## The Transmission of Greek Music

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RESUMO: O presente trabalho investiga como a música grega foi transmitida de uma geração a outra. Uma pequena parte da transmissão escrita está documentada, mas é evidente que os textos dramáticos e líricos eram copiados normalmente sem notação musical, e para autores anteriores a Eurípides as partituras podem nunca ter existido. O conhecimento que os musicólogos têm da música antiga deve ter-se embasado na tradição performática existente entre amadores e profissionais. Os sistemas de notação parecem ser invenção do século V. Eram conhecidos e usados apenas por especialistas e eram desconhecidos por muitos compositores de música. Textos com notação não faziam parte da tradição textual corrente e seguiam suas próprias convenções formais. Eram geralmente antologias usadas pelos recitalistas e tiveram pouca importância na transmissão dos textos famosos no decorrer dos séculos. Apenas a música de Mesomedes e as peças instrumentais de Bellermann sobreviveram na Idade Média, por certo porque foram adotadas como parte do repertório didático. PALAVRAS-CHAVE: Música grega, notação musical grega, Mesomedes, Eurípides, Timoteu, papiros.

Aristoxenus of Tarentum, writing about music in the fourth century BC, was able to refer to old melodies thought to have been composed by such musicians as Olympus in the eighth century and Terpander in the seventh. Dionysius of Halicarnassus in the time of Augustus, wishing to illustrate the principle that music subordinates words to melody and not melody to words, takes as his example some verses from the entry of the chorus in Euripides' *Orestes*, and observes that the melodic line does not follow the pitch-accents of the words. He seems not to doubt that what he is describing was Euripides' original music. Cultivated Greeks, then, knew some pieces of music that had been handed down over several hundred years; at any rate, they believed that it was that old, and it was clearly not new. How was Greek music transmitted from one generation to another? Was it transmitted in a similar way to literature, or were there fundamental differences? That is the question before us today.

Before the advent of modern recording techniques, music could be handed down in two ways: orally, or in writing (or in some combination of the two). Written transmission virtually requires some form of musical notation. It is true that Dionysius is able to say something about the contours of the Orestes melody without resorting to notation, and if he had specified the size of the intervals we might have been able to reconstruct it from his account. But such a cumbersome method of recording music could never have been practical. In fact the Greeks did have a system of musical notation: it had been in use for centuries before Dionysius' time, and remained in use for centuries after him. If he does not avail himself of it in his discussion of the Orestes melody, it is because he did not himself understand it, and/or because he could not expect many of his readers to understand it. In all probability he did not need to read music in order to know that piece. He might well have heard it in the theatre, since the Orestes was Euripides' most popular drama after his death. There are inscriptional records of performances of it in the fourth and third centuries, and the scholia to the play, echoing some Alexandrian commentator, several times refer to what 'present-day actors' do in performing it. A house-owner in Ephesus in the late second century AD had one of his walls adorned with a scene from it. The lines that Dionvsius refers to were the first sung words in the play, the musical number that a spectator was most likely to recall.

But if this was Euripides' original music, how had it survived for nearly four centuries from 408 BC? Written transmission must certainly be considered as a possibility. We know that tragic lyrics were sometimes copied with musical notation; we have several examples on papyrus, including a well-known one from the *Orestes* itself, copied around 200 BC. There is also a fragment from another of Euripides' late plays, the *Iphigeneia in Aulis*, a group of eight small fragments apparently from an *Achilles* by Sophocles the younger, and a number of others from unidentified dramas, most or all of them probably post-classical.

On the other hand, such finds are rarities. It is clear that dramatic and lyric texts were normally copied without the music. The very early papyrus of Timotheos' *Persai* has only text, no music, although this work was more famous as a citharode's display piece than as a literary monument. From the Ptolemaic and Roman periods we have papyri of such poets as Alcman, Sappho, Alcaeus, Stesichorus, Ibycus, Anacreon, Simonides, Pindar, Bacchylides, Corinna, and the dramatists, and they practically never carry musical notation or any other information about musical performance. Of the texts for which we do have any notation, none is earlier than the *Orestes*, so that it remains quite uncertain to what extent music of (say) the mid fifth century or of earlier generations ever was written down. Did musical scores for the lyrics of Aeschylus, Pindar, or Sappho ever exist? I think it is very likely that they did not, except that occasionally the odd individual melody might have been written out by some later performer or musicologist for his own use.

Yet fourth-century writers such as Aristoxenus and Heraclides Ponticus apparently knew some of this music, or thought they did, because they make many statements about its technical features. They tell us, for example, that Aeschylus and Phrynichus avoided the chromatic genus, which became fashionable later; that Terpander, Alcman, Anacreon, Simonides, Bacchylides, and Pindar all made use of the Dorian mode, and Sappho of the Mixolydian; that Dorian and Mixolydian were the principal modes used in earlier tragedy, while Sophocles introduced Phrygian and Lydian, and Agathon Hypodorian and Hypophrygian.

