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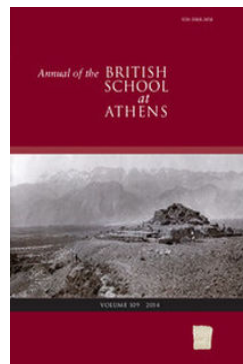
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The Modes in Byzantine Music

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THE MODES IN BYZANTINE MUSIC.

IN the attempt at reviving the music of bygone ages the question of the scales employed, or, in other words, the tonality, confronts us at the very outset. Until this is answered our transcriptions must lack all reality. The case of ancient Greek music shews that nearly all the discussion has been about the nature of the modes; and there, in spite of copious original authorities, no hypothesis, not even the orthodox view, has been framed with sufficient plausibility to escape attack from many quarters. Now in Byzantine music the notation can be deciphered (in MSS. of the thirteenth century and later), as far as it gives us the melodic progression, while I have tried to prove that the indications of rhythm can be consistently and adequately interpreted.¹ But when we study the modes we find scarcely any data to help us. The interval-signs make no distinction between whole-tones and any smaller steps: the mediaeval theorists tell us little or nothing about the character of the intervals. Furthermore the series of modern Greek scales differs entirely from the mediaeval systems of Europe; and western and Neohellenic theorists in discussing Byzantine music have usually, with some honourable exceptions, gone their own way without the slightest regard for contrary opinions. But obviously no final understanding can be expected before this disagreement is faced and, if possible, explained and accounted for.

THE ACCEPTED VIEW OF THE MODES.

Byzantine music had eight standard modes, called in Greek ἤχοι. Of these four are authentic (κύριοι) and four plagal (πλάγιοι). The majority of western theorists find a general correspondence between the Byzantine and Gregorian modes,² the equation being as follows:—

¹ *B.S.A.* xxi. 125-147.

² Riemann, H., *die byz. Notenschrift*, pp. 12-15, assumes a fundamental scale in conformity with the above. Gastoué, *Introduction à la Paléographie Musicale Byzantine* (Paris, 1907), p. 31; Fleischer, *Neumenstudien*, T. 3, Chapter V.; Rebours, *Traité de Psaltique*, App. III., pp. 276 ff.,

<i>Byzantine.</i>		<i>Gregorian</i>	<i>with Finalis.</i>
Auth.	I.	I.	<i>d</i>
„	II.	III.	<i>e</i>
„	III.	V.	<i>f</i>
„	IV.	VII.	<i>g</i>
Plag.	I.	II.	<i>d</i>
„	II.	IV.	<i>e</i>
„ (Barys)..	III.	VI.	<i>f</i>
„	IV.	VIII.	<i>g</i>

The starting-notes of the Byzantine authentic modes are held to form an ascending scale, thus:—

Mode	I.	II.	III.	IV.
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d'</i>

The Byzantine plagal modes are ranged theoretically a fifth below the authentic, thus:—

Mode plagal	I.	II.	III.	IV.
	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>

The Greek symbols for the modes were originally the first four letters of the alphabet, used as numbers, with the addition of $\pi\lambda$ or $\frac{\lambda}{\pi}$ for the plagal. Each *martyria* was not only the signature of a mode, but also the equivalent of the *Finalis* of that mode (*i.e.* its pitch as a separate sound) wherever it might occur.

It must further be noted that in MSS. the same note is often given either the plagal or the authentic signature, whichever the mode of the piece might happen to be. There is, however, only a limited range of notes so described: those above this only receive the authentic signatures, those below only the plagal. From practice-examples, which occur in various MSS.,¹ we glean the following table of signatures:—

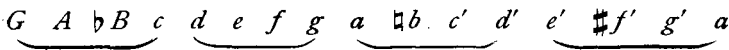
are all in substantial agreement. Gaisser, as will be seen, inverts the order of the modes; but this does not change their essential character.

The table above given will be found in Neale and Hatherley, *Hymns of the Eastern Church with Music*, p. xxxi. The arguments are well summed up by Fleischer, pp. 42 ff.

¹ One of these examples I published with the Byzantine notation in *Mus. Antiquary*, 1911; a very similar piece is given by Fleischer, *op. cit.* Facs. p. 2.

Authentic		I.	II.	III.	IV.	I.	II.	III.
	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>a</i>	<i>b</i>	<i>c'</i>
Plagal.....	IV.	I.	II.	III.	IV.	I.		

The first inference is then that certain notes were regarded as belonging both to the authentic and to the plagal systems. Or, in other words, an authentic mode could use the *Finalis* of the corresponding plagal mode and *vice versa*. If we extend the scale of finals upwards and downwards, we should have a series of disjunct tetrachords in real sequence, thus:—



This scheme was probably regarded as the theoretical foundation of all modes, like the *Complete System* of ancient Greece; but in practice the modes undoubtedly retained in their extensions upwards or downwards the same tonal features as properly belonged to their central portions: e.g. if a piece in Mode I. ran up to high *f'*, that note would not need to be sharpened. On the other hand, *b* was a movable tone in ancient Greek theory; and it seems that the *b*-flat of the lowest tetrachord was sometimes imported into the middle region. In the modern system *b*-flat is a frequent accidental in descent.

This brings us to a further difficulty of the fundamental scale of modes—the question of pitch. If the modes were always taken at their theoretical height, we should find the higher authentic and lower plagal modes outrunning at both ends the compass of the human voice. It may therefore be fairly held that a certain amount of transposition or overlapping of the modes was adopted in practice. It is clear from the table that more than one possible starting-note is contemplated for seven out of eight notes; and whether we study mediaeval hymns or compare the case of modern Byzantine modes in regard to pitch, we shall have little doubt that something of the kind is required.

