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CHROMATICISM – A THEORETICAL CONSTRUCTION OR A PRACTICAL TRANSFORMATION?

Abstract: Chromaticism is a phenomenon which is shared by different musical cultures. In the Balkans it is evident both in ecclesiastical and traditional music. In antiquity it was attested by ancient Greek writers and was described in theory. It is also apparent in different forms in ancient Greek musical fragments. Nevertheless it is disputed whether it represents a theoretical form (genus) or reflects a musical practice and its formation. Apart from any theoretical analysis of ancient Greek testimony, ethnomusicology can contribute to an explanation by classification and interpretation of various forms in which chromaticism is found in the Balkans. In Northwestern Greece many different forms can offer us various melodic paths that, if followed by vocal or instrumental musical practice, result in special chromatic melodic movements. Such movements reveal the genesis of tense chromatic and actually reveal some implications about the differences between the two chromatic shades (tense and soft) in traditional and ecclesiastical music.

Keywords: chromatic, hemitonic pentatonic, anhemitonic pentatonic, the Balkans, Nikriz.

Introduction

In Northwestern Greece a chromatic element is found in traditional melodies. These melodies, using purely pentatonic tunings, present an alteration of a tone on top of the tetrachord. This chromatic element is usually not presented as a clear chromaticism. It is considered to be a practice which colors the melodies. In this system found in Northwestern Greece the chromatic element is attested in many ways as a flexible practice which becomes stabilized and concludes a musical structure. As it presents some interesting aspects regarding theory and practice it is therefore reconsidered whether chromaticism¹ as presented in theory and practice, is

¹ Chromaticism is used with different meanings. In western music it refers to a chromatic scale progressing in semitones. In other cultural contexts it appears as specific alterations of some tones in certain musical scales. These two different concepts of chromaticism are based on the same notion: the alteration of the basic tones in order to produce a coloured effect. In such a context chromaticism no matter whether it concerns semitone scales or chromatic elements or alterations is approached in musicological works as a unified phenomenon. Vladimir Barsky for example examines chromaticism as a developing phenomenon comprising many different historical types starting from antiquity, Byzantium, the Middle Ages, and the Renaissance, up to the 20th century. Cf. V. Barsky, *Chromaticism*, Netherlands 1996. In this paper we deal with chromaticism as different forms of chromatic elements, alterations, and attractions (*elkseis*), a Byzantine term used in Byzantine theory to define special alterations of the tones of the melodies because of the predominant function and central position of pivot

a theoretical construction. This construction may reappear in different periods of time or it might be an indigenous phenomenon, which is found in musical practice and theory in antiquity, and Byzantium and as a musical practice in contemporary music, thus forming a continuity² based on cultural reformation (meaning that special musical phenomena found in practice become structural musical phenomena and later are expressed in

tones. V. K. Psachos, *The eight note system of Byzantine music both ecclesiastical and public and its harmonic sound*, Neapoli Crete 1980, 77–81. These attractions which follow the direction of the melody and respect its pivotal tones, become structural elements and if more emphasis is put on them in melismatic contexts they become permanent tones of the system. In such a context we use these terms (chromaticism, chromatic elements, or chromatics) with a similar meaning, referring to chromaticism as a general phenomenon and to chromatics or chromatic elements as special colourings of the melodies caused by alterations or attractions of the tones.

² Though the “concept of continuity” and the dilemma introduced to Greek folklore (music and dance) studies was criticized by other Europeans. V. L. Danforth, “The Ideological context of the Search for Continuities in Greek Culture”, *Journal of Modern Greek Studies* (1984), 53–85, the fact that this dilemma was introduced to Greece and the Balkans from Europe was ignored (V. A. Kyriakidou–Nestoros, *The Theory of Greek Folklore Studies: A Critical Analysis*, General Education Library, vol. 6, Society for the Study of Modern Greek Culture and General Education, Moraitis School Foundation, 1978, 24–25). However continuity is a normal process. V. part of the self–identity of all ethnic groups and it is a serious anthropological error to dispute it when it comes to certain population groups, as this issue may well be a major concern in contemporary research. As Braudel puts it: “Civilizations are continuities” (F. Braudel, *Grammaire des civilisations*, Flammarion, ed. Champ, Paris 1993 / *Grammar of Civilizations*, Greek Edition, Athens 2009, 79). In the musical context continuity was criticized and disputed as well. V. R. Pennanen, “Lost in scales: Balkan Folk Music Research and the Ottoman Legacy”, *Музикологија* 8 (2008), 127–147, 135–136, 139–140. Having looked at Pennanen’s critical paper, we can focus on three main reasons to doubt the continuity: a) A direct reference to ancient Greek past without proper justification (*op. cit.*, 135) b) A treatment of and reference to the ancient Greek musical scales (or rather octave species) as sequences of tones without any other additional information or analysis in accordance with the relevant musical context or other information found in ancient sources (*op. cit.*, 136, 139, 140, 145) c) Consequently these octave species are deprived of any musical function and are regarded as “technical elements” found in certain musical pieces. For such “technical elements” to coincide with other music, it is necessary to find equivalents. So the supposed corresponding music is deprived of their musical function as well (*op. cit.*, 136–137). Such analysis, claiming continuity while depriving music of its actual musical characteristics based on practice, is far from being the central concept of the approach presented in this paper. On the contrary, this paper starts from analysis based on field research and musical practice which is described theoretically thus revealing a new musical system. Ancient sources are also approached as a unity where theoretical forms are analyzed in the light of additional information provided by the ancient writers and are critically estimated in accordance with the musical fragments as whether they are comprised of theoretical forms or stem from musical practice. Research on Byzantine ecclesiastical music reveals an intermediate concept of creation and standardization of these phenomena. Even the corresponding maqam in its folk or intellectual functions is considered to be a melody with similar or dissimilar functions and not a musical scale.

