

THE SONGBIRDS AS AN INSPIRATION FOR BYZANTINE *KRATĒMATA**

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ПТИЦЕ ПЕВАЧИЦЕ КАО ИНСПИРАЦИЈА ЗА ВИЗАНТИЈСКЕ КРАТИМЕ

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ABSTRACT

Byzantine *kratēmata*, widely known as the *terrirem*, as part of other, broader musical works, date approximately back to the eleventh–twelfth century. A small group of four *kratēmata* are named after birds (*Aēdhon* – *Luscinia megarhynchos*, *Potamis* – *Acrocephalus*, *Anyfantis* and *Papadopoula* – *Parus major*). It is reasonable to assume that the singing of the respective birds inspired composers to set these *kratēmata* to music. Studying the related compositions, as they have been documented in the written tradition of the Byzantine and the post-Byzantine manuscripts until their transcription from the pre-1814 old stenographic method notation, we report certain observations that reinforce the initial hypothesis, as well as some parallel remarks about the phenomenon of creation, establishment, and spreading of this form.

KEYWORDS: songbirds, Byzantine music, *terrirem*, *kratēma*.

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АПСТРАКТ

Византијске *крайшме*, широко познате као *ѿерирем*, потичу приближно из XI–XII века као део других, обимнијих музичких дела. Мала група од четири *крайшме* названа је по птицама (*αἴδων* – славуј, *ποτάμις* – трстењак, *αυφάντης* и *παλαδοῦλα* – велике сенице). Основано се може претпоставити да су композитори били надахнути певањем одређених птица при компоновању појединих *крайшма*. Проучавајући сродне композиције документоване у писаној традицији византијских и поствизантијских рукописа до њихове транскрипције из старе стенографске нотације, од пре 1814. године, износимо нека запажања која подупиру почетну хипотезу, као и неке паралелне напомене о феномену стварања, утврђивања и ширења овог жанра.

Кључне речи: птице певачице, византијска музика, *ѿерирем*, *крайшма*.

THE TERM *KRATĒMATA*

The *kratēmata* are a special form of Byzantine music. They are also known as *terirem*, *teretismoi*, *nenanismoi*, etc, and their most obvious characteristic is that they are not speech set to music. Since the ancient times and in the Byzantine dictionaries, the term *teretismos* has referred to the imitation of a melody without lyrics, performed either by instruments or by animals such as cicada, grasshopper, cricket and various birds, and it has survived to this day in folk songs (Apostolopoulos 2024, 177–183).

The music of *kratēmata* is produced vocally, yet it is applied to meaningless syllables like *terirem*, *tiriti*, *tototo*, *nenena* and so on, by cantors who chant following the aesthetic rules of the *Psaltikē*.

Etymologically, the word *kratēma* means “prolongation, long note, long melody” (Anastasiou 2005, 68) and relates to the need to extend the duration of religious rituals by using long-lasting melodies. The *kratēmata* were formed and established roughly in the eleventh–twelfth century as parts of greater works, with the famous *castrati* (Byzantine eunuchs) playing a particular role in their establishment (Anastasiou 2005, 97; Spyrakou 2008, 502–515). In their first historical appearance, they are found as intervening melodies which define the transition from one part to the other within the extended melismatic musical compositions. It is noteworthy that the form of *terrenum* has appeared in the Persian tradition, in approximately the same period (Kalaitzidis 2013, 448). Gradually they came to constitute autonomous compositions and their number increased. The *kratēmata* are integrated into the so-called *kalophonia*, that is, the

melismatic, artistic, eponymous and learned version of the Byzantine music, and they are considered one of the genres of the most eminent artistic value. Notably, according to some, they were “genuine and pure music” (Stathis 1979, 116).

From a practical point of view, the *kratēmata* serve to musically fill the gaps during a ceremony, while the priests are occupied with rituals exclusively performed by them, such as the preparation of the Sacred Gifts for the mystery of the Divine Liturgy, the Holy Communion of the priests, or during long vigils. From a morphological point of view, their placement within large compositions served to clearly distinguish among different parts and highlight the transitions.

However, ever since they first appeared, they have been raising theological questions about the compatibility of their use in worship. In Orthodox worship, the *logos* dominates, i.e. it is the highest function of a man, through which he addresses God with praises, supplications or other prayers. The Byzantine music dubs the poetic speech which constitutes the hymnography. The text should be heard at all times. According to the rules of *Typikon*, in worship, even when the *kratēmata* are complete and entire works lasting even up to twenty minutes, they never have their own place in the ceremonies; instead, they always function as accompaniments to other musical texts intended to be sung at celebrations. They lengthen the duration of these chanted texts, and by artful melodic treatment, they apparently make them more pleasant to the ears. The absence of speech in the *kratēmata*, in the sense of a linguistic message, and the presence of meaningless syllables (*terire*, *nenena*, etc.) raised a debate centring on their compatibility with the Orthodox tradition.