If we grant that a mode can start either from its own *Finalis* or from that of its brother-mode, the practical difficulty disappears, and the scales bear the following aspect.

Modes I. and I. plagal employ mainly the octave from *d* to *d'*. In no case, however, is any mode restricted in its extension to a particular octave. Mode I. generally begins and ends on *a*, but may use *d*. I. plagal

mostly begins on *d* and then takes *b*-flat. Mode II. has *b* or *e* for its *Finalis*. Mode II. plagal usually has *e* and takes *b*-flat. Mode III. has *c'* or *f* for *Finalis* and also takes *b*-flat. Mode III. plagal, if untransposed, begins on low *b*-flat: if transposed (as it generally is) it begins on *f*, still needing *b*-flat. Mode IV. generally starts from *g*; but sometimes, on the analogy of IV. plagal, it borrows *c*, in which case it needs *b*-flat. The fourth plagal itself regularly begins from *c* (rarely from *g*) and always takes *b*-flat.

The signatures not only give the point of departure for the melody but can also be used at middle cadences to shew the note on which a pause has to be made. As various notes are allowed in such cases, the signature will be borrowed from the mode on the *Finalis* of which the phrase concludes. Thus, if in Mode I. an internal cadence is made upon *f*, the signature of Mode III. would be written. The upper octave of the lower final (when not out of compass) is also available for medial cadences, e.g. *d'* in Mode I. or I. plagal.

The plan followed by Fleischer seems to be in general the same as this.¹ Other methods have been tried. Riemann² transposes all the modes into the octave-region of the ancient lyre, *e-e'*. Such a course in Byzantine music lacks all evidence and involves much confusion and inconsistency. Gastoué³ holds that every phrase of music made a fresh start from a central note. The wrongness of this view has been pointed out by Riemann.⁴ Gastoué often fails to regain the proper *Finalis*; nor does he seem to apply his own rule very consistently. In any case the absolute pitch of unaccompanied chant depended largely on the singer's own choice. The question is chiefly important where it affects the relations between the modes.

¹ *Op. cit.* Facs. p. 7 he begins Mode I. from *a*, Mode II. from *e*, etc., just as we would recommend to suit the compass of the voice.

² *Op. cit.* § 1. In *Byz. Zeitschr.* xx. pp. 433 ff. I have referred to some of the errors in Riemann's assumption. I would again strongly protest against his idea that the plagal modes started one note below the corresponding authentic: such a view is against all evidence of manuscript usage.

³ *Op. cit.* p. 27. The fact that Gastoué does not transcribe all the facsimiles that he gives and fails to supply the originals of most of his versions prevents us from testing his theory in detail.

⁴ *Op. cit.* p. 47.

THE 'Απηχήματα OR MELODIC FORMULAE OF THE MODES.

Every mode, besides its number and its ancient Greek name, was also distinguished by certain syllables set to certain notes of music, which formed the characteristic formula of the mode:

The syllables are given as follows:—

<i>Mode.</i>	<i>Mode plagal.</i>
I. Ananes, <i>ἀνανες</i> .	I. Aanes, <i>ἀανες</i> .
II. Neanes, <i>νεανες</i> .	II. Neeanes, <i>νεεανες</i> .
III. Nana, <i>νανα</i> .	III. Aneanes, <i>ἀνεανες</i> .
IV. Hagia, <i>ἁγια</i> (or <i>ἁγιε</i>).	IV. Neagie, <i>νεαγιε</i> .

The musical formulae are given in various MSS. in varying degrees of elaboration. I quote those of the authentic modes from a Hadrianople MS.,¹ which contains the *Papadiké* and various exercises. This particular specimen also illustrates the relations between the modes by shewing that the *Finalis* of certain modes are the *Mesoi* or “mediants” of other modes.

“The first plagal has Mode III. for its mediant, as thou seest²:—



“The second plagal has Mode IV., thus:—



“The Barys (III. plagal) has the first, thus:—



¹ M. Paranikas in 'Ελλ. Φιλ. Συλλ. κα' 167 publishes the example here used, but gives no transcription.

² In each case we begin in the mode first mentioned and reach the *Finalis* described as ‘mediant.’

“And the fourth plagal has the second, thus:—”



The exact verbal sense of these formulae is a matter of no weight whatever. The monks no doubt gave them a quasi-religious sense (“Lord, forgive,” “*Av*,”¹ *aves*. “Yea, forgive.” “Holy one,” etc.). But the two most remarkable facts are, firstly, that these formulae seem to go back in their origin to the ancient Greek syllables used for similar purposes; and, secondly, that these Byzantine formulae reappear in the works of western theorists, where they are used, in more or less corrupt guises, to denote the Gregorian modes. Thus we have evidence both of the direct descent of the Byzantine modes from the diatonic species of ancient Greece, and also of their substantial identity with the modes of western Europe. Even if a more detailed similarity would be difficult to prove, the fact of such a general correspondence is of great importance.²

GAISSER'S THEORY.

We have so far assumed that the notes used in the Byzantine modes (with the exception of an occasional *b*-flat) answer to the white keys on the piano. But this view, though usual, is not accepted on all hands. In the opinion of Gaisser, most of the authentic modes need a signature of two or even three flats.³ His interesting and ably-propounded theory is due to the desire of reconciling in one system the traditional tonality of the modern Greek Church, the usage of outlying Graeco-Albanian⁴ and South Slavonic religious bodies,⁵ and finally the ancient Greek names of the modes. Thus for example, Mode I, as used in the ritual of the

¹ Vocative of *ἀναξ*.