theoretical words). For this kind of analysis I combined two different methods: first a detailed examination of multiple variant practices in an extended but very specific area in Western Greece and Southern Albania. Detailed research reveals that in terms of localities it is possible to have complicated pentatonic melodies keeping their basic structure but changing their character so as to be elaborate differently because of outside influences or other evolutionary processes which in some cases are due to some social reasons, usually the opening of local societies to urban influences and the melismatic elaboration of ritual melodies, and in other cases they represent a permanent alteration of old musical structures and their elaborate transformation. When this micro-research is combined with a synthesis of its historical time and is defined in its musical context in the wider geographical area, then it is possible to offer interpretations and possible reasons for the genesis of the phenomenon of chromaticism in the Balkans but also in Oriental countries.

The musical background in modern Greece

In 1998 it was attested for the first time that in the pentatonic system of North-western Greece, apart from anhemitonic pentatonic scales, there existed hemitonic pentatonism as well.³ This conclusion was followed by the classification of micro-scales found in this area. Musical examples were classified in two main categories: the anhemitonic pentatonic and the hemitonic pentatonic or as I named them (presenting a special “sliding” practice thus dividing in practice the semitone) “enharmonic tonal groups”.⁴

³ A. Katsanevaki, *Vlach-speaking and Greek-speaking Songs of the Northern Pindus Area. A Historical-Ethnomusicological Approach. Their Archaism and their Relationship with the Historical Background*, unpublished Ph.D. Dissertation, Aristotele University of Thessalonica, Musical Studies Department, School of Fine Arts, Thessalonica, in Greek, Part I, 113–117, Part II, 379–380, 650; v. also A. Katsanevaki, “Archaic elements in the vocal musical tradition of the mountain populations of Northern Greece”, *Музикологија* 5 (2005), 207–244.

⁴ Sachs refers dismissively to the phenomenon of *portamento* regarding the performance of the quarter tones, referring to Ptolemy’s statement that “Sliding tones are enemies of melody”. Cf. C. Sachs, *The Rise of Music in the Ancient World, East and West*, New York 1943, 207. Nonetheless it is not acceptable to comment on the words of Ptolemy without taking into consideration the musical context of late antiquity when, as Pseudoplutarch puts it (protesting against the habit of his contemporary musicians), “these musicians always soften the *lichanous* and *paranetes*. And they also soften some of the immovable (*estotes*) tones” (Plutarch, *On Music*, 1145 C – D, 444). In trichordal music with *portamenti* or slides performed on a specific part of the micro-scales participating in the main musical structure, this statement is not valid. Furthermore, it has been adequately demonstrated that the quarter tones can be performed on the aulos only by a half stopping of the whole (S. Hagel, “Reversing the Abstraction of Ancient Music Theory. The Case of the Genera”, *Studien zur Musik-archäologie*

Apart from these two categories, there was another one which I named “mixed tonal groups”.⁵ This category included those tonal groups (micro-scales) which combined both anhemitonic and hemitonic tunings. Among all these musical examples there were many variations which presented attractions of the main tones, thus resulting in some deviations from the main type of micro-scale creating new micro-scales when these mobile tones (attractions) were in any way standardized. It was therefore important to classify the phenomenon of these attractions and also define their special interaction among the main scales and the scales produced by it, trying to define which movements of the melodies were supposed to be responsible for the genesis of these attractions. Furthermore, these attractions gradually seemed to color the melodies so as to produce chromatic tetrachords without disturbing the initial structure of the anhemitonic or hemitonic pentatonic tunings which actually kept their main functionality. It was apparent then that it is this functionality that gradually became responsible for the movements that created attractions and, subsequently, chromaticism.

The musical discourse

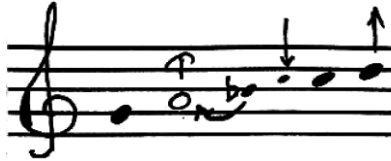
In many songs the anhemitonic tuning which I named “Dorian” just because of its relation to an octave starting and ending on the “Mi” tone and with a central tone “La” (which in antiquity was not just the mese of the “Dorian” octave but of the immutable system itself)⁶ showed some attraction, a rise of the fourth degree (“Re”) in such a way as to produce an augmented fourth (“La–Re↑”).⁷

6 *Orient – Archäologie* 22, 461–475, 472) or by a glissando performed by the aulos or the voice (*op. cit.*, 463).

⁵ A. Katsanevaki, *op. cit.*, Part I, 379–380.

⁶ The immutable system in ancient Greek theory can be described as a sequence of intervals that, based on the European system and terminology, is expressed by the sequence of the sounds found between “La” and “La²”, with its central octave being “Mi¹ – Mi²”. The Central tone of the immutable system is the tone “La”. It is called “immutable” because it includes both systems: *synemmenon* (conjunct) and *diazeygmenon* (disjunct). In any case, for the diatonic genus we should take into account that the matching of the tones’ names with the respective sounds in European music are as follows: *hypate* – “Mi¹”, *parhypate* – “Fa¹”, *lichanos* – “Sol¹”, *mese* – “La¹”, *paramese* – “Si¹”, *trite* (third) – “Do²”, *paranete* – “Re²”, *nete* – “Mi²”. For the tetrachord of conjuncts, the names of the sounds matched with the sounds of European music are *mese* – “La”, *trite synemmenon* (third of conjuncts) – “Si¹”, *paranete synemmenon* (of conjuncts) – “Do²”, *nete synemmenon* – “Re²”. Cf. Michailidis *Encyclopaedia of Ancient Greek music*, Educational Institute of the National Bank of Greece, Athens 1989, 300–301.