The absence of speech in the *kratēmata* gave the composer a greater degree of freedom to use melodic phrases with elements of secular music. In other words, it was an open door to secular melodies which many people in the Church were not willing to accept. There have been some who supported the use of *kratēmata*, including Saint Theophylactos Achridos (eleventh century), who supported the *teretistae*, Saint Ioannis Koukouzelis (fourteenth century), who composed 89 *kratēmata*, and Nikolaos Malaxos (sixteenth century). Others did not approve of them, such as the interpreter of the Sacred Canons Theodore Valsamon, who disapproved of the *teretismata* (twelfth century), and Saint Nicodemus of Athos (eighteenth century), who considered them “recent, unnecessary pieces” and suggested that they should be replaced by repetitions of the text of the *Troparia*, etc. (Anastasiou 2005, 105–119; Spyrou, 2008, 514).

In an attempt to bridge this opposition, given that the absence of words was in conflict with practical use, various theological and symbolic interpretations were proposed, mainly arguing that the *kratēmata* are associated with certain symbolism. According to some of these interpretations, the *terirem*

stem from prayer words, such as the Latin words *te regem* [you, the king], or the Greek *tērei roon* [keep the flow], or even a mixture of Latin and Greek: *tērei regem* [keep the king]. Similarly, the *Anane nenena* etc., may originate from the Greek *Anax anes* [king, forgive], from which comes the apēchēma *Ananes* of the Byzantine musical parallaghi – solfège; the *Tinini* from *ti tini* [what suits whom]; the *Koum* from Hebrew *koum* [get up], etc. (Vamvoudakis 1933, 353–361; Anastasiou 2005, 98–111).

Other interpretations invoke the symbolism of the “unspoken words” heard by Apostle Paul or the language of the angels, which does not correspond to any human language. Some still invoked David’s Psalms, in particular, the last three Psalms – 148, 149, and 150, called *Ainoi* [Praises] – where all creation is asked to praise God. Thus, a language with meaningless syllables can accurately express both the angels and the people, animals, and celestial objects (sun, moon, and stars). In the latter case, the ancient Pythagorean meets Platonic teachings on cosmogony and the “harmony of the heavenly spheres,” the planets, and the stars. According to this theory, one can discover mathematical and musical relationships in the movements of the planets, however, there, one does not encounter human speech.

The establishment and extensive use of the *kratēmata* happened during the time (fourteenth century) when the movement of “hesychasm” flourished. Silence and prayer with the “intentional speech” are a sign of spiritual perfection. The *kratēmata* with the meaningless syllables can be considered a reflection of the so-called “apophatic” theology in musical art (Peno 2006, 241–245). The value of inner communication with God is emphasized and silence is elevated to the level of “mystery,” so the melodies do not need words to be considered a prayer. The *kratēmata* express the state in which the believer experiences a new world in which the “unspoken verbs” are a new transcendent reality (Peno 2018, 251).

Finally, in quite a charming interpretation of the origin of *kratēmata*, it is mentioned that they represented exactly those meaningless melodies with which Virgin Mary lulled the Christ Child (Anastasiou 2005, 119).

Of course, the simplest interpretation of their origin is that *terirem*, *nenena*, etc., are merely an imitation of the sounds of instruments, when one vocally renders a melody without using words. It is noteworthy that one can encounter dozens of such phonemes in every language (e.g. in Greek, there are over 60 of them, see: Apostolopoulos 2024, 182), and unconsciously use them in an attempt, for example, to reproduce the sound of a chord, using the consonants *t*, *r*, *n* and *l*, which are closer to describing these sounds. The corresponding technique in the Persian form, *terenum*, uses sequences such as *terela*, *yalele*, *tanini tanatiri* and the like (Kalaitzidis 2012, 242). From this set

of phonemes, the Psaltiki has adopted a small subset (see *terirem, toto tororo nenena tenterirem*, etc.), in which the attempt to imitate a known sound from the natural or man-made environment can sometimes be very obvious.

In any case, the *kratēmata* were accepted and established in the Orthodox worship tradition. Already in the fifteenth century, a book called *Kratēmatarion* appeared, which included a collection of the *kratēmata* (Anastasiou 2005, 198). The *kratēmata* that are anthologized in the *kratēmataria* as autonomous compositions, that is, without including the *kratēmata* that are placed in between the parts of larger compositions as separators. From the fourteenth to the nineteenth century, they amounted to 465 – a number that could be increased with the discovery of other unknown manuscripts (Anastasiou 2005, 392).

Apart from the *kratēmata* named after the composer, the onymous tradition includes approximately seventy cases which are named in a special way, after various sources of inspiration. Among others, there are about fifteen of them named after musical instruments, e.g. *Viola* by Nikiforos Ēthikos and Koukouzelēs, as well as *Kinnyra*, *Psaltira*, *Simantiri*, *Sourlas* by various composers (Anastasiou 2005, 393–407).