² This question has been discussed by Fleischer, *loc. cit.*, at full length. Rebourts, *op. cit.* pp. 279 ff., also gives many data for the mediaeval practice with regard to this matter. For the relations between the Byzantine and ancient Greek formulae, see Riemann, *Zeitschr. d. internat. Musikgesellschaft*, 1913, p. 273. Too much stress ought not perhaps to be laid on the survival of formulae so easily corrupted. But the result of Riemann's acute observations strengthens the case for the view here adopted.

Some mediaeval exercises on these formulae are given both by Rebourts, *loc. cit.*, and also by Fleischer, App. C, p. 3 *segg.* Cf. also Gastoué, *op. cit.* p. 29.

The fact that the Gregorian modes were also enumerated by the Greek ordinal numbers, protus, deuteros, etc., is another proof of their similarity to the Byzantine modes.

³ See his works *La Musique ecclési. gr. d'après la Tradition*; and *Les Heirmoi de Pâques*.

⁴ See *Rassegna Gregoriana*, Fasc. 9-10, 1905, p. 5. The Graeco-Albanian hymns are in many cases of great beauty and well worth preserving.

⁵ Slavonic versions of the Easter Canon are given in Gaisser's *Heirmoi de Pâques*, pp. 18 etc.

Albanian colonies in Sicily, generally has, if starting on *d*, the signature of two flats. The name of this mode in later mediaeval handbooks is given as Dorian, while if we transposed the ancient Greek Dorian mode a tone lower, we should have exactly the same scale. Attractive as this theory undoubtedly is, no other writer of importance has accepted it;¹ and, in view of the somewhat indirect nature of the evidence, it seems safer to concur in the more orthodox explanation. Certain minor objections may also be noted. (1) The names given to the modes in the Middle Ages, though borrowed from ancient Greek, are applied with great inconsistency and confusion by different theorists.² In fact we are tempted to believe that respect for antiquity, rather than any clear analogy, was the cause of this nomenclature. (2) Small communities using Greek ritual may have been influenced on the musical side by the practice of their occidental neighbours. (3) Theoretical writers on the modern Byzantine modes disagree so much that any exact reasoning from their statements can hardly be trusted.

VARIETIES OF THE MODES: THE CHROMATIC ELEMENT.

In late MSS. an offshoot of Mode IV., with a peculiar signature, sometimes occurs. It is seldom treated as an independent mode, in which a whole hymn could be set; but more often is used by way of transition, the original mode, to which the music finally returns, being one of the standard eight. This variety, under the name of *Legetos*, survives to the present day and is still classed as a form of Mode IV. The scale is *e-e'* on the white notes.

We have now to explain the name. Some writers say that *Legetos* is derived from λέγε ΤΩ, *i.e.* "sing TO"³—a syllable in the ancient Greek solmisation. The latter, however, had been forgotten for many centuries when the *Legetos* appeared, and had been replaced by the mediaeval system of *Ananes* etc., of which mention has already been made. We venture to suggest that the signature is a monogram for ΑΤ(ΔΙΟC) Τ(ΟΝ)ΟS, *i.e.* Lydian mode, the name of Mode II. in the *Papadiké*. The reason for the shifting of the name probably was that chromatic elements had invaded the second mode and the original diatonic was banished into the fourth mode. The contraction was then easily misunderstood. For an example see below, p. 145, No. 4.

¹ Riemann, *d. byz. Notenschr.*, p. 46, protests against Gaisser's theory, but does not refute it in detail.

² The discrepancies between mediaeval accounts of the modes are well displayed in the table given by W. Christ and Paranikas, *Anthol.* p. cxx. This should convince anyone of the futility of basing any argument on such names. Riemann, *op. cit.* p. 2, also discusses the matter. His view of the *Martyriae* on p. 5 is mistaken, as I have tried to prove in *Byz. Zeitschr.* xx. p. 433.

³ Apparently ΤΩ would have meant *g*, not *e*, a further argument against the traditional explanation.

THE PHTHORAE OR MODULANTS.

It is agreed by all theorists that chromatic alterations in Byzantine music were indicated by signs called *Phthora* (plural *Phthorae*, in Greek $\phi\theta\omicron\rho\acute{\alpha} : \phi\theta\omicron\rho\acute{\alpha}\iota$). For this we may use the word "modulant." The earliest documents, such as the fragment of a handbook from Laura on Mt. Athos,¹ only know two forms, called *Phthora* and *Hemiphthora*. The difference between these two is uncertain: possibly the *Phthora* affected a whole phrase, while the "half-modulant" only touched the note over which it stood. At this early stage therefore any chromatic change was marked by one or other of these signs. But the later manual, the *Papadiké*, has a modulant for every mode, plagal and authentic, besides a special *Phthora* for the *Nenano*. This, by general consent, is taken to be the chromatic mode, which at the present time has the same *Phthora* as in the Middle Ages.

Except in very late MSS. we seldom find a whole hymn using the *Nenano*; but modulations into it are frequently made, especially from Mode II. plagal (which at the present day is chromatic throughout), though also from Mode II., Mode I. plagal, and rarely from others. The earliest example of this modulant known to me is in the Paris MS., Coislin, 220, written in the Linear System and dated about 1200. The scale in question, if approached from Mode II. or II. plagal, was as follows:—

e f g ba ♯b c' d' (e' ♯f') etc.,

if from Mode I. plagal, as follows:—

d be ♯f g a bb ♯c' d'

The growing popularity of this species in the later Middle Ages is very likely due to oriental influence, as Arabic and Turkish music are both fond of it. But originally it may well have been a development of the ancient Greek chromatic genus, which seems to have survived to the very end of classical times together with the diatonic.