⁷ The two arrows ↓↑ describe flattening or sharpening (less than a semitone) of a main tone. “T” describes a central tone.

Example 1. A. Katsanevaki, Ph.D. Dissertation, ex. 91.

As I stated above, in many cases it is evident that this attraction of the fourth degree was combined with hemitonic pentatonic tunings, namely with this micro-scale which I named “Dorian enharmonic” for the following reasons: a) it followed the same pattern as the one presented in Pseudo-plutarch “On the Dorian tonos” (“Mi–Fa–La”), now performed on the upper tetrachord (“Si–Do–Mi”) and b) in the area of the semitone the voice performed a slide which divided the semitone more or less into two parts.

Example 2. A. Katsanevaki, Ph.D. Dissertation, ex. 46C.

In the example above we can find all the important presuppositions for a chromatic tetrachord in a contemporary sense, as there is a tendency towards hemitonism in the basis of the tetrachord (perfect fourth) and on top of it.⁸ Subsequently, in the case that the two types of pentatonic scales combine with each other, it is possible for a chromatic tetrachord to appear, presenting the characteristics of contemporary chromaticism as attested in folk and Byzantine music: an interval larger than the major tone in between two small intervals.

⁸ A. Katsanevaki, *op. cit.*, Part I, 205.

Example 3. A. Katsanevaki, Ph.D. Dissertation, ex. 97.

Before commenting on this type of tetrachord and its existence or non-existence in ancient Greece and in the Balkans, it is important to define our findings in accordance with Byzantine and folk music.

Samuel Baud-Bovy considered this chromaticism different from the Byzantine chromatic genus and the chromatic scales found in the islands of Greece. The reason was that (as attested by Ciobanu), there is a chromaticism common among the Gypsies which presents the augmented second not between the 2nd and 3rd degrees but between the 4th and 5th degrees, thus creating a chromatic pentachord and not a tetrachord.⁹ Ciobanu and Baud-Bovy reached this conclusion because they were misled by the use of subtonic “Sol” or “La” as a tonic.¹⁰ The use of two central tones which usually create a form of modulation is very frequent in the songs of Pindus and Western Greece and in this way a tetrachord can very easily become a pentachord when the melody alters its final stop. A probable reason is that, as these micro-scales present a combination of anhemitonic pentatonic tuning and an hemitonic pentatonic tuning inside an evolutionary process which focuses on different tones, it is probable that the need for the melody to stop on the tone “La” (in such a case the subtonic; see example 1) is due to the functional role that the interval “La–Do” plays in the context of the former anhemitonic structure of the melody, which betrays the anhemitonic past of the melody.¹¹ When the tone “Si” is performed as a stabilized tone which divides the large interval of the anhemitonic scale and produces the semitone below the latter in terms of a glissando, then the upper part of the micro-scale becomes a hemitonic pentatonic with an attraction on top of it.

⁹ S. Baud-Bovy Samuel, “Sur le chromatisme dans la musique Grecque”, *Musica e Liturgia Nella Cultura Mediterranea, Atti del Convegno internazionale di studi*, Firenze – Olschki 1988, 171–172.

¹⁰ A. Katsanevaki, *op. cit.*, Part I, 205–206.

¹¹ *Op. cit.* for further examples.

Thus from the anhemitonic pentatonic structure we come to a hemitonic pentatonic one. It is therefore not a mistake to say that this chromaticism has its origin in anhemitonic pentatonic scales.¹² Baud-Bovy (quoting Hoeg) attributed this chromatic structure (which he did not define as to be of hemitonic pentatonic or anhemitonic pentatonic origin), to a trichord (a tritone scale) performed by the Greek-speaking Sarakatsans in “Greece La-Do-Mi” or “La-Do-Re”.¹³ This micro-scale, however, is present in many areas and among many people in Epirus and Western Greece.¹⁴

The same trichord (as he attests), must be the basis of the lament scale for old people who have passed away, performed in Transylvania: “Mi-Do-La”, or “Re#-Do-La”. In the case of laments for young people, the large interval “La-Do” is divided by the intermediate tone “Si” (“Mi-Do-Si-La”). However he does not attest (since the songs do not have a clear trace of it) that this is anything more than a trace of a hemitonic pentatonic tuning. In other cases between the large interval “Mi-Do” a chromatic tone is added, to produce the chromatic pentachord “Mi-Re#-Do-Si-La”, which Ciobanu named “Gypsy second”.¹⁵

It is apparent that in both Western Greece and Transylvania the chromatic pentachord is based on anhemitonic pentatonic tunings and in the case of Greece its combination and co-evolution with hemitonic pentatonic tunings together with what I called “enharmonic slides” (in accordance with the ancient Greek nomenclature for similar phenomena) is obvious. In Transylvania this evolution of the system is presented in the laments but in its last stage. It is important that in Pindus and Epirus one can find all the necessary micro-scales which reveal possible processes in the system and the way in which such modulation in the context of the micro-scales can result in other micro-scales thus completing the system. It is obvious then that this chromaticism should not be attributed exclusively to the Gypsies, but has deep roots in the area of the Balkans and is especially extensive in the area of Western continental Greece.

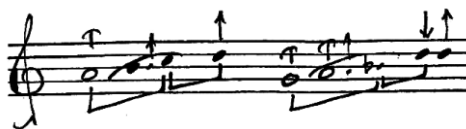
Because of its basis in the initial anhemitonic system “La-Do-Re↑”, as seen in examples 2 and 3, example 4 keeps these basic tones as central tones in the musical structure even if the melody extends in such a way as to lose its definite form.

¹² A. Katsanevaki, *op. cit.*, Part II, Conclusions.

