

Born from the ashes: The deconstruction of Byzantine mode-organization and the new Chrysanthine ‘order’

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This paper was written to commemorate the 200th anniversary of the publication of musical treatise by Archbishop Chrysanthos of Madytos (c.1770-1846), the first work towards a ‘scientific’ treatment of Greek ecclesiastical music (1821)¹. Chrysanthos attempted to reorganize the modal and rhythmic theory of this music, and reform the musical notation that has remained to this day. The paper deals with an aspect of Chrysanthine modal system that has not received due attention so far: the abandonment of the traditional authentic-plagal order and its substitution by a new one that does not make sense if placed outside its cultural context and historical antecedents. Chrysanthos’ main point of reference seems to be the Ottoman *makam* system that had already penetrated post-Byzantine chant but was now given a new momentum². Before that, Greek composers used the Byzantine modal division into four authentic (*kurioi*) and four plagal (*plagioi*), positioned a fifth apart from each other. The authentic modes were mostly ascending in terms of melodic movement, whereas the plagal were descending (though one has first to ascend in order to get down!). Otherwise, every authentic-plagal pair shared the same melodic scale (usually an octave), which they traversed according to certain melodic motifs (some common to all, others unique to every mode).

1. The Chrysanthine ‘question’

This modal relation was shaken by Chrysanthos, who was nevertheless honest enough to admit his deviation, which he ascribed to the different system of establishing the eight modes: while the Byzantines used the diapente system, that is, the interval of perfect fifth, he employed the diapason, that is, the perfect octave. Yet, since the seven notes could not accommodate the eight modes, as he notes in his later enlarged treatise (1832)³, two of them shared the same tonic (on D), those being the first authentic (of the diatonic genus) and second plagal (of the chromatic genus). However, in his account of the eight modes, he also places the first authentic on the same pitch (D) contrary to Byzantine theory (on a), which he nevertheless invokes⁴. As if that was not enough, Chrysanthos burdens the same pitch (D) with a fourth modal entity: that is a version of the fourth authentic, called *Hagia* (mostly used in the Sticherarion). Another pair of modes (third authentic and plagal or Barys) also shares the same basis (F), on account of the latter’s transpose from its original B flat⁵.

Things become more confusing, when other notes become the common bases of unrelated modes, such as the second authentic (of the chromatic genus) and fourth authentic (of the diatonic genus) sharing the same tonic (g). It is only the fourth plagal (on C) that has remained untouched, though its plagal identity would be seriously challenged in light of the emergence of a version of the fourth authentic (Leghetos) on E. To recapitulate, then, the eight Chrysanthine modes used four notes of the diapason system as their tonic: C (for the fourth plagal), D (for the first authentic, first plagal, and second plagal), F (for the third authentic and plagal), and g (for the second authentic and fourth authentic). Is there more? Yup. In his section on Barys or the third

¹ Chrysanthos, *Εισαγωγή εις το θεωρητικόν και πρακτικόν της Εκκλησιαστικής Μουσικής / συνταχθείσα προς χρήσιν των σπουδαζόντων αυτήν κατά την νέαν μέθοδον παρά Χρυσάνθου του εκ Μαδύτων, Διδασκάλου του Θεωρητικού της Μουσικής* (Paris: Rigny, 1821).

² In this paper, the Turkish terms have been rendered into their original script except for the words *perde* (pitch), *makam* (mode), and *usul* (rhythm), the Anglicized plural form of which (*perdes*, *makams* and *usuls*) has been preferred instead of the longer, *perdele*, *makamlar* and *usuler*. The Greek names have been transliterated into Latin according to British Standard for transliteration of Cyrillic and Greek characters (1958), with the exception of the name Hallaçoğlu (that being of Turkish origin).

³ Chrysanthos, *Θεωρητικόν μέγα της μουσικής, συνταχθέν μεν παρά Χρυσάνθου αρχιεπισκόπου Διρραχίου του εκ Μαδύτων, εκδοθέν δε υπό Παναγιώτου Γ. Πελοπίδου Πελοποννησίου δια φιλοτίμου συνδρομής των ομογενών* (Trieste: Michele Weis, 1832, 168). See also Katy G. Romanou, *Great Theory of Music by Chrysanthos of Madytos translated by Katy Romanou* (New Rochelle, New York: Axion Estin Foundation, 2010).

⁴ Chrysanthos, 1832, 142-3.

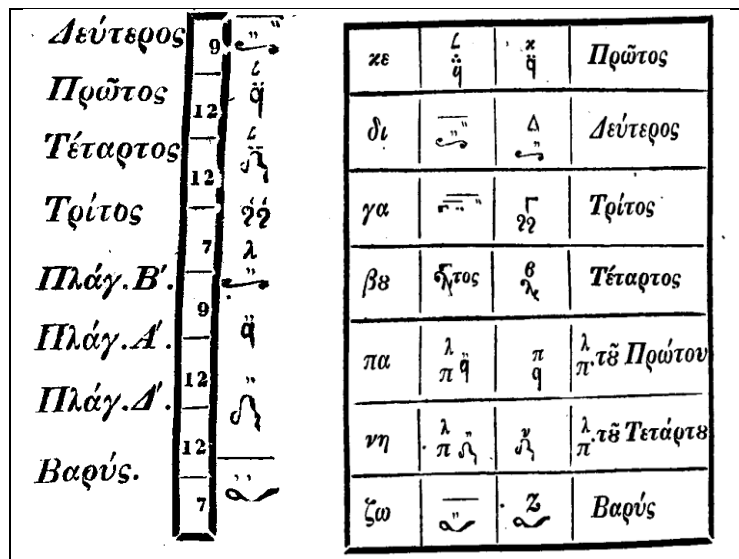
⁵ Chrysanthos, 1821, 43.

plagal, Chrysanthos introduces a diatonic scale on B, and, a semitone lower (B flat), a further (enharmonic) scale, which he associates with an Ottoman *makam* (*Acem*). The last stop in this ‘witch hunt’ is a scale of the second authentic, sharing the same intervals but not the same basis with the second plagal!

To someone unfamiliar with Byzantine and post-Byzantine chant (however trained in music), this havoc is not only inexplicable but even unacceptable. Yet, to an initiated reader, it can be partly ascribed to the original modes’ inflections, often found in theoretical treatises (*papadikae*) that are usually attached to music collections⁶. So, while ascending, each mode was able to make cadences interchangeably on its third (*diphony*), fourth (*triphony*), fifth (*tetraphony*), and high register (*heptaphony*). Conversely, while descending, the modes could stop either on the third, being the “middle” note (*mesotis*) of the pentachord, or a note below (*paramesotis*), before reaching the tonic (*plagiasmos*). So, while ascending from D, a mode may become successively *diphone* (while pausing on F), *triphone* (while on g), *tetraphone* (while on a), and *heptaphone* (while on upper d). While descending, it becomes *mesos* (F), *paramesos* (E) and *plagios* (D), respectively⁷. The cadence on the sixth (that makes the mode *pentaphone*) is a later development, and will be discussed later.