Except for the *Nenano*, the remaining modulants are of extremely rare occurrence in mediaeval music. They are chiefly used as warnings to the singer to keep to the original mode; or, if the melody has passed beyond the usual compass of any particular mode, to indicate that an

¹ *B.S.A.* xix. 101.

automatic transition has been made into a new mode. The modulants is always that of the mode approached, not that of the mode quitted.¹ It must, however, be understood that modulations into extreme keys, such as are at least theoretically possible in the modern system, are wholly outside the purview of mediaeval Greek musicians; and also that when the signature (not the *Phthora*) of some mode other than the original one is used at a medial cadence, nothing is meant beyond a momentary pause upon the *Finalis* of the new mode, the melody proceeding normally, just as if no internal signature had been inserted.

THE RELATIONS BETWEEN BYZANTINE AND ORIENTAL MUSIC.

All the types of Byzantine mode so far described, whether chromatic or not, can be played with sufficient accuracy on our modern keyed instruments, and sung without difficulty by western singers. We have thus assumed that the scale of the Byzantines was tuned to a temperament little different from our own: that is to say, it consisted of tones and semitones and excluded irrational intervals. This assumption is made as a matter of course by most western writers. Only Gastoué seems to favour the opposite view—namely, that the complicated interval-schemes of the present day, partly chromatic, partly enharmonic, were a legacy from ancient Greece to the mediaeval Eastern Church.² That the Greek Church uses non-diatonic scales at the present time cannot be doubted by anyone who has heard the service in any of the smaller monasteries or churches.³ It is only in a few city churches that a European style of singing (often in four parts) has gained a place.

THE PARALLAGE OR SOL-FA.

This (a useful invention of Chrysanthus) is made up of the first seven letters of the Greek alphabet. Every vowel receives a consonant, and *vice versa*, the syllables being—

πΑ Βου Γα Δε κε Ζω νΗ

¹ The ingenious pleadings of Riemann on this point, (*die byz. Notenschr.*, pp. 11 ff.), seem to me entirely wide of the mark. In the passages cited by him from Fleischer's *Neumenstudien* (Riemann, p. 14) a confusion between the modulants of Modes I. and III. invalidates the argument.

² *Op. cit.* 28, etc.

³ This is denied by one Greek theorist, Margarites, *Θεωρητική και Πρακτική Ἐκκλ. Μουσική*, Constantinople, 1851, who holds that the Greek scales use only European intervals. But the view of Chrysanthus (founder of the modern system) was generally accepted in the Levant, until more recent western influence came in.

In future we shall give them in Roman letters. The following are their musical values:—

<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>a</i>	<i>b</i>	<i>c'</i>
pa	vou	gha	dhi	ke	zo	ni

THE MARTYRIÆ OR SIGNATURES OF THE MODES.

The signature implies both the number of the mode and the note taken as starting-point for the melody. Such a note may be called by its Latin name *Finalis*, since it is, as a rule, also the cadential note.

The signature always consists of two parts: (*a*) a syllable, or letter from the Sol-fa (giving the *Finalis*), and (*b*) a conventional symbol of long-forgotten and in some cases obscure origin, denoting the number of the mode. (These signs, as already explained, were at the outset numerical, being the first four letters of the alphabet, used as numbers; and we shall give them as such in our musical examples.)

Thus, in Mode I., the symbol \check{q} (a conventional form of *a*) is used; if we are to begin on *a*, the letter κ , initial of *ke*, is added; if from *d*, the letter π , initial of *pa*—as this mode admits either *a* or *d* as *Finalis*—and similarly with the other modes. For the plagal modes the letters $\pi\lambda$ or $\frac{\lambda}{\pi}$ are added (initials of *πλάγιος*, plagal).

THE MODES IN THE CHRYSANTHINE SYSTEM WITH EXAMPLES.

We shall tabulate and explain the modern modes in order, following the most widely accepted forms and avoiding minute details. As the accounts of theorists often disagree, and there are signs of irremediable confusion and overlapping of modes, it is impossible to classify every peculiarity.¹ In singing, even Greek precentors allow themselves considerable freedom.

MODE I.

This belongs to the 'diatonic' species, which is described by Chrysanthus and his followers somewhat as follows. The octave is divided into 68 fractions or points. Of these 12 make a major tone, 9 a minor tone, and 7 a minimum tone. On the same principle our tone and semitone (equal temperament) would be $11\frac{1}{3}$ and $5\frac{2}{3}$ points respectively. Thus the Greek scale is not in accord with our own

¹ I have generally followed Chrysanthus, the author of the modern notation. See his *Θεωρητικὸν μέγα τῆς μουσικῆς* (Trieste, 1832: reprint, Athens, 1911.)

and cannot be played on our keyed instruments. Singers who have come under western influence tend to ignore this difference and to make both major and minor tones equal to our whole tones, and the minimum tone to our semitone. (On a first hearing the Greek scale simply sounds out of tune.)

The first mode will therefore be as follows :

$d \ e \ f \ g \ a \ b \ c \ d$
 $\quad 9 \ 7 \ 12 \ 12 \ 9 \ 7 \ 12$

In descent *b*-flat is usual. The compass is not restricted to one octave, extension both ways being allowed ; *d* is the usual *Finalis*. For middle cadences *f* and *g* are also used. Our example is the first ode of the Canon for Easter, words by S. John of Damascus from the *Hirmologium* of Johannes Protopsaltes, Constantinople, 1875.

It will be noticed that the repetition of a vowel has no effect on the time, but is simply a device to aid the singer's memory, or at most to guide him in voice production.

(Pa)

(1) Ἄ - να - σταί - σε - ως ἡ - μέ - ρα, (2) λαμπρυν - θῶ - μεν λα - οί· (3) Πᾶ - α -
 σχα Κυ - ρί - ου πᾶ - α - σχα· (4) ἐκ γὰρ θα - νά - του πρὸς ζω - ἦν
 (5) καὶ ἐκ γῆς πρὸς οὐ - ρα - νὸν (6) Χρισ - τὸ - σ ὁ Θε - ὸς (7) ἡ - μάς
 δι - ε - βί - βα - σεν (8) ἐ - πι - νί - κι - ον ᾗ - α - δο - ον - τας.