How were they able to make such statements? A few of them might have been based on lyric poets' own references to the modes of their music, since a number of such references survive in the fragments. But this could only account for a small part of the information given. Nor does it seem at all likely that it was based on examination of written scores, nor that it was simply invented. The only plausible view is that it was based on hearing the music in performance. In certain cases this is explicit in the sources. Heraclides quotes from a hymn to Demeter by Lasus of Hermione, where Lasus himself said that he was singing in the Aeolian harmonia; Heraclides observes that 'everybody sings this in Hypodorian', and he infers that Aeolian is the old name for Hypodorian. Aristoxenus discusses the traditional aulos tune called the *Spondeion melos*, which was believed to have been composed by Olympus. It was generally played in a way that involved an enharmonic tetrachord, with a semitone divided into two quarter-tones. But, says Aristoxenus, if you listen to someone playing it in the old-fashioned manner, you can see that the semitone was meant to be undivided.

There was, then, in the fourth century a continuing performance tradition of older music. One could hear renderings of lyric songs and instrumental airs from the fifth, the sixth, even the seventh century. The performers, some professionals, some amateurs, will themselves have learned these items, in most or all cases, by hearing them, either casually or through formal instruction by a teacher. There is nothing implausible or surprising in the preservation of favoured songs and airs over many generations by oral transmission. In our own culture only a minority of people know how to read music, but everyone knows many songs that they have learned by hearing, some of them perhaps more than a hundred or more than two hundred years old. In archaic and classical Greece, where music and song played such an important role both in public festivals and at domestic gatherings, and many boys were taught to play the lyre, the conditions for such transmission were all the more favourable.

Professionals such as auletes and citharodes might, it is true, have made some use of written scores following the invention of musical notation. Indeed, this invention must have been felt to serve some need, and some use must have been made of it, or it would not have continued to exist. But how early was it invented? Does it go as far back as the archaic or the classical age?

system of notation already existed in the time of Aristoxenus, though he does not make use of it in his musicological writings: he criticizes people who treat the notation of melodies as the sole aim of harmonic analysis, and he also criticizes the design of the system. There is no good reason to doubt that the system he criticizes was the same one that was current later. That is the earliest direct evidence. It has sometimes been claimed that certain fifth-century vase paintings which show people reading from book-rolls in musical performances must represent the use of scores; but the books need not have been more than libretti.

Internal analysis of the notational system, however, allows us to take it back somewhat before Aristoxenus. There are in fact two parallel systems, one normally used for vocal music, the other for instrumental. Both use symbols based on letters of the alphabet to indicate the pitch of notes; in the case of vocal music they are written above the syllables of the text. The vocal notation uses the 24 letters of the standard Ionic alphabet for notes in the octave that corresponds to the average register of the male voice. The series was extended upwards and downwards by using the letters again but turning them upside down, sideways, or back to front, or by making some addition or subtraction to their shape. The instrumental notation presents a more esoteric appearance. It uses only sixteen basic letter-symbols. These have strange forms and are not easy to identify. And instead of proceeding in alphabetical sequence, they follow one another in an unintelligible order.

The two systems must have had separate origins, but they were brought into harmony with one another. The 24-letter alphabet of the vocal notation covered just one octave, whereas the 16-letter series of the other system covered a little over two octaves. The scope of the vocal system was then enlarged by means of a second alphabet, divided between the higher and lower registers, so that it exactly matched the ambitus of the instrumental series. At a later stage, both systems were further enlarged in parallel so that they spanned over three octaves.

The strangely-formed letters of the instrumental system appear to come from an Argive alphabet of, probably, the first half of the fifth century. The Argolid had been notable for its instrumental virtuosos since early in the sixth century. In the time of Polycrates of Samos, according to Herodotus, the Argives had the highest reputation for music of all Greeks. Two of the earliest known musical theorists came from the north-east Peloponnese: Lasus of Hermione and Epigenes of Sicyon. Lasus is credited with writing the first book about music, and he may have actually invented the word μουσική. There is no evidence that he or Epigenes developed a notation for music, and what we know or surmise about their analysis of scales would suggest a different conceptual approach from that embodied in the attested notation. But given the level of musical and musicological activity in the region, it seems to have been a favourable milieu for the innovative step of inventing a notation.

Originally I suppose it was intended for the recording of vocal as well as instrumental music. There was no reason to devise two different systems at the same time. Somewhat later, we may imagine, the need was felt for a less abstruse set of symbols, especially for the use of singers, and then the system based on the Ionian alphabet was created. This was most likely in the late fifth or the fourth century. The Ionian alphabet was officially adopted at Athens in 403/2 and had been in widespread unofficial use there for a generation or so before; it was also establishing itself in other Greek cities at this period. The letter forms used in the musical notation point to a date before rather than after 300.