Yet, the reference to Byzantine modality cannot account for Chrysanthos’ ambiguity, as happens in the aforementioned Leghetos, being in fact a *mesos* or middle-mode of the fourth authentic, since it is based on the mode’s *mese* or middle-note (E). Thus, this very sub-mode became a point of friction for Greek music teachers of the 19th century, the best-known case being Misael Misaelides, *protopsaltes* or precentor of Smyrna (1822-1906), who claimed that, due to lack of correspondence between Leghetos and the fourth plagal, the latter had lost its true identity as plagal⁸. To those objecting that the fourth plagal (on C) corresponded to the fourth authentic (on g), Misaelides retorted that this was impossible, since c was already the basis of the second authentic, and two modes could not have the same tonic. As for Leghetos itself, residing a third apart from the fourth plagal, he was unable to categorize it either as plagal or authentic; for if plagal, there was no corresponding authentic a fifth apart, whilst, if authentic, it could not have a plagal in such a proximity (on C).

However sophistic this argument may sound, the fact is that Chrysanthine modal system is not a straightforward one, both in terms of its mode organization and in its correspondence to Byzantine *octoechia*, from which it is supposed to originate. In the first place, one may wish to know why Chrysanthos chose the diapason system, which nevertheless he does not use consistently. Similarly, why, in his diagram of the eight modes, he added the diatonic Barys (on Zo), which does not shape a perfect fifth with the third authentic (on Ga)? Chrysanthos seems, so to speak, to have attempted to turn the tables, by introducing a reverse scenario of the modes succession, which he makes appear in a descending order from g: first authentic (a), second authentic (g), third authentic (F), fourth authentic (E), first plagal (D), fourth plagal (C), and third plagal (B). What he might have wished for was to retain a sense of the modes’ order (even a reverse one), with one exception (second plagal), as shown in the diagram below, where the Byzantine system is juxtaposed with his own⁹:



⁶ Maria Alexandru and Christian Troelsgård, ‘The “Elements of the Papadikē” and Modality Features in Byzantine Chant’, in *Series Musicologica Balcanica* [S.l.], 1/1 (Aug. 2020), 168-204.

⁷ For an English account of Byzantine modality, see H. J. W Tillyard, ‘The Modes in Byzantine Music’, *The Annual of the British School at Athens*, 22 (1916), 133–156.

⁸ See Misael Misaelides, ‘Περὶ του εν τη καθ’ ημάς εκκλησιαστική μουσική υπάρχοντος μεν, αλλά μη υπάρχοντος πλαγίου του τετάρτου ήχου’, *Φόρμιγξ, δεκαπενθήμερος μουσική εφημερίς* 1 (1 October 1901).

⁹ Chrysanthos, 1832, 131, 168.

As has become obvious, Chrysanthos is far from consistent even *vis-à-vis* his own principles, as for example in the case of the first authentic which he lowers from a to D (in the section on the mode), despite his conviction to the opposite (in the above table). In an attempt to show how that has come about, and what was the mode's real difference from his plagal (based on the same note), Chrysanthos allows the authentic mode to commence 'some two or three notes higher', due to the mode's limited melodic range, from the third above the tonic (F) to the third below (B)¹⁰. Although this sounds rather awkward, this suggestion implies a transpose (a notion adopted by Chrysanthos) not affecting the original intervals. The paradox here lies in that the Chrysanthine authentic mode sounds much more its older plagal (based on D) while his plagal residing on the notes of the older authentic (making finalis on a)! This inversion was also noted by the aforementioned Misaelides, who openly accused Chrysanthos for inconsistency and ambiguity in his modal theory¹¹.

Take for example the short Cherubic Hymn in the first authentic mode by Petros Peloponnesios (c.1730-1778), *Lampadarios* of the Ecumenical Patriarchate and one of the most prolific composers of post-Byzantine music, where the usual melodic range of the hymn is the tetrachord D-g, even in the important phrase of 'Trinity' (*Τριάδι*). The melodic 'expansion' of this phrase was a later development, commencing in the second half of the 19th century and reaching its peak in the 20th century¹². Chrysanthos' attempt to prove the identity of the first authentic can be read with great scepticism, for the only example he provides is a cadence (a fifth lower) from a *sticheron* of Sunday Vespers, supposedly belonging to the first plagal¹³. Yet, this very phrase reaches the lower G via the diapente system, as indicated by the relevant symbol, thus making this cadence an organic part of the authentic mode and not a passage of the plagal. In any case, this is an exceptional case in the reformed repertoire and cannot be considered typical of the mode.

Consequently, Chrysanthos was not to be 'absolved' by the next generations of Greek musicians, who looked upon his theoretical slips with suspicion and mistrust. A case in point is Georgios Raidestinos II (1833-1899), *protopsaltes* of the Ecumenical Patriarchate (1871-5). In the introduction to his musical settings for the Holy Week (1884)¹⁴, he criticizes the inconsistencies of the Chrysanthine modal system, focusing in particular on the chromatic modes, second authentic and plagal. To remedy the lack of their right association (a fifth apart), he proposes that the second authentic commences a note higher (a instead of g), if we are to keep its plagal intact (on D). He also wonders about the intervallic difference between the same modes, the authentic having "milder" chromatic intervals than the plagal, despite their belonging to the same chromatic genus. Raidestinos' rationale was based on the intervallic sameness of the other couples of modes (first authentic-

¹⁰ Chrysanthos, 1821, 38.

¹¹ Misael Misaelides, *Νέον Θεωρητικόν Συντομώτατον ήτοι περί της καθ' ημάς εκκλησιαστικής και αρχαίας ελληνικής μουσικής*, I (Athens: αναλώμασι του συγγραφέως, 1902), 25-26.

¹² See John Plemmenos, 'Από τον Θεόδωρο Φωκαέα στον Τέοντορ Αντόρνο: Η διάσπαση του κλασικού μουσικού έργου και ο αντίκτυπός του στην ψαλτική πράξη', *Proceedings of the International Musicological and Psaltic Conference, "...chanting consciously in praise to Thee..."*. *Prerequisites and Skills for Sacred Chanting in Orthodox Worship*, 30/5-2/6/2018, eds. K. Karagounis and K. Drygianakis (Volos: Theological Academy of Volos, Department of Musicology and Psaltic Art, 2020), 411-433.