MODE II.

The second mode is classed as 'chromatic' and according to Chrysanthus has the following scale :—

approximately

$c \ b \ d \ e \ f \ g \ b \ a \ b \ c$
 $\quad \frac{7}{4} \quad \frac{12}{4} \quad \frac{7}{4} \quad \frac{12}{4} \quad \frac{7}{4} \quad \frac{12}{4} \quad \frac{7}{4}$

This series of irrational intervals is usually modified somewhat as follows :—

$c \ b \ d \ e \ f \ g \ b \ a \ b \ c$
 $\quad \frac{1}{2} \quad 1\frac{1}{2} \quad \frac{1}{2} \quad 1 \quad \frac{3}{4} \quad \frac{5}{4} \quad \frac{1}{2}$

In other words the note $\flat a$ is kept slightly sharp (we may write $\flat a$), but the rest of the scale is simplified. Our example is a short quotation from the Resurrection Verses, or *Stichera Anastasima*. Sakellarides, Ἱερὰ Ὑμνωδία, 73.

Σέ τὸν σταυρωθέντα καὶ ταφέντα ἄγγε

λος ἐκήρυξε εὐε Δεσπόσοτην καὶ ἔλε

γε ταῖς . . γυναιαίξιδεῦτε ἰδετε ὅπου ἔε

κειτο ὁ Κύριος ἀνήστη . .

γὰρ καθὼς εἶπεν ὡς παντοδύναμος διότι Σε

προσκυνοῦμεν τὸν μόσοσον ἀθάαα

νααατον ζωοδότα Χριστέ ὁ Θεός

ἡημών . . δόοοξααα Σοι

(dhi)

(vou)

(dhi)

(vou)

(dhi)

MODE III.

This mode, though classed by Chrysanthus as 'enharmonic,' is in practice identical with the scale of *f* major. Chrysanthus regards the whole-tones as major tones (12 or 13 points) and the intervening sounds as quarter-tones (other authors say thirds of tones). But as usage is entirely against him, we shall not concern ourselves further with this discrepancy. Finalis *f*; middle cadences are made on *a* and *d*, which then have the same signatures as in Mode I.; also sometimes on *g*. (For an example v. *Musical Antiquary*, Jan. 1911.)

MODE IV.

This has two chief forms: (1) From *e*; it is then called *Legetos* (λέγετος). The example is the first verse in the Canon of the Acathestus. From Nicolas Georgiou, *Δοξαστικάριον* (Athens, 1895), p. 202. (2) From *g*; or from *d*. The scale is 'diatonic' as in Mode I.; and the same modulants are used.

(Vou) trem.



'Α - νοί - ξω τὸ στό - μα μου καὶ πλη - ρω - θή - σε - ται
Πνεύ - μα - τος καὶ λό - γον ἐ - ρεύ - ξο - μαι τῇ Βα - σι - λί -
(vou) (pa)
- δι Μη - τρί· καὶ ὁφ - θή - σο - μαι φαι - δρῶς παν - η - γυ - ρί - ζων,
(vou)
καὶ ᾄ - σω γη - θό - με - νος ταύ - τῆς τὰ θαύ - μα - τα.

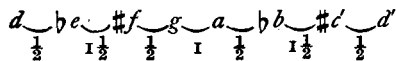
MODE I., PLAGAL.

This has the same scale as the first authentic and uses the same signatures, with the addition, where desired, of the abbreviation, $\frac{\lambda}{\pi}$ for 'plagal.' Middle cadences are made on *g*, *a*, and (in hirmological hymns)¹ on *c*. The *Finalis* is mostly *d*, rarely *a*. Occasionally *b* is lowered rather more than a semitone. Otherwise *b*-natural is usually found; but *b*-flat may be freely introduced.

¹ I.e. hymns in quick time without florid passages.

MODE II., PLAGAL.

(1) Here we find a characteristic and very popular scale



belonging to the 'chromatic' species. *Finalis d.* (2) Mixed: lower-tetrachord as above; upper diatonic *a, b, c, d'*.

This variety is especially common in folksongs, both Greek and Turkish. An example occurs below. (3) Hirmological form = Mode II. authentic.

MODE III., PLAGAL. THE DEEP MODE (*Barys*).

This has two forms: (1) Papadical and 'ancient' Sticherarical: diatonic from low *b*. Theorists differ as to the precise notes to be used. Sakellarides¹ prescribes no signature, but mentions a chromatic variety with *a*-flat; otherwise Rebourts.² (2) Practically the same as the third authentic mode—our *f* major. Chrysanthus indeed says that the interval *a*—*b*-flat is now a minimum tone instead of a quarter-tone; but this difference is not usually upheld.

Our examples are both from doxologies. Form (1) from Sakellarides, 'Ἱερὰ Ὑμνοῦδια, 228; (2) from Sakellarides, 'Ἱερὰ Ἐβδομάς, 33.

(gha)

(gha)

¹ 'Ἱερὰ Ὑμνοῦδια, p. 208.

² *Traité de Psaltique*, pp. 115-119.

MODE IV., PLAGAL.

This belongs to the 'diatonic' species and has *c* as its *Finalis*. It should therefore use the series of intervals already given under Mode I. But in practice it is sung like our *c* major with frequent accidental *b*-flat. Some writers even declare this to be the *only* Byzantine mode that western musicians can understand.