¹³ S. Baud-Bovy, “Echelles anhemitoniques et échelles diatoniques dans la chanson populaire grecque, (a propos de chansons féminines de Thessalie)”, *Trikalina*, vol. II, Trikala 1982, 51.

¹⁴ A. Katsanevaki, *op. cit.*, Part I, 206–207.

¹⁵ S. Baud-Bovy, *Essay on the Greek demotic song*, Nauplia 1984, 39, footnote 36; A. Katsanevaki, *op. cit.*, Part I, 207.

Example 4.

Melismatic performance of these melodies in terms of their urbanization could not disturb this basic structure.

Example 5. “Forty five Sundays”, urban Song from Yannena; field recording: A. Katsanevaki in Metsovo, 8/6/1995, singer: Voula Dasoula, 61 years old.



Although this pentachord seems to bear some resemblance to the *maqam Nikriz*¹⁶ the structure of this *maqam* is slightly different. In the *maqam Nikriz* the tetrachord of the second plagal Byzantine mode as a musical structural form is more obvious and coincides with an extended range of the melody.¹⁷ The pentatonic past of the chromatic pentachord of Continental Greece (at the time) seems more obvious than in the more elaborated form of chromaticism in the corresponding *maqam*. To understand the system and the melodies and even the nature of these two musical phenomena, it is not sufficient simply to present the succession of their tones but to make an analysis of their functionality in their musical context as well.

¹⁶ Concerning this *maqam*, v. M. Mavroedis, *Οι Μουσικοί τρόποι στην Ανατολική Μεσόγειο – Ο Βυζαντινός ήχος – Το Αραβικό Μακάμ – Το Τουρκικό Μακάμ (The Musical Modes in Eastern Mediterranean Sea – The Byzantine Echoes – The Arabic Maqam – The Turkish Maqam)*, Athens 1999, 228–229.

¹⁷ P. G. Kilzanidis, 1991, *Μεθοδική Διδασκαλία προς εκμάθησιν και διάδοσιν του γνησίου εξωτερικού μέλους της καθ'ημάς Ελληνικής Μουσικής κατ'αντιπαράθεσιν προς την Αραβοπερσικήν*, Thessaloniki 1991² (1st ed. Constantinople 1881), 153 and the Chora Nikriz, CD in *Μουσικά Σταυροδρόμια στο Αιγαίο – Λέσβος 19^{ος}–20^{ος} αιώνας*, CD E, track 26. Also: Zeki Yilmaz, *Türk Müsiki Dersleri*, Çağlar Yayinlari, Istanbul 1994, 179–181; Simon Karas' reference in Karas Simon “Αρμονικά”, *Musicological Conference in Delfi*, October 28–30, 1988 (in Greek), 1989, 16–17.

Apart from the Northern Balkans, there are some other references to chromaticism in the areas around Northern Greece. Beyond Greek Macedonia, in the neighboring Northern Slav-speaking Macedonia and generally in the wider area of Skopje, the Slav-speaking local population sings chromatic melodies found in the rural songs of the area as well as instrumental music performed by bands the so-called *chalgiya*.¹⁸ It is therefore a question that tantalizes musicologists whether these chromatic melodies arise from Byzantine heritage or echo an even older tradition from antiquity, or whether they are simply a current Ottoman influence which followed that of Byzantium.¹⁹ However, it is obvious that the chromatic element found in these areas today is also found in ancient Greek music. This was corroborated by Curt Sachs.²⁰ “This theory has not been proved, but there are indicators which justify this assumption to a certain extent”.²¹ In the neighboring Slav-speaking northern Macedonia and in the wider area of Skopje generally, chromaticism which presents flexibility is divided into two types: a) melodies found in the local rite songs “within which the enlarged second chromatically alters into a large second or into a small second”, b) melodies where accidental chromatics appear, which are of a purely melodic character. Chromatics in the melodies of the first category could be an influence of these songs from church singing, or an even older tradition coming from antiquity.²² Chromatics in the melodies of the second category could be affected by instrumental Oriental music which was brought to the area during the Ottoman period.²³

Two basic conclusions can be drawn from the musical examples presented above: the first is that at least in the area of Western Greece (Western Macedonia and Southern Epirus) but also in northern Epirus in today’s Southern Albania (areas which can be defined as the main areas of pentatonic music), chromaticism was created by the alteration of one and not of two tones of the tetrachord. The other is that these chromatic tunings were not the core of the melodies from the beginning, but attractions of the tones due to movements which came into existence and became stabilized, thus participating later in the main core of it: in other words they were special modulations which became parts of the system, having in this way the potential to receive a special name. This modulation was not, however,

¹⁸ V. Stojkova-Serafimovska, “The enlarged second in the vocal musical tradition: Byzantine or Ottoman influence (The Macedonian Case)”, *Urban Music in the Balkan*, Tirana 2006, 120–124, 122, 123.

¹⁹ *Op. cit.*, 121.

²⁰ *Op. cit.*, 121 and footnote 2.

²¹ *Op. cit.*, 121.

²² *Op. cit.*, 124.

²³ *Ibid.*

due to the attraction of two but only of one tone. How could this have happened and why?

The contribution of hemitonic pentatonism to the creation of the so called “sharp chromatic”²⁴ and the genesis of the latter

As stated above, in the areas where both pentatonic tunings are found, it is possible to find an interaction of the two in one scale. In this way we can have a tone raised on the top by attraction while the melody moves upwards (in the anhemitonic tuning “La–Do–Re”) and we can have a tone attracted downwards when the melody moves down in the hemitonic pentatonic tuning (“Mi–Do–Si” or “Re–Sib–La”). When there are conditions to combine the two in one melody, then the scale “Mi–Re#–Do–Si–La” appears, keeping the basic central tones “La–Do–Re#”. Nonetheless it is possible to have the same attraction in a micro-scale which is not anhemitonic pentatonic, meaning that no movement has the tendency to go to the tone re but goes straight to the tone “Mi”. This is what happens in the following Greek song from the Grevena area:

Example 6. *Sta marmarenia alonia*; field recording: A. Katsanevaki 7/5/2002, Easter Dance song. Women’s group, in Kydonies, Vantsko in the Grevena Region.