Although the Orthodox tradition is strictly vocal and does not use instruments, the connection with the Psalms of David is also evident here, since the *Praises* in the Psalms are said to have been performed with drums and dancing, with cymbals, trumpets, psalteries, guitars, strings, generally with instruments, while the invitation ‘to all peoples’ to praise also justifies geographical or national indications (*persicon, frangicon, atzemicon, ismaeliticon*, etc.). Of course, names deriving from purely technical musical terms are also present (e.g. *Trochos, Kalofonikon, Pestrefi, Phthoricon*, etc.), as well as references to unnamed persons (*Vasileos, Pimikiouri*), or even names of vague reference (*Margaritis, Rodakinaton, Polemikon*). This was a common Byzantine practice which goes back to at least the mid-fourteenth century.

KRATĒMATA AND ORNITHOMUSICOLOGY

A rather small group consisting of ten “named” *kratēmata* bear bird names. The aforementioned theological context of the *Ainoi* in relation to musical instruments, here acquires special weight for feathered animals. Songbirds, however, have the added advantage of being gifted with the extraordinary natural ability to produce certain sounds reminiscent of music and song.

The songbirds have always been a cross-cultural source of inspiration and a primordial musical model provided by nature itself. There are about 8,700 species of birds and about half of them are classified as ‘songbirds.’ Of these, 200–300 have the ability to produce a variety of acoustic signals which could be

characterized as ‘song’ (Mâche, 1983). Some of the most common and popular songbirds, at least in Greek literature and musical tradition, are listed below:

- Blackbird (in Greek: kotsifas, *Turdus merula*)
- Ghalandra lark (in Greek: ghaliantra, *Melanocorypha calandra*)
- Canary (in Greek: kanarini, *Serinus canaria*)
- Common chaffinch (in Greek: spinos, *Fringilla coelebs*)
- Cuckoo (in Greek: koukos, *Cuculus canorus*)
- Eurasian collared dove (in Greek: dhekaochoura, *Streptopelia decaocto*)
- European reed warbler (in Greek: potamidha, *Acrocephalus scirpaceus*)
- European scops owl (in Greek: gionis, *Otus scops*)
- Goldfinch (in Greek: kardherina, *Carduelis carduelis*)
- Great tit (in Greek: papaditsa or kalogheros, *Parus major*)
- Hoopoe (in Greek: tsalapetinos, *Upupa epops*)
- Mistle thrush, throstle (in Greek: tsichla, *Turdus philomelos*)
- Nightingale (in Greek: aëdhoni, *Luscinia megarhynchos*)
- Oriole (in Greek: floros, *Carduelis chloris*)
- Owl (in Greek: koukouvaghia, *Athene noctua*)
- Robin redbreast (in Greek: kokkinolemis or kaloghianos, *Erithacus rubecula*)
- Rock partridge (in Greek: petroperdhika, *Alectoris graeca*)
- Skylark (in Greek: korydhallos, *Alauda arvensis*)
- Swallow, red-rumped swallow (in Greek: chelidhoni, miltochelidhono *Hirundo daurica*)
- Turtledove (in Greek: tryghoni, *Streptopelia turtur*)
- Wagtail (in Greek: sousouradha, leukosoursouradha, *Motacilla alba*)
- Starling (in Greek: psaroni or karaveli, *sturnus vulgaris*)
- European serin (in Greek: ska(r)thi, *Serinus serinus*)
- Jay bird (in Greek: kissa, *Garrulus glandarius*)
- Woodpecker (in Greek: dhryokolaptis, tsiglitara, *Picus major* or *Dendrocopos medius*)
- Common linnet (in Greek: faneto, *Carduelis cannabina*)
- Corn crane (in Greek: ortyki, *Crex crex*)
- Eurasian golden oriole (in Greek: sykofaghos, *Oriolus oriolus*)

Since the topic is connected to music, the following questions have been raised: How are the sound and musical phrases of birds being produced? How did this emerge from the evolutionary standpoint? What is the biological role of bird song? If it is a language, does their song contain a coded message? Do birds know music? Did the birdsong influence humans to create music? How did the humans imitate the song of birds with musical instruments in specific musical works?

The birdsong has been the object of study in many scientific fields, including musicology. Its more specialized branches, such as biomusicology,

zoomusicology, and ornithomusicology, as well as broader branches, such as music acoustics, or even cognitive neuroscience, evolutionary neurology, almost all the branches of linguistics (phonetics, phonology, morphology, syntax, semantics), informatics, etc., can demonstrate a substantial amount of relevant research on the subject.

Songbirds have been a beloved theme in poetry and musical composition since ancient Greece. In Aristophanes's *chorica* (i.e. the musical parts of the comedy), we encounter verses that refer to imitations of bird voices. In learned texts, anonymous folk songs, as well as numerous, more recent popular or artistic songs, we find literary references, images, similes, metaphors and sometimes melodic imitations of specific birds and their song. In Psaltic hymnography, a special treatment is observed in the musical setting of words that refer to birds, in accordance with the technique of 'composing after meaning.'