¹³ 'Κυκλώσατε λαοί Σιών, καὶ περιλάβετε αὐτήν, καὶ δότε δόξαν ἐν αὐτῇ, τῷ ἀναστάντι ἐκ νεκρῶν ὅτι αὐτός ἐστιν ὁ Θεὸς ἡμῶν, ὁ λυτρωσάμενος ἡμᾶς, ἐκ τῶν ἀνομιῶν ἡμῶν'. Chrysanthos, 1821, 37.

¹⁴ See Georgios Raidestinos, *Η Αγία και Μεγάλη Εβδομάς: Περιέχουσα την κατά την εβδομάδα των Παθῶν του Σωτήρος ψαλλομένην μέχρι του Εσπερινού της Αναστάσεως του Πάσχα ακολουθίαν μετὰ της τυπικής διατάξεως* (Istanbul: Τύποις Σ. Ι. Βουτυρά, 1884), ζ'-η'.

plagal, third authentic-plagal, fourth authentic-plagal). He may have also been inspired by the equivalent Ottoman ‘chromatic’ *makams*, *Hüzzam* and *Hicaz*, sharing the same intervals.

Chrysanthine theory of the chromatic modes had already caused much concern even among the original group of reformers, including Georgios Chourmouziou, so-called Chartophylax or Archivist (+1840). Intervallic variation was not the only paradox, for a more acute problem was the overall interval number of the scale, lacking four commas (64 to 68) according to Chrysanthine standards. To correct this deficiency, Chourmouziou added some extra commas (*moría*) to the octave of the second authentic, by reversing the three upper intervals (from 7-12-7 to 12-7-12), though the sum was too generous, exceeding its target by one (69 instead of 68)! A little later, the music editor and composer, Theodoros Phokaeus (1790-1851) offered his own measurement, by enlarging the first interval of each tetrachord thus reaching the desirable sum (9-12-7-12-9-12-7=68)¹⁵. Phokaeus’ second authentic is almost the same with its counterpart, makam *Hüzzam* (9-13-6) as expounded in the Interpretation of Secular Music by the patriarchal precentor, Konstantinos Byzantios¹⁶. This closeness may account for the fact that Phokaeus’ scale was short living, since it came in a period following the Greek Revolution of 1821 that led to Greece’s liberation.

With all due respect to his efforts, it should be admitted that in the case of the chromatic modes Chrysanthos is at a loss. As has been shown by this author¹⁷, he confuses the melodic progression of the mode (from C to c) with its intervallic advancement. This seems to have been caused by the fact that the second authentic is organized in trichords (groups of three notes) and not tetrachords, as is the case with the other modes. So, Chrysanthos makes every trichord contain the same intervallic element (7 and 12 commas respectively), whereas, in reality, the melodic organization is totally different from its intervallic grouping. But even so, the use of major tone (12 commas) within the chromatic scale is, of its own, a sign of confusion and (one may dare to say) ignorance. For even if his trained ear could deter him from endorsing a sharp intervallic division of semitones and augmented seconds (as happened in European ‘oriental’ works of the time), the diatonic major tone is irrelevant in a chromatic context, more so as it is enclosed between two minimum tones (7 commas)¹⁸.

Chrysanthine theory at large was seriously challenged in the 1880s, after the convention of the Musical Committee (*Mousiki Epitrope*) in Istanbul, appointed by the Ecumenical Patriarch, Joachim III, so-called Magnificent (1834-1912)¹⁹. The Committee openly rejected Chrysanthine theoretical axioms as “mostly incorrect and imperfect”, including his modal system. The members of the Committee opined that the basic structural element of each mode is the tetrachord: each modal scale consists of two often disjunct tetrachords united by a whole tone. As for intervals, they proposed a smaller numerical correspondence (6 commas for the major tone, 5 for the minor, 4 for the minimum), only allowing a small differentiation between the two chromatic modes (second authentic and plagal). The principles of the Committee have since remained the standard theory in Greek ecclesiastical music with some modifications, such as the doubling of commas (e.g. 12-10-8, for the diatonic scale).

2. The Ottoman ‘factor’

The modal system introduced by Chrysanthos has engaged a number of musicians and musicologists of the 19th and 20th century, yet no one seems to have made sense of the theorist’s *raison d’être*. Some ascribed the new order to the author’s confused or limited knowledge of the older modal theory, whereas others

¹⁵ See Theodoros Phokaeus, *Κρηπὶς τοῦ θεωρητικοῦ καὶ πρακτικοῦ τῆς Ἐκκλησιαστικῆς Μουσικῆς, συνταχθεῖσα, πρὸς χρῆσιν τῶν σπουδάζοντων αὐτὴν, κατὰ τὴν νέαν μέθοδον, παρὰ τῶν τριῶν ἐνδόξων Μουσικοδιδασκάλων Χρυσάνθου Μητροπολίτου Προύσης, Γρηγορίου Πρωτοψάλτου καὶ Χουρμουζίου Χαρτοφύλακος*, 2nd edn (Istanbul: Ἐκ τοῦ Τυπογραφείου τῆς Μουσικῆς Ἀνθολογίας ‘Ἡ Εὐτέρπη’, 1864), 49.

¹⁶ Konstantinos, *Ἑρμηνεία τῆς ἐξωτερικῆς μουσικῆς καὶ ἐφαρμογὴ αὐτῆς εἰς τὴν καθ’ ἡμᾶς μουσικὴν* (Istanbul: Ἐκ τῆς Πατριαρχικῆς τοῦ Γένους Τυπογραφίας, 1843), 26-29.

¹⁷ John Plemmenos, ‘The evolution of the Chromatic “species”: Greek vs. Turkish music theory’, in *Maqām Traditions of Turkic Peoples, Proceedings of the Fourth Meeting of the ICTM Study Group ‘Maqām’, Istanbul 18-24 October 1998*, eds. Jürgen Elsner and Gisa Jähnichen (Berlin: Trafo-Verlag, 2006), 177-190.

¹⁸ It is true though that, in Turkish and Arabic music, augmented seconds are intervallically smaller than the European ones (minor thirds).

¹⁹ *Ἐπιτροπὴ, Στοιχειώδης διδασκαλία τῆς Ἐκκλησιαστικῆς Μουσικῆς ἐκπονηθεῖσα ἐπὶ τῆς βάσει τοῦ ψαλτηρίου ὑπὸ τῆς Μουσικῆς Ἐπιτροπῆς τοῦ Οἰκουμενικοῦ Πατριαρχείου ἐν ἔτει 1883* (Istanbul: Ἐκ τοῦ Πατριαρχικοῦ Τυπογραφείου, 1888), 44-61.

attempted to correct him by proposing alternative theories. After all, Chrysanthos was a professional cleric (Archimandrite) who would pursue with success his ecclesiastical career (by becoming Archbishop of Dyrrachium, modern-day Albania and later Metropolitan Bishop of Bursa, nowadays Turkey) leaving behind his musical explorations. And yet, it is unfair to make him bear the complete responsibility of this musical chaos, for things had already become mixed up much earlier. One should go back a century, to witness a gap in the succession of *protopsaltes* at the Patriarchal Cathedral of St. George in Istanbul, for some fifty years (c.1670-1720)²⁰.