The image shows two staves of musical notation in 8/8 time. The first staff contains the melody with lyrics: "Ei gra kap- ka- pe- raa-ka-va". The second staff continues the melody with lyrics: "ka- gra xh-ki- va". The notation includes various note values, rests, and slurs, illustrating the chromatic movement described in the text.

As the voice rises up, the interval “Do–Mi” is filled with a straight slide which creates a chromatic effect. The downward movement which follows is clearly hemitonic pentatonic and the small slide on the first tonic “Si” divides the semitone, while the voice ends on the second tonic “La”. This song reveals how a hemitonic pentatonic tuning can create an effect of

²⁴ The concepts of sharp chromatic and soft chromatic are found in Byzantine music theory and practice. Chromatic genus in Byzantine theory and practice occupies a tetrachord where an augmented interval is found in the middle of the tetrachord and two small intervals on both sides. This augmented interval must be larger than the major tone. In sharp chromatic the large interval is larger than in the soft chromatic making the small interval on both sides much smaller (Karas, *op. cit.*, 16–22). Nonetheless these differences (as attested in this paper) found also in oral traditional music, coincide with certain movements of the melodies and in the case of local musical traditions with certain regions.

chromaticism by means of attractions and by altering only one tone of the scale and not two in order to create two semitones around the augmented second: the lower semitone is already a basic interval of the hemitonic pentatonic micro-scale divided by a horizontal slide. This is why I called it “enharmonic”. This conclusion is important when it comes to a historical synthesis of oral tradition of today with the Byzantine past of Greek territory and the southern Balkans in general. But how was the semitone produced in the basis of the tetrachord?

The cyclic movements and the creation of the semitone around the Mese

In the songs of Western Greece, and especially in North-Western Pindus between Epirus and Western Macedonia, apart from the slides performed in the hemitonic pentatonic melodies, I noticed some other cyclic movements performed around a specific part of the system, as became clear after the classification of the melodies of the area.²⁵ These cyclic movements are performed in a specific part of the melody and not everywhere, thus revealing that their role is not a decorative one but functional and structural or causative, and classifying the melodies of the area in the heptachord system, a system prior to the octachord.²⁶ The classification of the melodies in Western Greece in Pindus presented a system common in the wider area of Western Greece (Western Macedonia, Thessaly, Roumeli, and Epirus) and in Northern Epirus in today's Southern Albania, and revealed three micro-systems with the cyclic movements of their melodies contributing greatly to the stabilization of the different tones in the central part of each system,²⁷ thus creating a central tone which might remind us of the tone of the *mese* in the ancient Greek immutable system, as it stayed in exactly the same place.²⁸ These three systems also explain the creation of the octachord system out of the heptachord system in antiquity and the omission of the *trite* (“Do”) by Terpandros, in order to add the *Nete* (“Mi”), as attested by ancient Greek writers, thus expanding the older heptachord system into an octachord²⁹ as well as a respective “invention” and evolution of pentatonic micro-scales.³⁰

²⁵ A. Katsanevaki, *op. cit.*, Part I, 377–381.

²⁶ *Op. cit.*, Part II, 651 and the analysis and classification in Part I, 161–163, 377–381.

²⁷ *Op. cit.*, Part I, 184–185.

²⁸ *Op. cit.*, 170–171.

²⁹ *Op. cit.*, 184–185, and A. Katsanevaki, “Archaic Pentatonic Melodies in the Pindus Mountain Range in Northern Greece. The hemitonic and anhemitonic pentatonic tunings in Greece and their contribution to the interpretation of early Ancient Greek musical forms“, 2009 (unpublished).

³⁰ Such an invention leaves space for some speculation diverging from the formerly accepted theory of Hornbostel of the creation of the pentatonic anhemitonic scales from the cycle of

Example 7.***The Sharp chromatic and its relation to pentatonic tunings***

As a result, I explained the sharp chromatic as a form developed mainly out of anhemitonic pentatonic structures with a combination of hemitonic pentatonism,³¹ now supporting the interaction of the two systems. The main reason, as explained above, was the attractions developed on top of the tetrachords, which usually combined both systems.

Furthermore, successions such as the following one, found in the songs of Northern Epirot Vlachs, explain the sharp chromatic as an interaction of the above systems together with a development that focuses on the interval of the minor third, which coincides with the important role of the minor third revealed in the first of the three basic systems presented above.³² Almost the same scale formed in the octachord system is found in the songs of Pindus in Northern Greece. The succession is actually an expanded form of the first micro-scale presented above.

blown fifths. Nonetheless, as stated by Jaap Kunst, Von Hornbostel's theory concerns the structure and correlation of the instrumental scales of various people (J. Kunst, "Around Von Hornbostel's Theory of the cycle of blown fifths", *Uitgave Van Het Indisch Instituut, Medeteling*, LXXVI, afd. Volkenkunde, 27, 1–34, Amsterdam 1948, 35), and indeed this theory presupposes the existence and use of elaborate musical instruments. What is presented in this brief paper concerns complete vocal tradition. This viewpoint also hints that in different places of the world similar phenomena can have different genetic reasons for their existence.

³¹ A. Katsanevaki, *op. cit.*, Part I: Chapter on chromaticism and Summary.

