγ), the double consonant combination produces the nasal sound of "ng" as in the English words "thi**ng**", "ki**ng**" or "fi**ng**er".

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

2. When *gamma* immediately occurs before the palatal consonant, κ (γκ), the consonantal combination produces the nasal sound of "nch" as in "a**nch**or".

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

3. When *gamma* immediately occurs before the palatal consonant χ (γχ), the consonantal combination is pronounced like γκ only with more breath.

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

4. When *gamma* immediately occurs before the compound consonant ξ (γξ), the consonantal combination produces the nasal sound of "nks" as in the English words "i**nks**" and "oi**nks**", or the "nx" as in "ly**nx**". It is helpful to remember that Ξ ξ is a compound sound (see. §3.5.1).

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

§4.3.32 The Nasal *Nū*. The nasal *nū* is a dental continuant consonant. The tongue is pressed against the alveolar ridge with its sound forced up through the nasal cavity. Like all nasal continuants, it is voiced.

Practice the nasal *nū*, using the following words as a guide. As a preamble for learning syllabification, the words are also divided into their proper syllables.

listen νυ, εννυχα, εστιν, εν, ναι, νεκροϛ, νικη
(εν-νυ-χα) (ε-στιν) (νε-κροϛ) (νι-κη)

listen νευω, παν, παλιν, ον, ονειδοϛ, ονινημι
(νευ-ω) (πα-λιν) (ο-νει-δοϛ) (ο-νι-νη-μι)

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

§4.3.33 The Nasal *Mū* 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 (Γ γ, Ν ν, and Μ μ), *mū* makes the nose resonate with a slight vibration. Like the other two nasal continuants, the nasal *mū* is also voiced.

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

listen καμμυω, λαμβδα, πεμπει, βλασφημα, στομνοϛ
(καμ-μυ-ω) (λαμ-βδα) (πεμ-πει) (βλασ-φη-μα) (στο-μνοϛ)

§4.3.4 The Liquid Consonants (Λ λ and Ρ ρ) (< Latin *liquidus*, "fluid")

Two consonants are considered continuant liquids, Λ λ and Ρ ρ. These liquid consonants are produced by allowing the air to pass through the oral cavity without friction. They are "liquid" because of the rippling nature of their phonemic sound. Because of their liquid nature, it is possible to continue their sound as long as desired (as well as all continuatives). In some cases, this may affect how long a double *lambda* or *rho* is pronounced within a word.

In some Greek grammars, *mū* and *nū* are also considered liquid consonants.

§4.3.41 The Liquid *Lambda* listen λαμβδα, απελθῃ, θλιβω, αλλα

The *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. Because of the initial placement of the tongue, *lambda*

falls somewhere between palatal and dental. In any case, the phonetic sound of *lambda* is produced exactly like the English "l".

§4.3.42 The Liquid *Rhō* listen ρακος, ριζα, ερρεθη, καρδια

Rhō was originally trilled. The tip of the tongue was trilled against the roof of the mouth while at the same time allowing the "rr" sound to pass around it. There is not a corresponding phonemic sound 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 *rhō* is within a word, this aspiration is almost, if not negligible. As the spelling of its name indicates (*rh***ō**), a flow of breath accompanies the letter, however, only so when it begins a syllable.

§4.3.5 The Semi-Consonants (Ι ι, Υ υ, and Ρ ρ)

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 Ι ι, Υ υ, and Ρ ρ. 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 like the "i" in "onion" or "minion". It is a voiced palate. 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).

listen ιωτα, Ἰησους, Ἰωσιαν, Ἰωαννου, συνιων, ιωμενος

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”? How many are there?

7. What constitutes a “dental stop”? How many are there?

8. What constitutes a “labial stop”? How many are there?

9. Γ γ is coordinate with what other voiced stops?

10. Κ κ is coordinate with what other unvoiced stops?

11. Χ χ is coordinate with what other aspirated stops?

12. Χ χ is cognate with what other palatal stops?

13. Θ θ is cognate with what other dental stops?

14. Φ φ is cognate with what other labial stops?

15. Fill in the following chart with the appropriate consonants. This chart is commonly called the "Square of Stops".

	Palatal	Dental	Labial
Voiced			
Unvoiced			
Aspirate			

16. What does "aspiration" indicate in connection with pronouncing an aspirated consonant? 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 (γ, κ, χ) and ξ, the *gamma* undergoes a phonemic change. How are these combinations pronounced?

    a. γγ -

    b. γκ -

    c. γχ -

    d. γξ -

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

			Classes			
	Classes are the three positions of breath closure.		**Palatal**	**Dental**	**Labial**	The nine "stops" are divided into three "classes" and three "orders".
STOPS	**Orders**	(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)				

CONTINUANTS	**Sibilant** (voiced)				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)				
	Compound (voiced)				Compounds are a combination of a guttural, dental or labial + σ. Like *sigma* above, notice that Ζ ζ is both voiced and unvoiced. When voiced, Ζ ζ is pronounced as "dz".
	(unvoiced)				
	Nasal (voiced)				The sound of nasal continuants is forced up toward the nasal cavity
	Liquid (voiced)				The liquids fall between the classes and the air passage is mostly open.
	Semi-consonants (voiced)				These letters serve at times as a vowel or a consonant.

23. What are the three nasal consonants? Why are they called “nasal”?

Exercise Two: True or False Questions. Choose whether the statement is true or false.

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 *rhō*. True False

5. The three aspirate stop consonants are *phī*, *chī*, and *xsī.* True False

6. The three palatal stop consonants are *gamma*, *kappa*, and *chī*. True False

7. The three labial stop consonants are *bēta*, *pī*, and *thēta*. True False

8. The three nasal voiced continuant consonants are *gamma*, *mū* and *nū*. 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 *bēta*. True False

14. *Kappa* belongs to the same unvoiced order and is coordinate with the stop consonants *tau* and *pī*. True False

15. *Chī* belongs to the same aspirated order and is coordinate with *thēta* and *phī*. 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. *phī*
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. With what sound is aspiration associated?

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, 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 sounds 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. ῳ
c. ᾳδηϛ = ΑΙΔΗΣ
d. τιμᾳ = 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 dieresis?

a. τιμᾳ
b. ΤΩΙ
c. Μωϋσηϛ
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 _____
2. αδαμ _____
3. εσμεν _____
4. ΠΛΕΙΟΝΕΣ _____
5. ΜΑΤΑΙΑ _____
6. ΑΝΘΡΩΠΩΝ _____
7. επειτα _____
8. ΚΑΙ _____
9. ΑΔΕΛΦΟΙ _____
10. κυριου _____
11. προφητηϛ _____
12. ΚΩΛΥΕΤΕ _____