In long hymns, the composer will pass freely from one mode to another, using the various modulants and signatures. Such a course is natural; but it is more perplexing to find a piece sung entirely out of its proper mode. In such cases the initial signature is of less importance than the modulation-signs, which must be carefully followed in order to divine the composer's intentions.

EVIDENCE FOR THE EASTERN ORIGIN OF THE MODERN SYSTEM.

Having thus explained the Chrysanthine tone-system, we would now suggest that its peculiarities are capable of a very simple explanation. *The whole fabric is not Greek at all, but Oriental.* This does not mean that no genuine Byzantine melodies have survived. On the contrary, I am convinced that a great many have come down more or less intact by oral tradition, and are now enshrined in the printed books. But the *theoretical* basis of the modern scales is borrowed from the East.

A few arguments may be given in support of this view:—

(1) Some Greek writers actually apply the Arabo-Turkish names to the Byzantine modes. This is done regularly by Christodulus Georgiades,¹ a follower of Chrysanthus. Moreover, the latter carefully tabulates the Turkish scales or *maqams* in his own symbols, thus shewing that these signs could perfectly express Oriental varieties of the scale.² Such works on Arabo-Turkish and Arabian music as I have been able to study do not entirely agree among themselves. But they give proof enough of the substantial identity of the Chrysanthine system with their own.

The most authoritative account of the Arabian modes is given by A. Z. Idelsohn.³ Slightly differing views are taken by Kiesewetter,⁴ Helmholz, Riemann, and Chilesotti.⁵ A note on the Turkish scale is supplied by J. Thibaut.⁶ From this we can infer (1) that the names of the Turkish modes agree in the main with the Arabian, (2) that the

¹ Δοκίμιον ἐκκλησι. μελῶν : Athens, 1856.

² *Op. cit.* p. 84.

³ *I. M. G. Sammelbände (Quarterly Mag. of Internat. Mus. Soc.)*, year XV. Pt. 1, p. 1.

⁴ Kiesewetter, R. G., *d. Musik d. Araber*.

⁵ Chilesotti, O., *I. M. G. Sammelbände*, year III. p. 595.

⁶ Thibaut, J., *Revue Musicale, S.I.M.*, 15th Feb. 1910 (French section of Internat. Mus. Soc.)

principle of major, minor, and minimum tones as the basis of the diatonic scale is common to Turkish and Chrysanthine theory.

The correspondence of modes and *maqams* is shewn below. From it we see that Georgiades, a Greek musician, is deliberately and consciously writing Arabo-Turkish music in Byzantine notation.

GEORGIADES.		TURKISH MAQAMS IN CHRYSANTHUS.	NOTES OF TURKISH SCALE IN THIBAUT.	ARAB MAQAMS (IDELSOHN).
MODE.	NAME.			
I.	Πουσελίκι... ..	Μπουσελίκι	Puzelik	Buselik.
II.	Ξετ άραμπάν	(deest.)	—	—
III.	'Ατζέμ άσιράν	άτζέμ άσιράν	'Adjam Ashiran	'Aschiran.
IV.	σεγκιάχ	σεγκιάχ	Segia	Siga (?).
I. Pl.	'Ατζέμ γκιουρδλί	Κιουρδλί... ..	Kurdi	—
II. Pl.	ζεργκιουλε Χιτζάξ	Χιτζάξ	Hedjaz	Hagiz.
Barys	πεσπενιγκιάρι	—	Pest Hiasrek (?)	Bastanakar.
IV. Pl.	σουζινάκι	—	Suzidil (?)	Suznak.

(2) Chrysanthus invented several chromatic signs, in addition to what he found in mediæval MSS. Thus, besides inventing signs for our *sharp* and *flat* (the idea of which he seems to have borrowed from the West) he has provided new *phthoræ* for modifications of $\frac{1}{4}$, $\frac{3}{4}$, $\frac{1}{3}$ and $\frac{2}{3}$ of a tone. It follows that there was something in his music for which the existing symbols did not supply any expression. New features had come into singing and had to be embodied in the new notation. Now in the early nineteenth century most of the Greek world had been continuously under oriental sway for many ages. The Greeks, an inventive, artistic race, had been making music for the Turks, just as their ancestors had done for the Romans. But the Turks demanded oriental music, which the Greeks were obliged to learn. We are expressly told that Petrus Peloponnesius, who recomposed many Greek hymns, also wrote Turkish secular songs. In this way the eastern non-diatonic scales invaded Byzantine music.¹

(3) It is well known that the ancient Greek enharmonic genus was obsolete many centuries before the invention of the Byzantine notation. This genus was always held to be difficult and better suited to professional musicians than to ordinary singers. To suppose, therefore, that such a

¹ For this musician (who died in 1777, after a brilliant musical career at Constantinople and elsewhere) see Papadopoulos, G., *Συμβολαί εις την 'Ιστορίαν της καθ' ημάς εκκλ. Μουσικής*, 318 ff. The various stories told of him all point to the intimate connexion between Byzantine and Oriental music at that epoch.

scale, after persisting exclusively in popular tradition throughout the Middle Ages, should suddenly emerge on the evocation of Chrysanthus (whose account of it is quite incorrect) seems an incredibly far-fetched explanation.

(4) The remarks of mediaeval theorists on the nature of the modes are very scanty. In the *Papadiké* we have nothing but the list of their ancient Greek names; and this, as has been seen, differs from the nomenclature of other authorities. The most important writer on music, Manuel Bryennius (early fourteenth century), was more concerned with the ancient Greek system than with the usage of his own day. A detailed study of his work has been published by W. Christ,¹ who discusses it in connexion with the musical theory of Chrysanthus. From this it appears that the system of Bryennius was diatonic, consisting of normal tones and semi-tones. The difference between greater and lesser tones he regards as purely theoretical, being so slight that the human ear could not perceive it. Chrysanthus seems to have borrowed the same terminology to describe the irrational scale of his own system, where the greater tone is nearly $\frac{5}{4}$ of a normal tone, and the lesser tone about $\frac{3}{4}$, the two sounding of course perfectly distinct to any ear.