³² Though Sachs refers to something similar regarding the importance of the minor third, his statement actually concerns the standard ancient Greek form of the chromatic. Cf. C. Sachs, *The Rise of Music in the Ancient World, East and West*, 221.

Example 8. A. Katsanevaki, Vlach-speaking Farserot Song from Northern Epirus recorded in Argyropouli 20/11/1994.

The image shows a handwritten musical score for a Vlach-speaking Farserot Song. It consists of three staves. The top staff is a treble clef staff with a key signature of one flat (B-flat) and a 2/4 time signature. It contains a melodic line with various intervals, including a prominent augmented fourth. The middle staff is a bass clef staff with a key signature of one flat, containing a lower melodic line. The bottom staff is a bass clef staff with a key signature of one flat, containing a simple bass line. The lyrics are written below the staves: 'mu(o)- zja- ti' under the middle staff and 'ai- de dzu-' under the top staff.

In this scale it is evident that inside the succession of two minor thirds producing an augmented fourth there is always an interaction with a perfect fourth. In this way hemitonic pentatonicism reveals its special nature as an interaction between the intervals of the two successive minor thirds with the perfect fourth that is resonating inside it. This is also how the chromatic is created in these scales: as an attraction which tries to balance the interval of the perfect fourth together with that of a minor third, an interval that seems to prevail in the structure of these micro-scales. It is thus apparent that the nature of the sharp chromatic is not the same as that of the soft chromatic. It is obvious in the melodies of the second plagal mode in Byzantine music, where the interval of the fourth seems to be the basis of the melodies.

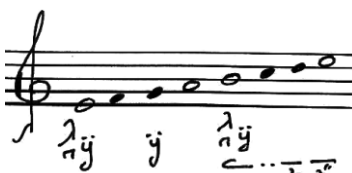
Example 9. *Pasapnoarion* second plagal mode, *Anastasimatarion* by Petros Peloponnesios, revised by Ioannes Protopsaltis, Athens 1981, 281.

The image shows a handwritten musical score for the second plagal mode of the Pasapnoarion. It consists of two staves. The top staff is a treble clef staff with a key signature of one flat (B-flat) and a 2/4 time signature. It contains a melodic line with various intervals, including a prominent augmented fourth. The bottom staff is a bass clef staff with a key signature of one flat, containing a lower melodic line. The lyrics are written below the staves: 'Πα-α-α-α-α-α προ-ο ή αι-υε-αα τω' under the top staff and 'τορκω υ-πλ -L οτ' under the bottom staff.

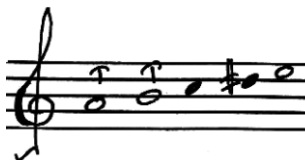
Nonetheless, it is exactly this interval that predominated in the last stages of these melodies and created the chromatic effect in them by means of the attraction on top of the tetrachord. But let us now turn to Byzantine research and Ancient theory.

The Contribution of Byzantine research to a synthesis of both Folk and Ecclesiastical music

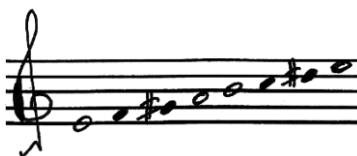
In 1982 George Amargianakis attested in the Sinai manuscripts the following scale:



Following Amargianakis's analysis, the analogy of the appearance of symbols on definite tones is related to the existence of a semitone on these tones.³³ In this way, the above succession is the equivalent of what we presented above in accordance with the preliminary stages of the chromatic in the vocal tradition of Pindus in Western Greece regarding the pentatonic scales:



which by analogy can be repeated on the lower tetrachord



³³ G. Amargianakis, "The Chromatic Modes", in: *XVI Internationaler Byzantinistenkongress*, Akten II/7. Jahrbuch der Osterreichischen Byzantinistik 32/7, Wien 1982, 7–17, 9–12. Barsky in his treatise refers to Amargianakis' analysis regarding the existence of the chromatic genus in Byzantine musical practice before the 14th century. Cf. Barsky, op. cit., 68–71.

thus supporting our results from field research and the respective analysis of the melodies, which confirm the creation of the chromatic tetrachord with the augmented second between two semitones by altering only one tone of the diatonic.

Amargianakis's results reveal firstly the existence of the sharp chromatic in Byzantine music before the Ottoman Era³⁴ and in combination with the results I presented in 1998, an analogy between the older type of the sharp chromatic in Byzantine music and its creation in the vocal repertoire in the traditional music of Western Greece and in other related areas of the Balkans.

Though it seems that the standard sharp chromatic in classical Byzantine theory is created by altering two tones of the tetrachord, in certain theoretical treatises it is revealed that Byzantine writers were aware of an older type which was created by altering only one tone. Thus Chrysanthos in his *Μέγα Θεωρητικόν* seems to be aware of such a chromatic genus: "The chromatic genus has a scale in which semitones with a flat, or a sharp, or a flat and a sharp, can be found. The chromatic with flat semitones is the following: "Ni pa↓bou ga di ke↓zo ni"; the one with a sharp is: "Pa bou ga↑ di ke zo ni↑ pa"; the one with flats and sharps is: "Pa bou↑ ga↓ di ke zo↑ ni↓ pa". In this last scale one can find two sharps and two flats".³⁵

It is apparent that (when taking the first scale into consideration) Chrysanthos is aware of the possibility of making a chromatic by altering one tone. This first scale coincides with Amargianakis "second possibility a flat".³⁶ Obviously there must have been a mistake in other two examples in Chrysanthos, probably caused by a publishing error in the 1832 edition. The second scale must coincide with Amargianakis' first possibility, where the sharp should be on the tone "Di" ("Sol") and not on "Ga" ("Fa"). The same mistake found in the symbols occurs in case 3, which should have been a normal succession of the second plagal mode starting from the tone "Pa" ("Re").