The particular Patriarchal office (the highest of its kind in the entire Christian Orthodox world) seems to have remained vacant from the late 17th century until the advent of Panaghiotes Hallaçoğlu of Pontus (r.1721-1736). This is also inferred by Chrysanthos' comment on Hallaçoğlu (in his biographical sketch of the great ecclesiastical musicians) that the Pontic cantor could only study music on Mount Athos, because 'at that time there was dearth of skilled musicians in Istanbul'²¹. This vacuum seems also to have affected the survival and fate of the older musical notation that was soon to become almost intelligible to the next generations of cantors in Istanbul. This historical juncture has not been paid serious attention to by music historians and musicologists, who are mostly occupied with the evolution of the perplexed neumatic notation of the time. And yet, Hallaçoğlu has been charged by Chrysanthos with the inauguration of a new school of chant in Istanbul that was to change the musical composition and interpretation thereafter²².

Having said that, one should be aware that Byzantine chant did not come to a standstill but survived through the copying of the older repertoire, and the activity of few albeit important composers. One of the latter was Petros Bereketis (r.1680-1710), who studied music under the same teacher as Hallaçoğlu on Mount Athos, Damianos Vatopedinos²³, and produced a substantial number of musical works (some of which still survive in the Greek Orthodox repertoire). One of the new trends that characterize Bereketis' style is his reliance on Ottoman music (commonly-called *exoteriki* or outward music), from which he borrowed melodic motives as well as its nomenclature (by calling some of his works after Ottoman instruments, such as *miskal* or pan-pipe)²⁴. Thus, we may justifiably place him next to his slightly-younger Hallaçoğlu, who was also open to external influences, although he did not produce the same amount of musical works. What he did though was more crucial to the development of post-Byzantine chant, and particularly to modal theory.

Hallaçoğlu is also mentioned by Chrysanthos as the composer of a Kalophonic work in the first plagal, with explicit melodic references to Ottoman music, in particular to *makam Acem*, archaically-called first *pentaphone* (with cadences on the sixth)²⁵. To apologize for this innovative composition, Chrysanthos comments that a composer may at times deviate from a given mode under two conditions: a) when he does not considerably depart from the mode's established norms, and b) when he approvingly relies on an acceptable precedent (e.g. a previous composer's work)²⁶. So, if Hallaçoğlu could prove that he was 'the one coming behind' (John 1, 15), then he was entitled to make use of the Ottoman stuff! Thanks for him the same *makam* had already been

²⁰ See Christos Patrinelis, 'Protopsaltes, Lampadarii, and Domestikoi of the Great Church during the Post-Byzantine Period (1453-1821)', *Studies in Eastern Chant* III (1973), 150-152. See also his footnote on Hallaçoğlu: 'Indeed it is strange that not a single protopsaltes, lampadarios or domestikoi of the Great Church is reported during the period from 1665 (or possibly 1680) to about 1720 [...] Thus, Hallatzoglou would appear not to have been exactly a continuator of the old Constantinopolitan musical tradition, but an introducer of the Byzantine music as it was sung in the monasteries of Mount Athos' (160).

²¹ Chrysanthos, 1832, XLVIII.

²² According to Chrysanthos, Hallaçoğlu, 'while delivering to his disciples the mele, in one case, he shortened some melodies of the theses, in another case, he even changed them, aiming at the sentimental and at the same time the ornamental [...] and hence there arose the substantially different interpretation of the ecclesiastical music, regarding some theses, of the Constantinopolitan music teachers'.

²³ On Damianos, see <https://www.vatopedi.gr/i-moni/thia-latria/psaltiki-techni-melopii-didaskali-psaltes/damianos-ierom-vatopedinos-v-imisi-17ou-e-arches-18ou-e/>

²⁴ Bereketis' 'Miskal' has been released in Πέτρος Μπερεκέτης (ἀρχαί η' αἰῶνος). *Βυζαντινοὶ καὶ μεταβυζαντινοὶ μελουργοὶ 1*, LP 101, ed. Gregorios Stathis (Athens: Institute of Byzantine Musicology, 1976), disc 1.

²⁵ This is the *heirmos* 'Ἐφριξε γη...' published in Gregorios, *Εἰρμολόγιον καλοφωνικόν, μελοποιηθέν παρά διαφόρων ποιητῶν παλαιῶν τε καὶ νέων διδασκάλων μεταφρασθέν δε εἰς τὴν νέαν τῆς μουσικῆς μέθοδον καὶ μετὰ πάσης ἐπιμελείας διορθωθέν παρά τοῦ ἐνός τῶν τριῶν διδασκάλων τῆς ρηθείσης Μεθόδου Γρηγορίου Πρωτοψάλτου τῆς τοῦ Χριστοῦ Μεγάλῆς Ἐκκλησίας*, ed. Theodoros Phokaeus (Istanbul: Ἐκ τῆς Τυπογραφίας Κάστρου, 1835), 113-115.

²⁶ Chrysanthos, 1832, 122.

used at least twice: in a Kalophonic *Heirmos* by Berekētis²⁷, and by the great 17th-century composer, Balasios the priest and Nomophylax, though over a secular work in Persian lyrics (which he described as *erotic acem*)²⁸.

Chrysanthos might have not been aware of (or did not wish to disclose) another external influence on Hallaçoğlu's work, recently discovered²⁹: a *kratema*, that is, a nonsense-syllable work in a fast tempo, usually attached to sacred works of the same mode to prolong them³⁰. In the manuscripts, this *kratema* is attached to another Kalophonic work on the feast of Pentecost by the aforementioned Balasios ('*Μη της φθοράς...*'), but in the printed collection of Kalophonic *Heirmoi* by Gregorios Protopsaltes, one of the inventors of the New Method, it has been displaced at the end (along with other *kratemata*)³¹. Hallaçoğlu's *kratema* is almost identical with an instrumental work in makam *Eviç* by the Ottoman composer, Dervish Ömer (1545-1630) that was recorded in the first grand collection of Ottoman works by the Polish convert, Albert Bobowski alias Ali Ufki (c.1650)³². The same composition was later included by the Romanian Prince, Dimitrie Cantemir in his *Collection of Notations* (c.1700), containing hundreds of instrumental works by Ottoman composers³³.