There are a few dozen musical compositions named after birds (e.g. *La symphonie des oiseaux*) in many pieces of either learned or anonymous popular traditional music. Sometimes musical instruments, such as the violin, can imitate the chirping of birds. The similes of someone singing or chanting 'like a nightingale,' or having a voice like a 'sweet canary,' are very common in many traditions. There is also a Greek school song, which mentions a child asking the chaffinch (a songbird), which is his teacher, to teach him the Psaltic solemnization D(h)I, G(h)A, VOU, PA! Even in ecclesiastical tradition, we know of the adjective *kallikelados* used for a certain Saint Mēnas who was apparently a chanter. In David's Psalms, there is a verse that exhorts all beings to praise the Creator, including the birds, "Praise him [...] feathered birds."

The case of the *kratēmata* named after birds is another striking element that connects birdsong with the art of musical composition and the attempt to record the melodic phrases of certain birds.

THE NAMES OF THE KRATĒMATA AND THE BIRDS

At least three birds have given their names to the ten *kratēmata*. A plausible interpretation would be that the songs of particular birds and the imitations of their twitter inspired the composers to set the corresponding *kratēma* to music, as we assume that a similar thing happened with the special sounds of certain musical instruments.

By studying the relevant compositions that were preserved in the written tradition of the Byzantine and post-Byzantine manuscripts until their *exēgēsis* (transcription with analysis) using the old stenographic notation method, one

can make certain observations that amplify the original hypothesis, as well as some relevant observations regarding the whole phenomenon of the creation, establishment and dissemination of this form.

The *kratēmata* named after birds include: The *Aēdhon* or the *Aēdhonaton*, the *Potamis*, the *Anyfantis* and the *Papadopoula* or the *Papadopoulon*.

The name *Aēdhon* makes an instant reference to the nightingale, the queen of the songbirds, and there are at least six compositions named *Aēdhon* or *Aēdhonaton*, signed by:

1. Io. Koukouzelis (fourteenth century), Echos A' Plagal (Anastasiou 2005, 270).
2. Xenos Koronis (fourteenth century), Echos B' (Anastasiou 2005, 283).
3. Xenos Koronis (fourteenth century), Echos A' Plagal (Anastasiou 2005, 288).
4. Xenos Koronis (fourteenth century), Echos A' Plagal (other *kratēma*, Anastasiou 2005, 288 see Figures 1a and 1b).
5. Manouēl. Chrysafis (fifteenth century), Echos D' Plagal (Anastasiou 2005, 327).
6. Benediktos Episkopoulos (sixteenth century), Echos B' (Anastasiou 205, 336).

Three *kratēmata* bear the name *Potamis*. Their composers are:

7. Io. Lascaris (fourteenth century), Echos B' (Anastasiou 2005, 312, see Figure 2).
8. D. Ntamias (seventeenth century), Echos B' (Anastasiou 2005, 341).
9. Kosmas Varanis (seventeenth century), Echos B' (Anastasiou 2005, 348).

Potamis was a translation for the term *Suzinak*, chosen by Keltzanidis (1881, 164), citing a reference to Filoxenis (1868, 16). As a *Macam*, *Suzinac* belongs to the D' Plagal Echos, however, the *Phthora* of Echos B' connects it strongly to the Byzantine *kratēma* in Echos B'. Following S. Karas, Lascaris's *Potamis* implies the *nightingale*, since *potamis* is the name for this bird in Crete, one of the places where Ioannis Lascaris used to live (Karas 1992, 61).

Finally, *Anyfantis* is the tenth *kratēma* by Koukouzelis (fourteenth century, Echos B' Plagal; Anastasiou 2005, 272; see Figure 3). The name *Anyfantis* could refer to the rhythmic sound made by a big wooden loom while weaving. Nonetheless, in Greek bird-fauna, one finds a songbird from the *Parides* family (*Parus major*) known as *anyfantou* (female weaver), a name probably stemming from the interpretation of its song, as this particular bird family does not weave nests. It is far likelier that a recursive song pattern resembled the sound made by the loom.

To our knowledge, so far, the *kratēma Papadopoula* by Ioannis Koukouzelis (fourteenth century), Echos D' Plagal, has never been connected to birds. In manuscripts it is also found as *to Papadopoulon* or *to Papadopoulo* (Anastasiou 2005, 523; see Figure 4). The first connection to make would be to

the surname *Papadopoulos*, under which the composer Ioannis Papadopoulos or Koukouzelis is known. Nevertheless, the distance between this and the term *Papadopoula*, a female noun indeed, or even the neuter noun *Papadopoulon* (in the Byzantine era, a young priest who usually rings the bells) forces us to seek another interpretation. The association with the name of a large and widespread songbird family, the *papaditses* or *kalogeri* or *kalogeraki* [monks], which belong to *Parus major*, like the mentioned *anyfantou*, is a hypothesis with a considerable possibility of being verified, therefore, the *Papadopoula* will be included as the eleventh *kratēma* named after a bird.