Ancient Greek Music Theory and musical extracts from Antiquity: Theoretical standards and musical modulations

In early Christian times, some important information attests to the existence of chromatic melodies in secular music. The Fathers of the Church often tried to protect the Christians from deviating to complicated melodies, among them those called "chromatikes armonies" (chromatic harmonies).

³⁴ G. Amargianakis, *op. cit.*, 15.

³⁵ Chrysanthos, *Θεωρία της Βυζαντινής Μουσικής [Theory of Byzantine Music]*, Tergesti 1832, Athens 1976–1977 (in Greek), 104.

³⁶ G. Amargianakis, *op. cit.*, 12.

Clement of Alexandria urged Christians to refrain from melodies “that are weak and effeminate. Therefore, melodies which use chromatic intervals should not be employed”.³⁷ Nonetheless, the Fathers of the Church sometimes introduced complicated (*epitideyminen*) secular music to the Church thus preventing Christian people from deviating from the Church to other Heretical Churches just because of the *epitideyminen* music performed there.³⁸ This information reassures us that at least some sort of chromaticism existed in the time of the early Christian Church.

These protests of the Fathers of the Church coincided with the protests of Pseudoplutarch in late antiquity about the corruption of music up to his time.³⁹ Though the ancient Greek form of the chromatic seems to be different from the sharp chromatic we discussed above, because the normal chromatic tetrachord consisted of two semitones in the basis and an augmented second on top,⁴⁰ research of Ancient Greek writings has revealed that this typical theoretical and practical form of the chromatic tetrachord was not the only accepted, at least in theory. Baud–Bovy refers to Aristoxenus' *Harmonics* Book III, which is partially preserved, where Aristoxenus begins to present the types of the fourth explaining that there are more than one. In the enharmonic there is the first one which presents the normal division where the *pyknon* stays at the bottom of the tetrachord while in the second case the two small intervals of the *pyknon* stay on both sides of the augmented second, and in the third case the *pyknon* stays at top of the tetrachord. Aristoxenus' statement, here interrupted because of the loss of the rest of the manuscript, is repeated by two other theorists, Gavdendios and Kleonidis who present the same divisions, the types of the fourth, the fifth and the octave in all genera.⁴¹

On the other hand, it seems that certain theoreticians put emphasis on standard forms of diatonic and enharmonic but not on the chromatic genus. Archytas “somehow” “was aware of the chromatic, but did not regard it as a structure on an equal footing with enharmonic and diatonic: Once more we

³⁷ E. Wellesz, *A History of Byzantine Music and Hymnography*, Oxford 1962, 93 and G. Papadopoulos, *Ιστορική Επισκόπηση της Βυζαντινής Εκκλησιαστικής Μουσικής από των Αποστολικών Χρόνων μέχρι των (1–1900 μ. Χ.)*, Katerini 1990, 87–88.

³⁸ G. Papadopoulos, *op. cit.*, 87–89.

³⁹ V. Baud-Bovy, “Sur le chromatisme dans la musique Grecque”, *Musica e Liturgia Nella Cultura Mediterranea*. Atti del Convegno internazionale di studi, Venezia 2–5 Ottobre 1985, Firenze–Olschki 1988, 178; Plutarch, *On Music*, 1136 B15, 384; about the corruption of music in theatre performances cf. A. Katsanevaki, *op. cit.* Part I, 187.

⁴⁰ V. Michailidis, *Εγκυκλοπαίδεια της Αρχαίας Ελληνικής Μουσικής [Encyclopaedia of Ancient Greek music]*, Athens 1989, (In Greek), 358–359; S. Hagel, “Reversing the Abstraction of Ancient Music Theory. The Case of the Genera”, 462; and S. Hagel, *Ancient Greek Music – A New Technical History*, Cambridge 2009–2010, 11.

⁴¹ Baud-Bovy, *op. cit.*, 173; A. Katsanevaki, *op. cit.*, Part I, 209.

get the impression of a certain affinity between his view and the oldest stages of the notation”.⁴² Aristoxenus claims that most musicians confused the two genera (enharmonic and chromatic),⁴³ and that they were not able to define where the *parypati* was an enharmonic or if it had reached the chromatic genus, revealing that the chromatic genus in its standard form was a variation of the enharmonic and most people had difficulties in distinguishing them.⁴⁴ But what about the division proposed by the species of the fourth? In theory it appears that the second case of the species of the fourth occupies an augmented second but in the middle of the two semitones. As Winnington–Ingram puts it:

“The Chromatic Lydian of the form C C# E F is interesting. For this type of tetrachord not only occurs in Byzantine music and modern Greek folk song, but is apparently to be found among our fragments. It is therefore noteworthy that it is then employed in a manner anomalous by Aristoxenian standards and unallowed for by the notation of the keys. This is a serious crux, but scholars have not faced it frankly. They tend to enumerate the species of the fourth in diatonic form only, and to illustrate the genera from the standard (or Dorian) tetrachord only. And so they gloss over this very serious difficulty”.⁴⁵

Sachs also attests to the existence of this enlarged second in ancient Greek music.⁴⁶ Nonetheless, it is noteworthy that in the musical pieces that have come down to us from antiquity, chromatic modulations equivalent to those we described above deriving from pentatonic tunings are to be found. This chromaticism, no matter whether it is named chromatic “modulation” or “chromaticism”, obviously supports the results of the ethnomusicological research we presented above, as well as the creation of the sharp chromatic by altering only one tone on the top of the tetrachord, attested by research in Byzantine music and contemporary vocal music in Western Greece. “The effects gained by interspersing modulating notes in traditional melodic patterns explain the notion of ‘coloured melodies’ very well. Eventually the specific combination “Mi–Fa–Fa#–A” was singled out as a chromatic genus in its own right”.⁴⁷ We believe that this statement rightly supports the possibility that those standard theoretical phenomena described later by music theorists were previously formed in practice. Is the case of the second species of the fourth in accordance with our evolutionary process a similar one?