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However, Hallaçoğlu's exploitation of Ottoman music was not limited to composition but extended to theorizing, with special emphasis on the sales and modes. Some years after his nomination as *protopsaltes* of

²⁷ This is the work 'Εν τη βροντώση καμίνω...', also included in Gregorios, *Ειρμολόγιον καλοφωνικόν*, 39-41. See also the historic interpretation by the late patriarchal precentor, Thrasyboulos Stanitsas (1910-1987), in *Mnimia, Μνημεία Εκκλησιαστικής Μουσικής, Καλοφωνικοί Ειρμολογίες*, CD2, ed. Manolis Hadjiyakoumes (Athens: Κέντρο Ερευνών και Εκδόσεων, 2007), track 2.

²⁸ See Gregorios Stathis, *Μπαλάσης ιερέυς και νομοφύλαξ (β' ήμισυ του 17' αι.) - η ζωή και το έργο του, Βυζαντινοί και Μεταβυζαντινοί Μελοουργοί*, LP Leaflet Notes (Athens: Institute of Byzantine Musicology, 101, 1988).

²⁹ See John Plemmenos, *Το μουσικό πορτρέτο του Νεοελληνικού Διαφωτισμού* (Athens: Ψηφίδα (Αρμός), 2003), 11-14, 251-2.

³⁰ See Gregoris Anastasiou, *Τά κρατήματα στην Ψαλτική Τέχνη*, *Meletai* 12 (Athens: Institute of Byzantine Musicology, 2005), 329-330, 402.

³¹ Gregorios, *Ειρμολόγιον καλοφωνικόν*, 232-237.

³² Dervish Ömer was the teacher of the famous Turkish traveller and writer, Evliya Çelebi (1611-1682), and a court musician of Sultan Murad IV (1623-1640).

³³ Owen Wright, *Demetrius Cantemir: The Collection of Notations. Volume 1: Text* (London: School of Oriental and African Studies, 1992), 9-10.

the Patriarchate, he wrote a concise treatise comparing the ecclesiastical with the Ottoman music (archaically called 'Persian'), which he addresses to his fellow cantors (1724)³⁴. He also states that he has relied on Cantemir's musical treatise, the first systematic work on Ottoman music theory by a Christian author that was held in great esteem by the Ottomans themselves³⁵. (It should be noted here that some of Cantemir's notations are ascribed to 'Acemler', the Ottoman word for Persian) Hallaçoğlu discusses the Ottoman scale on the *tambur* (the Ottoman long-necked lute), along with the numerous *makams*, and *usuls* or rhythmic units of Ottoman music (though his account of the latter is brief enough). To offer a token of his intention, Hallaçoğlu opens his treatise with the image of the bees that reside on various flowers to collect what is useful for them.

Ottoman Scale	Byzantine Scale
<i>yegâh</i>	<i>Aneanes</i> (G)
<i>aşiran</i>	<i>Neheanes</i> (A)
<i>irak</i>	<i>Aanes</i> (B)
<i>rast</i>	<i>Neagie</i> (C)
<i>dügâh</i>	<i>Ananes</i> (D)
<i>segâh</i>	<i>Neanes</i> (E)
<i>çârgâh</i>	<i>Nana</i> (F)
<i>neva</i>	<i>Hagia</i> (g)
<i>hüseyni</i>	<i>Neheanes</i> (a)
<i>eviç</i>	<i>Aanes</i> (b)
<i>gerdaniye</i>	<i>Neagie</i> (c)
<i>muhayyer</i>	<i>Ananes</i> (d)
<i>tiz segâh</i>	<i>Neanes</i> (e)
<i>tiz çârgâh</i>	<i>Nana</i> (f)
<i>tiz neva</i>	<i>Hagia</i> (g')
<i>tiz hüseyni</i>	

This image was first used by the great Greek orator, Isocrates (4th century BC), in his oration *To Demonicus* (1, 52), whom he advises to be open to new ideas³⁶. A similar albeit more cautious image was later employed by St Basil the Great (4th century AD) in his famous *Address to the young men on the right use of*

³⁴ Hallaçoğlu's treatise is found in MS. 968, Iberon Monastery, Mount Athos, 731-740 (1724). It was published in Iakovos Naupliotes, 'Σύγκρισις της αραβοπερσικής μουσικής προς την ημετέραν εκκλησιαστικήν υπό Παναγιώτου Χαλάτζογλου', *Παράρτημα Ἐκκλησιαστικῆς Ἀληθείας* 2 (1900), 68-75. It has been translated and commented in E. Popescu-Judet, and A. Ababi Sirli, *Sources of 18th Century Music: Panayiotis Chalatzoglou and Kyrillos Marmarinos' Comparative Treatises on Secular Music* (Istanbul: Pan, 2000).

³⁵ Cantemir's work was published in Kantemiroğlu, *Kitâbu 'İlmi'l-Mûsiki alâ Vechi'l-Hurûfât, Mûsikiyi Harflerle Tesbit ve İcrâ İlminin Kitabı*, ed. Yalçın Tura (Istanbul: Yapı Kredi Yayınları, 2001). On Cantemir, see Eugenia Popescu-Judet, *Prince Dimitrie Cantemir, Theorist and Composer of Turkish Music* (Istanbul: Pan, 1999).

³⁶ 'For just as we see the bee settling on all the flowers, and sipping the best from each, so also those who aspire to culture ought not to leave anything untasted, but should gather useful knowledge from every source'. Isocrates, *Isocrates with an English Translation in three volumes*, ed. George Norlin (Cambridge, MA: Harvard University Press; London: William Heinemann, 1980).

*Greek Literature*³⁷. So by invoking this image, Hallaçoğlu may have wished to convince his readers for his critical approach to an alien albeit familiar tradition, that being the Ottoman music. Isocrates was also invoked by Chrysanthos, in the front page of his *Introduction*, by way of another of his orations (*To Evagoras*, 9, 7), where he praises the spirit of change: ‘we are aware that progress is made, not only in the arts, but in all other activities, not through the agency of those that are satisfied with things as they are, but through those who correct, and have the courage constantly to change, anything which is not as it should be’³⁸. Here it is evident that Chrysanthos employs the ancient orator to justify his own novelties in music; yet this is not the whole story.

What matters here is that Hallaçoğlu’s novelties would eventually influence Chrysanthos, some hundreds years later. So far, Hallaçoğlu’s reception has been limited to detecting oriental influences, especially in the aforementioned Kalophonic *heirmos*³⁹. Yet his treatise on Ottoman music offers a tangible evidence of his syncretic spirit between the Byzantine modes and the Ottoman *makams*. While discussing the *perdes* or degrees of the Ottoman scale on the *tambur*, the most popular instrument of musical instruction at the time, he places the first authentic on the degree *dügâh* (D), the second authentic on *segâh* (E), the third authentic on *çârgâh* (F), and the fourth authentic on *neva* (g). To my knowledge, this is the first time, in post-Byzantine manuals, that these modes are placed on these tonalities. In practice, though, that had already happened a bit earlier, in Bereketis’ opus magnum, ‘Oh Theotokos and Virgin’ (*Θεοτόκε Παρθένε*), a melismatic work exploring the eight modes.