THE SET-TO-MUSIC MEANINGLESS SYLLABLES

After the names, at the next stage of the process of connecting the *kratēmata* to birds, what can serve as a source of information is the set-to-music meaningless syllables. *Terirem*, *nenena*, etc., are syllables that primarily imitate the sound of musical instruments, as it would be the case if one was asked to sing a melody without using any words – they would probably use syllables like *nananana tam tarararara*. The dominance of the consonants *t*, *n* and *r* indicates the exact same source that gave us the famous *terirems*. By writing down the syllables used for the *kratēmata*, one ascertains that some of them reflect the sound made by specific objects. For instance, one finds syllables like *tin tin ento ten* etc. in *kratēmata* called *Kambana* [bell], or *toto tororo* in *kratēmata* named *Troumpeta* [trumpet]. A very common version in several *kratēmata* are the syllable sequences *tiriri*, *ti ti ti*, *te te te* and *erire*. All of them match birdsong sounds – especially those made by the *papaditsa* (*Parus major*, *Parus ater*, etc.) – and remind us of onomatopoeic names of these bird species. The sound *titi*, *ti tsi*, *ti ti tsi* etc. is often used to depict their twitter. In English, the *papaditsa* is known as the *tit*.

The verb *τιτιβίζω* [to twitter], and the voices *tio tio* and *tititi* are found in Aristophanes' comedy *Aves* [Birds]: “Ὅσα τ' ἐν ἄλοκι θαμὰ βῶλον ἀμφιτιττυβίζεθ' ὧδε λεπτὸν ἠδομένῃ φωνᾷ [...] τιοτιοτιοτιοτιοτιοτιοτιο [birds, you who tweet around the lumps of the earth with a thin sweet voice [...] tiotio tiotio tiotio tiotioo]” (2024, 234); also: “Τι τι τι τι τι τι τι [...] τίνα λόγον [...] [what [...] what [...] what [...] words?]” (2024, 314–315). This is a sound imitation of the word *ti* [what]. The verb *titizo/τιτίζω* [to tweet] is found in Aristonicos (first century BC): “Κατὰ φύσιν γὰρ φθεγγόμενοι οἱ νεοσσοὶ τιτίζουσιν [by nature, when chicks vocalize, they tweet]” (2014, 2.314.3). Eustathios (twelfth century) also notes: “Σημειῶσαι δὲ ὅτι ἐκ τοῦ τιτίζειν τίτις κατὰ Αἴλιον Διονύσιον (2ος αἰ. μ.Χ.), βραχὺ ὀρνίθιον [noted that from the chirping *ti ti ti*, according to Aelius Dionysius, a small bird has the name *titis*]” (2024, 1.349.6).

In modern Greek, two local names for *papaditsa*: *tetetzia* and *tetentis*, include the crucial syllable sequence *te-te*. In addition to *titi*, the sound *curr* is also close to *terr* of the *terirems*. In Macedonia and in the region of Edessa, the name for *papaditsa* combines both sounds: *tsitsigarka*.

A final observation would be that, among the syllables in many *kratēmata* names other than those that bear a bird name, one also notices the syllables *kum kum kum* and *ke ke ke*. It is of particular interest that, especially in older manuscripts (before the seventeenth century), the *kum* syllables are written as *ku ku ku* and *ke ke ke* (see Figure 5). Presumably, there is yet another interpretation, but the similarity to the voices of the *cuckoo* or *galliform birds* is too great to be overlooked.

TRACKING OF MELODIC PATTERNS

In *kratēmata* that bear a characteristic name, it is expected that one can detect the patterns which have inspired the naming. Among the known *kratēmata* with bird names, one observes the dominance of B' or B' Plagal Echos, as only three are in A' Plagal and one in D' Plagal, which easily alternates with the B' Echos (cf. *Potamis – Suzinak* makam). The central melodic pattern of Echos B' as either Kyrios or Mesos or sometimes Plagal is *Neanes*, an apēchēma with a range of a minor soft diatonic third.

In Lascaris's *Potamis* (Karakatsanis 2000, A 250) in B' *Mesos* Echos, the thirds D(h)I – VOU, D(h)I – ZO' are dominant, while the limited range of the work restricts movements with great leaps.

In *Anyfantis* by Koukouzelis and in the transcription by Chourmouzios, the downward leap of the two voices with the sign *elaphron* appears to be impressively frequent, with 104 appearances on 10 pages of the printed edition (Karakatsanis 2007, B 43). Many of these movements are in minor thirds of B' Plagal, as, for example, VOU – NĒ, PA – ZO, KE – G(h)A (Eb – C, D – H, a – F#). Moreover, the pentachord below the Basis PA (D) is used extensively. One comes across thirds many times in bird tweets and songs, as, for instance, in the well-known *Koukos* [cuckoo], as D(h)I – VOU, D(h)I – VOU (G – E), as well as in several variations of the almost forty phrases of *Papaditsa*, as VOU – D(h)I (E – G), as NĒ – KE (c – A), etc.