⁴² S. Hagel, “Reversing the Abstraction of Ancient Music Theory“, *op. cit.*, 465.

⁴³ *Op. cit.*, 463.

⁴⁴ *Op. cit.*, 473.

⁴⁵ R. P. Winnington-Ingram, *Mode in Ancient Greek Musik*, Amsterdam 1968, 15.

⁴⁶ V. Stojkova-Serafimovska, *op. cit.*, 121.

⁴⁷ S. Hagel, *Ancient Greek Music – A New Technical History*, 471.

In practice, as described above, a chromatic character is created in the Ancient Greek musical extract from the “Ajax” (*Aias*) Tragedy, from the Classical or Hellenistic era.⁴⁸ Inside the hemitonic pentatonic motive “Mi²–Do²–Si¹–La¹”, the chromatic pentachord “Mi²–Re^{↑2}–Do²–Si¹–La¹”, the so-called “Gypsy” is created. In a similar way, in another musical extract included in the Papyrus of Berlin,⁴⁹ the “Sarakatsan trichord” is found as a “La¹–Do²–Re^{↑2}” form, together with the stop on the tonic “Si”. When the tone “Mi” appears it gives a hemitonic pentatonic character to the ancient Greek melody.

Such examples, no matter whether they are called modulations or main structural musical forms, impose and confirm some affiliation of the sharp chromatic in three different eras in Greece and the Balkans in general: Antiquity, Byzantium and contemporary music. Moreover, they impose a serious problem: do the species of the fourth and subsequently of its divisions (genera), enharmonic, chromatic, and diatonic, present a real musical structure or an effort on the part of the ancient theorists to find theoretical formulas to express phenomena which were contemporary to them and (as imposed by the causative links found inside these musical phenomena by contemporary research), in all probability, original forms that come from the very early musical past of Greece and the Balkans?

Conclusions

In this paper we examined chromaticism as the ancient (attested in ancient Greek writings), Byzantine (found in Byzantine theory and practice) and contemporary practice (in Greece and other areas in the Balkans). It was proved that chromaticism and especially the so-called “sharp” chromatic is a form found in contemporary musical traditions in a way that supports its genesis from pentatonic tunings. In this case the chromatic is created by altering only one tone instead of two (a very common form found in the contemporary musical system of the Pindus Mountains in Western Greece and in Northern Epirus in today’s Southern Albania). Furthermore, this conclusion coincides with what is attested by Byzantine musicological research: that the old chromatic forms found in the codices of Sinai are created by altering only one tone. This testimony presents a common past in both ecclesiastical and traditional music. The above conclusions coincide with the chromatic elements found in ancient Greek melodies. These

⁴⁸ M. L. West, *Ancient Greek Music*, Oxford 1992, 320; S. Hagel, *op. cit.*, 278.

⁴⁹ M. L. West, *op. cit.*, 320–321.

melodies are much closer to the pentatonic past of the sharp chromatic, though in theory the standard form of the chromatic tetrachord appears as a variation of the enharmonic. Nonetheless, chromatic alterations (found in ancient Greek melodies) appearing as a kind of modulation can cause certain musical forms to be transformed into musical structures and then into a musical theory. The affiliation of this chromatic produced by pentatonic scales with maqam Nikriz opens a new field of research on the possibility that the Oriental Chromatic scales came from formerly pentatonic structures.

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ХРОМАТИКА – ТЕОРИЈСКА КОНСТРУКЦИЈА ИЛИ ПРАКТИЧНО ПРЕИНАЧЕЊЕ?

(Резиме)

Хроматика је феномен који је широко распрострањен у различитим областима Балкана и у различитим епохама (старогрчка теорија и музика, византијска музика и савремене традиционалне музичке форме). Полазећи од савремених вокалних мелодија са планинског ланца Северни Пинд (у Грчкој), предочава се да посебне пентатонске структуре (анхемитонске или хемитонске) доводе до мешовитих облика који, са своје стране, доводе до хроматских елемената. Интеракција два различита пентатонска система је, по свему судећи, одговорна за стварање хроматских пентахорда. Осим тога, изгледа да овај процес, заснован на привлачењу од само једног тона, стоји у нарочитој вези са доказима пронађеним у старогрчким музичким одломцима. У Византији, хроматика се заснива на стварању хроматских тетрахорда путем промена само једног тона на врху тетрахорда. Овај доказ (који се налази у синајским рукописима) попуњава јаз између антике и савремене праксе и потврђује могућност да се хроматски тетрахорд добија путем привлачења једног тона на врху тетрахорда, а не два као што се обично дешава у савременој византијској музичкој пракси и теорији. У комбинацији са савременом пентатонским праксама ове хроматске форме могу да постану полазна тачка за тумачење особите природе „циганског хроматског пентахорда“ и, вероватно, посебних облика макаме *Нукриз*. У покушају тумачења различитих облика хроматике у савременој музичкој пракси постаје очигледно да постоји нарочита интер-релација између савремене музичке праксе и изузетних доказа из три различите музичке епохе: античке, византијске и савремене. Таква интер-релација сугерише да је хроматика, било у облику рода или модулације, континуирано присутна у музичкој прошлости Балкана.

UDC 781.7(=14):78.03(497)

781.22

DOI: 10.2298/MUZ1111159K