To make up, in a sense, for his tonic deviations, Hallaçoğlu tries to keep intact the old relation of authentic and plagal modes, i.e. the interval of a fifth. Thus, of the plagal modes, he places the first on *yegâh* (G), the last degree on the *tambur* (an open chord), the second plagal on *aşîrân* (A), the third plagal or Barys on *ırak* (B), and the fourth plagal on *rast* (C). However, the Ottoman scale contained twelve basic degrees, staging the twelve principal *makams* respectively, as for example makam *Dügâh*, based on the degree *dügâh*. To solve the problem, Hallaçoğlu decided to accommodate the Byzantine modes by using the notion of *heptaphony* or high register. He then made the degree *hüseyni* (a) hosting the higher second plagal, the degree *eviç* (b) the higher third plagal or Barys, the degree *gerdâniye* (c) the fourth plagal, and the degree *muhayyer* (d’) the upper first authentic. Hallaçoğlu seems to have reached his limit at the final four upper degrees of the Ottoman scale, called *tiz-perdes*, which he vaguely makes correspond to the Byzantine “heptaphonies of the ascending modes”.

Could he have done otherwise? Probably. He could have placed the four plagal modes where he has them now, and moved the authentic above them (from a down to D). But then he might have to speak of “a plagal of the plagal” for the lower degrees, a notion, nevertheless, implied (albeit not spoken out) in his example of the first plagal cadence in the aforementioned *sticheron*. On the other hand, he is still at a loss before the upper degrees of the Ottoman scale. Regardless of his intention, the outcome of Hallaçoğlu’s comparison seems to be not just a better understanding of the ‘other’ music but a blending of the two musics, hidden behind the verb ‘identified’ (*εξομοιούνται*) he repetitively employs over his correspondences between each mode and *makam*. To prevent any possible objections, Hallaçoğlu has cleverly invested on Cantemir’s Christian identity to justify his experimentations, and possibly to pacify his fellow cantors (to whom he addresses his tract). As will be seen, that was an initial stage of the gradual deconstruction of Byzantine modal theory.

The next stage should be considered the production of another treatise on the same topic, a quarter of a century later, by Hallaçoğlu’s pupil, Kyrillos Marmarinos, Archbishop of Tenos, on the Greek archipelago. Marmarinos’ identity as clergyman should not be underestimated in this context, for here we have a member of the official Church becoming engaged with an Islamic, that is, non-Christian music. Moreover, Marmarinos’

³⁷ ‘Now, then, altogether after the manner of bees must we use these writings, for the bees do not visit all the flowers without discrimination, nor indeed do they seek to carry away entire those upon which they light, but rather, having taken so much as is adapted to their needs, they let the rest go’. Frederick Morgan Padelford, ‘Essays on the Study and Use of Poetry by Plutarch and Basil the Great’, *Yale Studies in English* 15 (1902), 99-120 (105).

³⁸ Isocrates, *Isocrates with an English Translation in three volumes*, ed. George Norlin (Cambridge, MA: Harvard University Press; London: William Heinemann, 1980).

³⁹ See, for example, Fr. Romanos Karanos, ‘The Kalophonic Heirmos (16th-21st Centuries): A Musical Genre’s Transformation’, in *Hellenic Open University. Scientific Review of Post-Graduate Program ‘Studies in Orthodox Theology’*, 3 (Patra: Hellenic Open University Editions, 2012), 181-198 (188).

work is a 'teaching' (*didaskalia*), a generic term reserved for theological or spiritual works addressing the faithful⁴⁰. Although he does not name his addressees (as Hallaçoğlu does), we may reasonably assume that he also targeted the Greek Orthodox cantors and music-loving clerics. Marmarinos' treatise is also mentioned by Chrysanthos⁴¹, over an alphabetical list of the best-known musicians of the Orthodox Church⁴². The same work was later popularized (though unacknowledged) in the reformed notation by the Patriarchal precentor, Konstantinos Byzantios, in his *Interpretation of the Outward Music* (1843)⁴³.

To this author, Marmarinos' work has not been properly understood for the development of the post-Byzantine modal theory, before its crystallization in the New Method. Although he seems to be following in Hallaçoğlu's footsteps, Marmarinos has modified his teacher's reading of the Ottoman modes vis-à-vis their Byzantine counterparts. This he does, by using the special signatures (*martyriai*) of each mode, limiting however his comparison to the twelve principal degrees on the Ottoman gamut, from *yegâh* (lower G) to *muhayyer* (upper d). Thus, he places the four (diatonic) plagal modes on their "natural" position (from D to g), while ascribing to the degree *hüseyni* (a) the first *tetraphone*, another name for the first authentic. Next, he makes the degree *segâh* (E) correspond to Leghetos (a sub-mode of the fourth authentic), *çârgâh* (F) to the third authentic, and *neva* (g) to the fourth authentic (*Hagia*). Marmarinos then uses the signatures of heptaphony (i.e. the upper octave) to describe the remaining modes which he places as follows: Barys heptaphone on the degree *evîç* (b), the fourth heptaphone on *gerdâniye* (c), and the first heptaphone on *muhayyer* (d).

Marmarinos also offers an insight into the position of the chromatic modes on the scale, such as the second plagal, which he equates to makam *Hicâz*. This happens in the second part of his treatise, where he provides musical examples (in Byzantine notation) showing the melodic movement (*seyir*) of each *makam* according to the Ottoman theory of the time. Melodic movement was a crucial aspect of the *makams'* identity, and had been given special attention half a century earlier, in Cantemir's musical treatise (c.1700)⁴⁴. *Hicâz* is said to commence from the perde *neva* (g), and descending through the perdes *uzzal* (f#), *segâh* (E) and *dügâh* (D), pause on *rast* (C); then, ascending from *dügâh* (D), *segâh* (E), *uzzal* (F#), and *neva* (g), returns through *uzzal* (F#) and *segâh* (E) to *dügâh* (D). If then Marmarinos makes both the second and first plagal use the same *perde* (*dügâh*) as their tonic, we may surmise that, at that time, both Byzantine modes shared the same tonic, in deviation of the Byzantine tradition, where the second plagal was based a note higher (on E).