(5) The evidence of Greek Folksongs. Greek musicians deserve our thanks and praise for their zeal in collecting folksongs, in which the country is still very rich; several collections have been published in book form, while single specimens often appear in magazines. Here, unfortunately, the two chief editors disagree on the very point now at issue. Pachtikos² declares that the songs can be expressed in European notation as containing no irrational intervals. With equal assurance Psachos³ explains that his versions in our notation are nothing but rough approximations, the true scales being quite unlike our own. Both scholars have a high reputation in their own land and have done valuable work. In such a case we must refer to the few European musicians who have studied the subject; and their verdict is in favour of Pachtikos.⁴ From

¹ *Sitzungsberichte d. k. bayerischen Akademie d. Wissenschaften*, phil.-hist. Klasse, 1870, vol. ii. pp. 241-270. (A lucid and valuable study.) In the Appendices W. Christ published the *Papadiké*, from a Vienna MS., but failed to discover in it the key to the Round System of notation.

² Παχτικός, Γ. Α. 260 Δημόδη Ἑλληνικά Ἄσματα (Athens, 1905).

³ Folksongs from Scyros. Δημόδη Ἄσματα Σκύρου.

⁴ Thus Burgault-Ducoudray (a man of unimpeachable judgment, himself a composer) has edited Greek folksongs (*Trenie Mélodies Populaires de Grèce*, etc.) and states that there are no irrational intervals in them. Pernot, *Île de Chio*, gives a phonographic series of folksongs from

the evidence of his own ears any traveller in Greece would form a view similar to the above. The singing of the peasants may not always be mathematically in tune, but it does not sound unintelligible and has quite a different effect from what may be heard in the coffee-houses of Tunis or Cairo. Few scholars, however, would dare in any case to maintain that modern Greek popular music has come straight down from antiquity. On the contrary it has a certain likeness to Turkish and other Balkan music.¹ But at least it cannot be adduced to prove the presence of irrational intervals in the Byzantine scale.

In our examples we transcribe three Greek folksongs, which have not yet appeared in European notation. The larger collections of Pachtikos and others would repay close study by western musicians.

MODERN GREEK FOLKSONGS.

I. Dance—*Συρτός*: from *Phorminx* series, p. 31, No. 5.

MODE II. Plagal: mixed chromatic.

(dhi)



Αὐ - τὰ . . . τὰ μα - αὐ - τὰ τὰ μαῦ - ρα ποῦ . . . φο - ρεῖς

(pa)



ἐ - γὼ θά σου τὰ βγά - λω, κό - ρη τοῦ πα - πᾶ.

2. Wedding Song: from Cromne in Pontus² (*Phorminx* series).

MODE I.



*Α - φη κό - ρη . . . ᾶ - φη . . . κό - ρη τὴν μά - - να

Chios: here too the scales are normal. A few examples noted by O. Heilig, *Sammelbände d. I.M.G.* 4th year, 1902-3, pp. 293 ff., are similar in character; while a more elaborate collection by L. Büchner (friend and collaborator of Pachtikos) shews nothing irrational in the tonality. We are not of course doubting the accuracy of so able a musician as M. Psachos, whose examples, from the remote island of Scyros, may well have had peculiarities of their own. (See Büchner, L., *Sammelbände, I.M.G.* 3rd year (April-June, 1902), p. 403.)

¹ Those who heard the lecture-recital of Serbian Folksongs given by Miss V. Edwards at Cambridge at the close of the summer school for Russian studies (Aug. 1916) may have noted the likeness of these songs to those of Greece.

² Another version with different words, v. Pachtikos, p. 54.

(dhi)



σου. ἄ - φη κό - ρη . . . τὴν μά - να σου . . . καὶ . . .



κά - με ἄλ - - - λην μά - - - - να.

3. From Metsovo near Trebizond (*Phorminx* series).

MODE IV. Plagal (mixed).

(gha)



κά - τω 'στοῦ Βα { - λε . . . κά - τω . . . στοῦ Βα . . . }
{ λτου . . . τὰ . . . χω - ριά . . . }

(ni)



με - στὰ πέν - τε. βί - λα - α - έ - - - τια φά - τε . . .

(gha)



πί - τε - - - μῶ - ρ' ἄ - δέλ - φια.

We are thus led to conclude that the oriental traits in Byzantine music are not part of the mediaeval system, but a later accretion. This, however, does not imply that any reform of Greek Church music would be bound to expel them. The traditional singing is dear to many Greeks; and European musicians are unqualified to pronounce upon its artistic merits. Apart from the possible inclusion of irrational elements in western music—at which some modern composers are understood to have aimed—the historical interest of the Chrysanthine system remains, and no revival of a more classical and perhaps purer mediaeval tradition need overthrow anything of value in contemporary practice; whatever changes may be

needed can only be carried out by the Greeks themselves. Our concern is with the past; and the discussion now ended has led us, through much confusion and doubt, back to the orthodox belief in the general likeness between Gregorian and Byzantine music.

EXAMPLES OF THE MEDIAEVAL BYZANTINE MODES
ACCORDING TO THE SYSTEM ADOPTED IN THE
PRESENT ARTICLE.

Mode I. see *B.S.A.* xxi. 138 ff. Mode II. *ibid.* 132. Mode IV. *ibid.* 143.