In *Papadopoula* in D' Plagal by Koukouzelis (Karakatsanis 2007, B 346), what is outstanding are the frequent leaps in wide ranges, thirds, fourths, fifths, octaves, together with extensive use of the tetrachord below the basis NĒ (see Figures 6 and 7). These phrases simulate birdsong patterns which are more complex than the easily recognisable thirds. Such patterns are primarily detected in the songs of the prototypical songbirds (nightingales, canaries, goldfinches),

however, *papaditses* also demonstrate a substantial variety of phrases. The most striking fact that provides conclusive evidence for our hypothesis, which is also portrayed visually via the notation of the Psaltikē, are the repetitions of short patterns of two or three notes not as upward or downward *pallilogies*, but as movements around the same root note, which would otherwise, especially for a modal music system such as Psaltikē, seem too monotonous.

These patterns constitute only the core of the music phrase, the initial idea of composition. The composer, after having apposed them as many times as necessary, elaborates the composition with variations and analyses. Although the notation of the manuscripts is stenographic, while the so-called *exēgesis* has analysed the patterns of the *Old Notation*, it takes little effort to see the correspondence. Even the non-analysed – explained version is a self-evident sound event for the Byzantines as well, via a mechanism called *metrophonia*. The similarity to sounds made by certain birds that, in particular, belong to the *Parides* family is striking and significant, and, since the Byzantine *parasemantikē* is actually a neumatic notation with description of the movements, sometimes the musical text looks like a frequency graph (Slater 2000, 49–65; see Figure 8).

The extensive use of such a pattern, especially in the beginning of the *kratēma* by Koukouzelis called *Monopnous* [the one who chants with one breath], again in B' Plagal (Karakatsanis 2007, B104), makes us wonder whether this name belongs to some unknown bird whose twitter is not interrupted by pauses so that it would sound like a stop to take a breath. This allows the addition of **one more** as the twelfth *kratēma* named after birds in the relevant list.

EPILOGUE

To locate the first recording of bird sounds in notation in Western European music sources, one has to go back to the seventeenth century. With the exception of a sample from the thirteenth century, where in an English song called *Sumer Is Icumen In*, there is a short imitation of the cuckoo in notation (Wikipedia 2024; see Jensen 1985, 50), many maintain that the first transcription of musical phrases of birds was made by Athanasius Kircher in the first volume of his *Musurgia Universalis* (1650, 30–31). A famous relevant image (Figure 9) displays a rooster, a chicken, a cuckoo, and a quail singing melodies that he then paints in a pentagram, while a parrot says *chaire* in Greek [cheers, hail].

However, three centuries earlier, the Byzantine composers emerged as pioneers, as they not only imitated musical phrases of some of the most characteristic birds, but also named the entire compositions after certain birds.

Based on what has been noted earlier about *kratēmata* named after instruments, it does not come as a surprise that the birdsongs function as a special,

natural (in the sense that it is not constructed by humans) musical instrument. The small group of ten or twelve *kratēmata* named after birds is therefore naturally connected to the respective group of the *kratēmata* named after instruments. The songbirds on the level of symbolic use in the church music are a popular source of inspiration for another reason. They remind us of the angels, the other ‘winged’ creatures, assigned the task of chanting to God. The new branch of ornithomusicology should delve into the ancient Greek texts and the Byzantine dictionaries to discover the first attempts at depicting the voices of various birds and animals phonetically in writing. Apart from these, the Byzantine fourteenth-century psaltic *kratēmata* probably include **the older document with extended written music phrases** sung by birds.

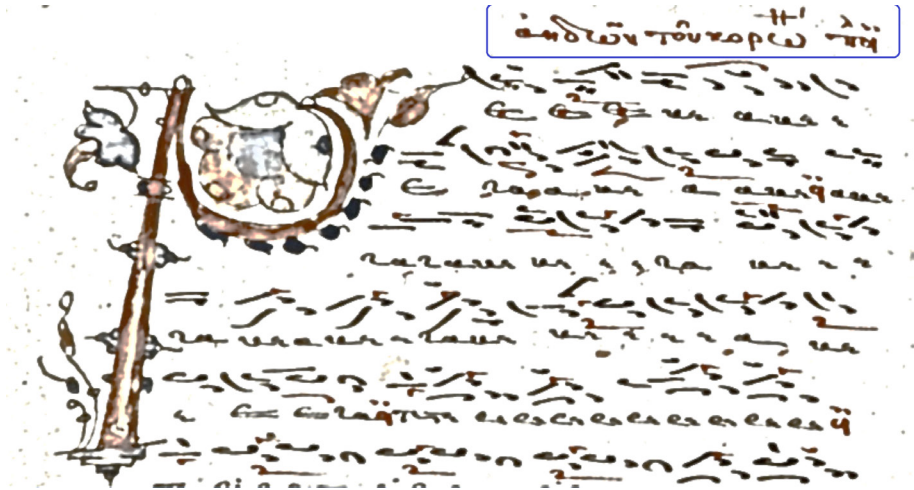


Figure 1a. The *Aēdhon* of Koronis. Ms. Iviron 1080, f 23v.