In the same section, Marmarinos gives an interesting musical example of makam *Dügâh's* cadence a fifth lower, which it reaches by commencing from the perde *dügâh* (D), and passing successively through *rast* (C), *irak* (B), *aşîrân* (A), and *yegâh* (lower G); then ascending again to *segâh* (E) and *çârgâh* (F), it rests on *dügâh* (D). This melodic movement recalls a similar example featured by Chrysanthos in his account of the first authentic to support the mode's identity despite being based on the tonic of the scale (D). Contrary to Chrysanthos' assertion, however, that this cadence belongs to the first plagal, Marmarinos treats the same descend as an integral part of the *makam's* overall movement. Beyond the first mode, we get interesting information of Leghetos, a counterpart of makam *Segâh* (E), which was vaguely allotted to the second authentic by Hallaçoğlu; Marmarinos is more enlightening on the diatonic nature of the mode by offering the signature of Leghetos.

⁴⁰ See, for example, Sevastos Kymenites, *Δογματική διδασκαλία της αγιωτάτης ανατολικής και καθολικής Εκκλησίας, συντεθείσα παρά του σοφωτάτου διδασκάλου, κυρίου Σεβαστού Τραπεζουντίου του Κυμηνίτου, αφερωθείσα δε τω μακαριωτάτω και σοφωτάτω Δεσπότη, κυρίω Δοσιθέω, πατριάρχη της αγίας πόλεως Ιερουσαλήμ, και πάσης Παλαιστίνης* (Bucharest: Παρά Ανθίμου Ιερομονάχου του εξ Ιβηρίας, 1703).

⁴¹ Chrysanthos, 1832, XXXVIII.

⁴² Achilleas Chaldaeakes, 'Πρός μὰ νέα Ἱστορία τῆς Βυζαντινῆς Μουσικῆς: Ὁ "κατάλογος τῶν ὅσοι κατὰ διαφόρους καιροὺς ἤκμασαν ἐπὶ τῇ μουσικῇ ταύτῃ, κατὰ ἀλφάβητον"', in *Επιστημονική Ἐπετηρίδα Ἀνωτάτης Ἐκκλησιαστικῆς Ἀκαδημίας Ἡρακλείου Κρήτης* 2 (2012), 565-594.

⁴³ The original manuscript is kept in Historical and Ethnological Society 305 (1749). It was first published, as an appendix, in: Georgios Alygizakis, 'Ἐκκλησιαστικοὶ ἦχοι και αραβοπερσικά μακάμια', *Γρηγόριος ο Παλαμάς*, Biannual Theological and Ecclesiastical Periodical, 732 (March-April 1990), 163-225. It has been translated and commented in, E. Popescu-Judetza and A. Ababi Sirli, *Sources of 18th Century Music*, 2000.

⁴⁴ Walter Feldman, *Music of the Ottoman Court. Makam, Composition and the Early Ottoman Instrumental Repertoire*, Intercultural Music Studies 10 (Berlin: VWB-Verlag für Wissenschaft und Bildung, 1996), 255-273.

3. Chrysanthos Revisited

It has been recently proposed that the lowering of the first authentic from its original abode (a) to the tonic of the scale (D), found in the *Sticherarion* of the second half of the 18th century, should be ascribed to an influence from the *Heirmologion*, where this development was already under way in the 17th century⁴⁵. Yet, this was not the case in the Byzantine period, where the authentic-plagal correspondence was respected in heirmologic chants, as attested in contemporary manuscript collections⁴⁶. Besides, Chrysanthos notes that ‘the first authentic has the note Ke [a] for the *Sticherarion*, and for the *Papadike* the note pa [D]’⁴⁷. The melodic transposition of the first authentic, as a permanent feature, is first detected in the works of the patriarchal precentor, Daniel (+1789). Indeed, in his recently published *Anastasimatarion*, the first authentic is based on D, in sharp contrast to its little-older counterpart by Kyriakos Koulidas (also included in the publication) based on a⁴⁸. Daniel’s work is known to be a forerunner of the *Anastasimatarion* by Petros Peloponnesios, Daniel’s *Lampadarios* at the patriarchate, where all subsequent collections are based.

Interestingly enough, Daniel is recorded by Chrysanthos to have been chanting occasionally with Kyrillos Marmarinos at the Patriarchate in the Phanar⁴⁹. That could most possibly have happened during Daniel’s service as *Lampadarios* (1740-1770), for Marmarinos was not alive thereafter⁵⁰. So, Marmarinos seems to have been the missing link between the expiring Byzantine tradition (personified in Koulidas) and the emerging new trend (initiated by Daniel) that affected various melodic aspects including the modes. At the same time, Marmarinos’ treatise and his broader musical activity is an important evidence of Ottoman influence on the *Sticherarion* (instead of *Heirmologion*) in the second half of the 18th century. One may also suppose that even the *Heirmologion*’s earlier break with the Byzantine tradition (regarding the modes) may be another sign of Ottoman influence (yet, this is not our concern here). It is then on Daniel’s precedence (coupled, of course, with Petros Peloponnesios) that Chrysanthos adapted his own modal theory.

Thus, it is with reference to the position of the Ottoman makams on the *tambur* that Chrysanthos’ modal succession can make any sense at all. First is the issue of the three modes, First authentic, First plagal and Second plagal, all placed by Chrysanthos on D. Yet, this happens with their three equivalent *makams*, *Dügâh*, *Hüseyni* and *Hicazkâr*, also based on the degree *dügâh* (D). Next, we come to Leghetos (a branch of Fourth authentic), based on E, a mode corresponding to makam *Segâh*, also based on the degree *segâh* (E). Another issue concerns a couple of ‘disparate’ modes, that is, the (diatonic) Fourth authentic and the (chromatic) Second authentic, sharing the same tonic (g); but then this occurs with the equivalent makams *Neva* and *Hüzzam*, also based on *neva* (g)⁵¹. Then comes the question of the two branches of Barys, one diatonic and one enharmonic, based on B and B flat, respectively; a matter resolved by their two corresponding *makams*, *Eviç* and *Acem*, earning their names from their upper degrees of their namesake, *acem* (b flat) and *eviç* (b), but based on *acem aşiran* (B flat) and *ırak* (B), respectively. Finally, three remaining modes, Fourth plagal, Third authentic, and Fourth authentic, based on the notes G, F and g, respectively, have their Ottoman equivalent on makams *Rast*, *Çârgâh*, and *Neva*, based respectively on the degrees *rast* (C), *çârgâh* (F), and *neva* (g).