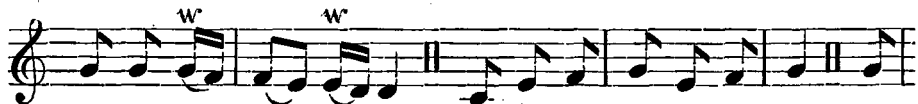
MODE I, late mediæval or Cucuzelian system. Facsimile in Gaisser, *Heirmoi de Pâques*, 87. Canon for Easter by S. John of Damascus, Ode III.

(The likeness to the modern type of this Mode, as shewn in Ex. 1, p. 143, above, will be noted.)

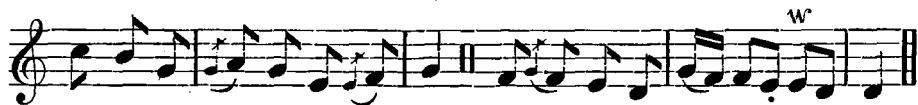
From d.



(1) Δεῦ - τε πῶ - μα πί - ω - μεν και - νὸν (2) οὐκ ἐκ πέ - τρας ἁ - γό - νου



τε - ρα - τουρ - γού - με - νον (3) ἀλλ' ἀφ - θαρ - σί - ας πη - γήν, ἐκ



τά - φου ὁμ - βρή - σαν - τα Χρισ - τὸν (4) ἐν ᾧ στε - ρε - οὐ - με - - θα.

MODE III. From *Stichera Anastasima*. Cod. Athon. Vatopedi. 288, f. 362.



(1) Θε - ὄς ὑ - πάρ - χων ἄν - αλ - λοι - ω - τος (2) σαρ - κί

πάσ-χων ἡλ - λοί - ω - σαι. (3) ὄν . . ἡ . . κτί - σις . . μὴ
 φέ - ρου - σα κρε - μά - με - νον ὁ - ρᾶν, (4) τῷ . . φό - βῳ
 ἐ - κλο - νεῖ - - το, (5) καὶ στέ - νου - σα ὑμ - νεῖ τὴν
 σὴν μακ - ρο - θυ - μί - αν. (6) κατ - ελ - θῶν ἐν ᾿Α - δη . . δὲ τρι -
 ῆ - με - ρος ἂν - έ - στης. (7) ζῶ - ἦν τῷ κόσ - μῳ δω -
 ρού - με - νος . . (8) καὶ τὸ μέ - γα . . ἔλ - ε - ος.

MODE I. Plagal (mixed chromatic form). Cantab. Biblioth. Acad. Cod. Ad. 3051, f. 1 (Cucuzelian system). Part of Antiphone = Ps. 150.

(Nenano.)

(1) πᾶ - σα πνο - ῆ - αἰ - νε - σά - τω τὸν Κύ - ρι - ον (2) αἰ - νεῖ - τε
 τον Κύ - ρι - ον ἐκ τῶν οὐ - ρα - νῶν, (3) αἰ - νεῖ - τε αὐ - τὸν ἐν
 τοῖς ὑψ - ἰς - τοις (4) Σοὶ πρέ - πει ὑμ - νος τῷ . . Θε - ῷ.

MODE II. Plagal: Diatonic. Cod. Athon. Vatopedi, 288, f. 372.
Part of Antiphone = Ps. 124.

(I) εἰ μὴ ὄ - τι . . . Κύ - ρι - ος ἦν . . . ἐν . . .
ἡ . . . μῖν (2) οὐ - δεῖς ἡ - μῶν . . . ἀντ - ἰς -
- χεῖν εἰ - δύ - - - - - να - το (3) ἐχ - - θροῦ πά - λαισ -
- μα οἱ νι - κῶν - τες γὰρ ἔν - θεν ὑ - ψοῦν - ται'

MODE II. Plagal: Chromatic. ¹ Cod. Moreatae f. 66. Cucuz. System. From *Eothina* of Leo.

(Nenano.)

(I) Ἡ ὄν - τως εἰ - ρή - νη Σὺ, Χρισ - τὲ (2) πρὸς ἀν - θρώ -
- πους Θε - οῦ εἰ - ρή - νην τὴν σὴν . . . δι - - δούς (3) με - τὰ τὴν
εἰ - γερ - σιν μα - θη - - ταῖς. κ.τ.λ.

This hymn, of which only a few bars are given, is probably chromatic throughout.

¹ For this MS. see *B.S.A.* xxi. 134.

MODE III. Plagal: Ἦχος Βαρύς. From *Stichera Anastasima*, Cod. Moreatae f. 51.

(1) ἐν τά-φῳ κατ-ε - - τέ - - θης (2) ὡς ὁ ὑπ - νῶν . . Κύ-ρι-ος

(3) καὶ ἄν - έ - - - στης τρι - ή - με - ρος (4) ὡς δυ - να - τὸς ἐν ἰσ -

χυ - - ἰ, (5) συν - α - να - στή-σας τὸν Ἄ - δάμ (6) ἐκ τῆς φθο -

- ρᾶς τοῦ θα - νά - του (7) ὡς παν - το - δύ - - να - - - μος.

HYMN FOR CHRISTMAS.

MODE IV. Plagal. Cod. Cantab. Trinitatis, B. II, 17.

(1) πα - ρά - δο - ξον μυσ - τή - ρι - ον οἰ - κο - νο - μεῖ - ται σή - με -

- ρον (2) και - νο - - το - μεῖ - - ται φύ - σις . . (3) καὶ Θε - ὸς

ἄν - θρω - πος γίγ νε - ται . . . (4) ὁ - περ ἦν με - μέ - νη - κεν

(5) καὶ ὁ οὐκ ἦν . . προσ - έ - λα - βεν (6) οὐ φυρ - μὸν ὑπ - ο

μέ - νας οὐ - δὲ . . δι - αί - ρε - σιν.

H. J. W. TILLYARD