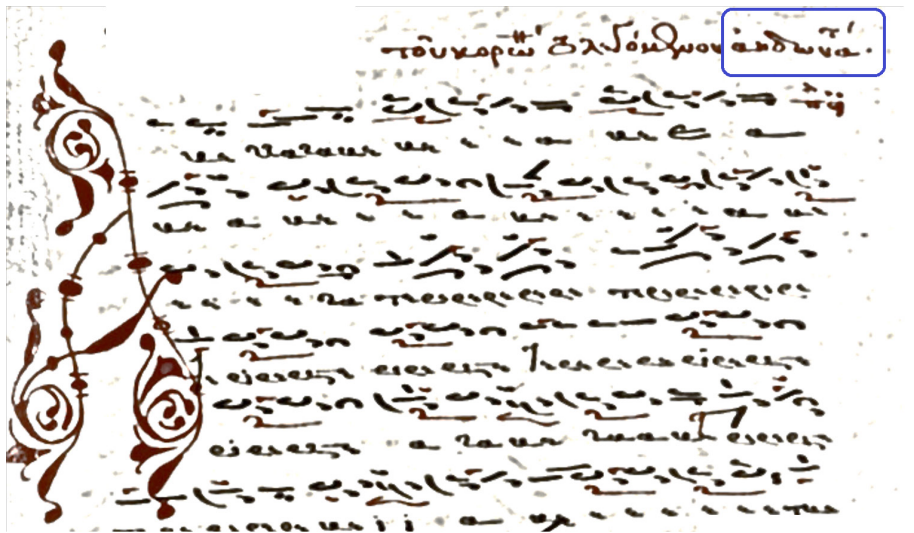
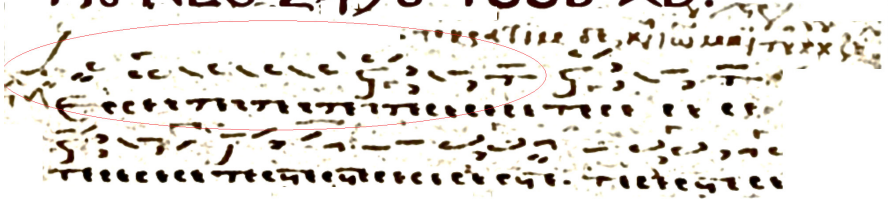


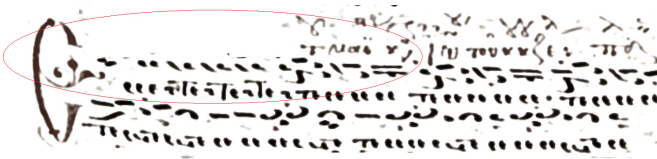
Figure 1b. The *Aēdhonaton* of Koronis (Ms. Iviron 1080, f 74r).

The written tradition of Papadopoula

Ms NLG 2458 1336 AD.



MS NLG 2406 15TH C



MS IVIRON 1288 16TH C.

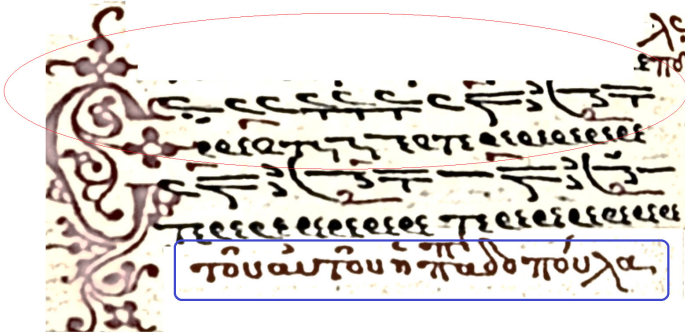


Figure 4. The *Papadopoula* (NLG 2458, f 192r; NLG 2406, f 306r; Ms. Iviron 1288, f 7v).

kou kou ke ke ke in kratemata

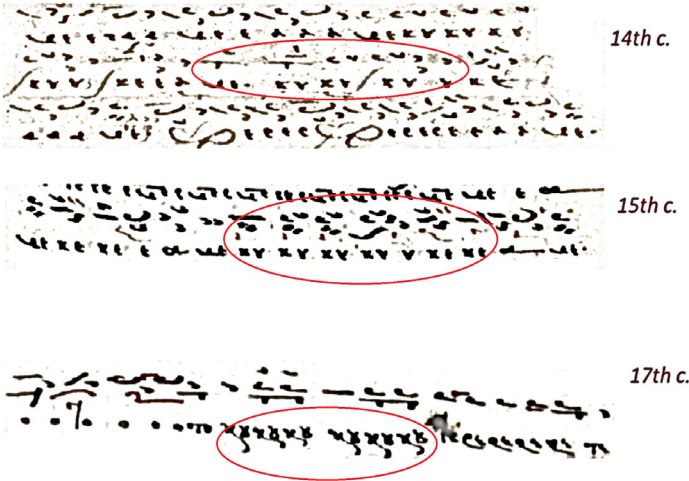


Figure 5. The syllables *ku ku* in *kratēmata* (NLG 2458 f 192v, NLG 2406 f 306r and Iviron 1080 f 74v).