Even the issue of transposition of the First authentic (two or three notes higher), as Chrysanthos suggested, finds its counterpart in Ottoman music, as attested by the melodic ‘behaviour’ of makam *Dügâh*, a

⁴⁵ Kyriakos Tzouramanis, “Επιδράσεις του ειρμολογικού μέλους του 17ου αιώνα, στο νέο στιχηρικό είδος μελοποιίας του 18ου αιώνα, μέσα από την έρευνα των ψαλτικών θέσεων”, *Proceedings of the International Musicological and Psaltic Conference*, “...chanting consciously in praise to Thee...”. *Prerequisites and Skills for Sacred Chanting in Orthodox Worship*, 30/5-2/6/2018, eds. K. Karagounis and K. Drygianakis (Volos: Theological Academy of Volos, Department of Musicology and Psaltic Art, 2020), 519-532.

⁴⁶ See, for example, the musical transcriptions on the stave in Egon Wellesz, *Byzantine Music and Hymnography*, 2nd edn (Oxford: At the Clarendon Press, 1980), 371-384.

⁴⁷ Chrysanthos, 1832, 142.

⁴⁸ Daniel-Koulidas, *Αναστασιματάριον Δανιήλ Πρωτοψάλτου – Αναστασιματάριον Κυριάκου Κουλιδά. Μεταγραφή στη σημειογραφία της νέας μεθόδου*, ed. Kyriakos Tzouramanis (Athens: n.p., 2020). Both works are kept in monastic libraries on Mount Athos: Koulidas’ *Anastasimatarion* is found in MS. Panteleimonos 946, and Daniel’s one in MS. Xeropotamou 374.

⁴⁹ Chrysanthos, 1832, XXXVIII.

⁵⁰ Achilleas Chaldaeakes, ‘Κύριλλος ὁ Μαρμαρινός, μητρ. Τήνου’, in *Μεγάλη Ὁρθόδοξη Χριστιανική Ἐγκυκλοπαιδεία* 10 (2013), 437-9.

⁵¹ Although some later Greek theorists consider *Hüzzam* as being based on *segâh* (E), as the chromatic analogue of makam *Segâh*, Marmarinos, in his treatise, has it on *neva* (g).

phenomenon that has even reached modern-Turkish musical practice⁵². We thus have ten Chrysanthine modes and sub-modes (First authentic and plagal, Second authentic and plagal, Fourth authentic and plagal, Leghetos, Third authentic, and the two branches of Barys, diatonic and enharmonic), constructed according to their equivalent Ottoman *makams*. Other sub-modes mentioned by Chrysanthos (and used in reformed repertoire), such as *Nenano* (chromatic Fourth authentic), can be located in Ottoman modal theory, which equates it with makam *Hicaz*, also having a scale of a lower chromatic tetrachord (D-g) and an upper diatonic pentachord (g-d). The only mode seemingly absent from the above account is the Third plagal on Ga (F), which is nevertheless created by the transposition of enharmonic Barys (on B flat), according to Chrysanthos' own testimony.

We can also attempt to penetrate Chrysanthos' solmization syllables (*phthongoi*) on the scale, which are considered as having been modeled after the first seven letters of the Greek alphabet: πΑ (pa), Βου (bou), Γα (ga), Δι (di), κΕ (ke), Ζω (zo), νΗ (ni). Although there is no reason to deny the alphabet relation, we can also note some curious similarities of his nomenclature to Ottoman musical terminology that point to a possible additional influence. The following account has included those *makams* that are based on the degree of the Chrysanthine gamut. It should be stressed that Ottoman *makams* take their names either from their tonic or from their most characteristic degree (on a flat or sharp). All of the *makams* referred to here are also mentioned in Marmarinos' treatise (to which reference will be made when necessary) and belong to the basic modal entities of Ottoman music. They also appear in Chrysanthos' treatise, where they explicate his *chroae* or shades, a term referring to numerous alternative scales made up of all possible combinations of accidentals⁵³.

For the note *Ni* (C), corresponding to the degree *rast* (G), we may track a number of *makams* on the same pitch, having this syllable, such as *Nihâvend*, *Nigriz*, and *Nişaburek*. On the note *Pa* (D), we get the Ottoman equivalents of *Paysan Kürdi* and *Baba Tahir*, with finalis on *dügâh* (D), as well as *Pencgâh*, based on *rast* (C) but with cadences on *dügâh* (D). For the note *Bou* (E), the most obvious match is makam *Bûselik*, constructed from the degree *bûselik* lying between *dügâh* (D) and *segâh* (E)⁵⁴. The note *Ga* (F) sounds like *çârgâh*, a common name both for the makam and the degree. The note *Di* (g) bears acoustic resemblance with makam *Dügâh* (D), moving within the tetrachord D-g, as well as *Beyati*, named after *beyati* (g#) lying between *neva* (g) and *hüseyni* (a). The note *Ke* (a) recalls makam *Gerdaniye*, named after the degree *gerdaniye* (c) but with finalis on *dügâh* (D), as well as the popular ayak *Kerem*, used in Turkish folk music that is similar to makam *Hüseyni*. The note *Zo* (b) is predominated by the letter z, also 'hidden' in the related makam *Acem* (pronounced *adjem* or *adzem* both in Turkish and Greek), coming from the Arabic *ajam*, as well as the associated degree *acem* (b flat) lying between *hüseyni* (a) and *eviç* (b).

To the above, we should add the acoustic similarities between the adjective Chromatic (*χρωματικό*, in Greek) used by Chrysanthos, according to the ancient Greek theory, and the 'chromatic' *makams* of Ottoman music, commencing with the letter h (*χ*), such as *Hicaz*, *Humayun*, *Hicazkar*, *Hisar*, etc. By 'chromatic' *makams*, we mean those consisting of (or including) semitones and the augmented seconds. Although we do not wish to press further this point, we cannot, on the other hand, ignore these similarities. So, this empirical aspect of Chrysanthos' onomatology brings to the end the re-interpretation of his overall modal theory that was made possible through its 'fertilization' with the Ottoman *makam* system. To be fair, Ottoman music is not the only 'external' influence on the Greek theorist (others have detected, for example, western European elements)⁵⁵, yet it is one of the crucial factors that helped him shape his new theory. It can also be considered an expected development, if placed in the historical and cultural context of the author's activity.

⁵² See Karl L. Signell, *Makam: Modal Practice in Turkish Art Music* (Seattle: Asian Music Publications, 1977), pp. 134-137.

⁵³ Chrysanthos, 1832, 119-122.

⁵⁴ *Bûselik* used to be a popular mode in Ottoman music, for it is the equivalent of the European D minor, hence its appearance in combination with other *makams*, such as *Bûselik aşiran*, *Hisar bûselik*, *Şehnaz bûselik*.

⁵⁵ Charis Xanthoudakis, "Το Μέγα Θεωρητικόν του Χρυσάνθου και οι γαλλικές πηγές του", *The Gleaner*, 26 (2008), 141-174.

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