CONTINUOUS LEAPS IN 4ths

from Παπαδοπούλα of Koukouzeles

FE F F C FC FCFC DE FE F F CF FC F F C

Iviron 1288 f 208v

from Μονόπνους of Koukouzeles

D D G G G G G G G D G G G D D G G G G D

Iviron 1203 f 192v

from Ανυφαντής of Koukouzeles

('G) C C C C C 'G C H C C C C C 'G

Iviron 1288 f 156r

from Αηδών of Chrysaphes 15th c.

C 'G C 'G C C C C C C

Iv 1288 f 94r

CONTINUOUS LEAPS IN 5ths

from Αηδών of Korones 14th c.

a D a a D a a D a a a a

Iviron 1203, f 85v and Iviron 1080 f 74v

from Ανυφαντής of Koukouzeles

C G F# GCC CCC C GF#G G G G G G

Iviron 1288 f 154v

from Παπαδοπούλα of Koukouzeles

E FE E A E FEE A E E E

Iviron 1080 f 151v

from Μονόπνους of Koukouzeles

G G C G G G C G G G G

Iviron 1203 f 192v

Figures 6 and 7. Leaps in the fourths and the fifths. Selection of frasses by the author.

THOMAS APOSTOLOPOULOS
THE SONGBIRDS AS AN INSPIRATION FOR BYZANTINE KRATĒMATA

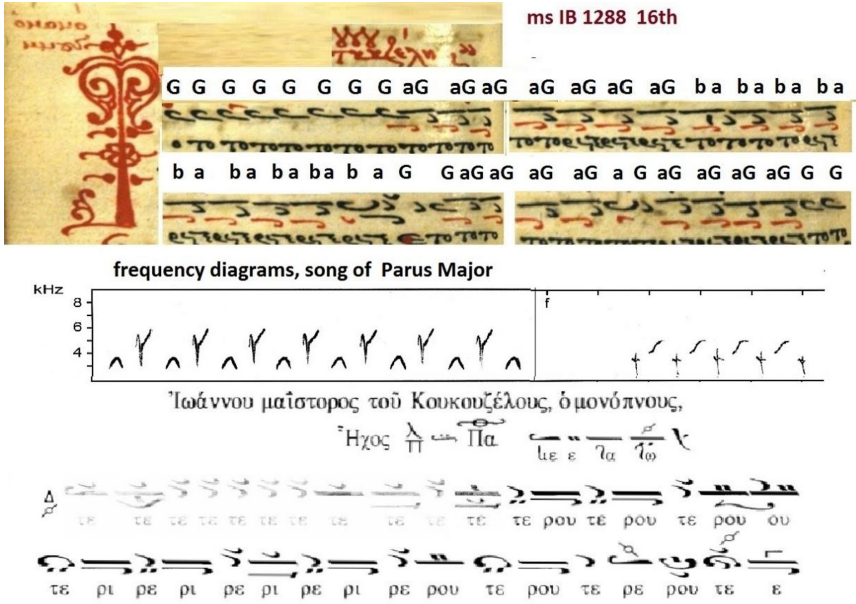


Figure 8. The monotonous *monopnous* (Ms. Ivirion 1288 f 45v; Slater 2000, 49; Karakatsanis 2007, B104).



Figure 9. Five songbirds (Kircher 1650: 30–31).

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ТОМАС АПОСТОЛОПУЛОС

ПТИЦЕ ПЕВАЧИЦЕ КАО ИНСПИРАЦИЈА
ЗА ВИЗАНТИЈСКЕ КРАТИМЕ

(РЕЗИМЕ)

Крајиме су посебан облик византијске музике у којем је мелодија развијана према тексту заснованом на слоговима без значења. Још од византијске ере познате су *крајиме* које су назване по одређеним врстама птица. У раду полазимо од хипотезе да су композитори били надахнути певањем одређених птица при компоновању појединих *крајима*. То је била иновативна техника која је допринела подизању угледа византијске музике раног XIV века.

Рад се бави *крајимама* на основу византијских музичких рукописа и њихових транскрипција – „тумачења” у аналитичком неумском писму. Идентификују се обрасци који одговарају својеврсним „музичким” фразама птичјег певања. Анализирано је десет кратима напева. У раду се наводи да би кратиму „велику сеницу” [*Parus major*], а могуће и „монотону шеву” [*Mirafra passerina*] требало прикључити познатој листи кратима које имитирају птичји пој. Анализа доприноси новој области орнитомузикологије, која нуди иновативан поглед на византијску музику, фокусирајући се на најстарије познате музичке композиције, најпре на оне које имитирају птичје певање.