So it is possible that Euripides could have written down the music for his *Orestes* and *Iphigeneia in Aulis*, or had it written down by a musician acquainted with the notation. But it is not clear that there was any need for him to do so. Tragic choruses, drawn from the citizen body, cannot have been expected to read music, and no doubt they had always been trained orally by the poet-composer in what they had to sing; they may not even have been given copies of the words. There is a story in Plutarch (*De audiendo* 46b) that Euripides was teaching his singers an ode, and one of them giggled; the poet rebuked him, saying, "if you weren't an ignorant yob, you wouldn't laugh when I was singing in the Mixolydian mode". The aulete who accompanied the chorus, similarly, would have learned the melodies by hearing them sung.

After the first performance of a tragedy, there would be, besides the poet and the aulete, twelve or fifteen chorus-members who knew the songs by heart, and who could have taught them to any of their friends who were interested. We remember the stories that some of the Athenian survivors of the Sicilian disaster were able to beg food and water in return for singing lyrics of Euripides; and that the Caunians admitted to their harbour an Athenian ship that was being pursued by pirates only after establishing that the sailors knew some songs of Euripides. [Satyrus, *Vita Euripidis* xix; Plut. *Nic*. 29.3–5.] There was, then, potentially an oral tradition of tragic lyrics. When a popular play such as the *Orestes* was revived in the fourth century, it might well have been possible to find people who remembered the original music, even if no written scores existed. In theory this process might have been repeated from one performance to the next, down to the time of Dionysius of Halicarnassus.

Still, we know that at least one chorus from that play had been written out with musical notation by 200 BC. It is natural to surmise that some use was made of such scores when an old play was to be performed once more. On the other hand, they may have been produced for a different purpose. The papyrus with music for the *Iphigeneia*, copied in the mid third century BC, is not a fragment from a text of the whole play, nor even from a complete collection of the lyrics. It contains merely excerpts from two separate lyric portions, and those in the wrong order: one from the sung dialogue between Iphigeneia and the chorus (1500–09), and then one from the second stasimon (784–92). Both passages are emotional utterances of women, though set in the male

vocal register. We may guess that the manuscript was made not for a regular production of the play, but for some sort of concert performance of highlights by a star vocalist. From later times we have several records of professional musicians performing songs from plays of Euripides. And it is typical of the musical papyri that they tend to contain excerpts from a series of works rather than a single continuous one. There are just two examples of papyri, both Ptolemaic in date, that may have contained the whole text of a play as well as musical notation for the lyrics; but in both the lyrics were separated off and written on the back of the roll. One of these is a papyrus in Oxford containing fragments of Sophocles' *Achilles*, which I edited in 1999. Iambic and anapaestic portions of the play were written on the recto (across the fibres), and lyrics with musical notation on the verso. The other is a Cologne papyrus which also contained an Achilles tragedy. There between two iambic episodes stands the note  $\delta \lambda \lambda \alpha$   $\delta \pi i \sigma \omega$   $\lambda co \rho color do contained on the back-choral song'. None of this lyric text survives, but we may guess that, as in the Oxford papyrus, it was accompanied by musical notation.$ 

Evidently the copying of tragic music, and we may say of musical texts generally, followed a separate course from the ordinary copying of poetic literature. It was not a simple matter of some manuscripts of Euripides or Timotheos carrying musical notation and others omitting it. Texts with notation were exceptional, and in so far as they existed, the lyric portions were treated apart from the rest, or mere excerpts were taken from them. We do not know of a single example of a text of an entire drama, nome, or dithyramb copied with everything in due order and furnished with its musical notation.

The musical papyri differ in other ways from normal copies of poetic texts. They are usually written in much wider columns, to give longer unbroken lines of text. And whereas in literary papyri after the time of Aristophanes of Byzantium we regularly find colometry applied to lyric verse, so that it is divided into lines in accord with scholarly metrical analysis, in the musical papyri the texts continued to be written as prose, without colometry; even iambic trimeters are treated in this way. These differences no doubt reflect the fact that the two types of text were intended for different types of user: the one for the ordinary cultured reader, the other for practising musicians.

Despite the apparently sketchy and desultory nature of the transmission, some of Euripides' music seems to have been preserved for 400 years to be heard by Dionysius of Halicarnassus, and indeed longer, to judge by a papyrus document of the first or second century AD which contains a list of items in the repertoire of one Epagathos, a *choraules*, that is, a piper who accompanied singers; it includes songs from *Hypsipyle*, *Medea*, and *Antiope*, presumably the Euripidean dramas of those titles, besides others from other tragedians. Of course we cannot tell how authentic such renderings were. Even if the tragic texts had not been set to completely new lyrics, the original melodies may have suffered considerable deformation as a result of inaccurate transmission or the vagaries of performing style and changing taste.

The music of Timotheos and other leading composers of his time likewise continued to be heard for several centuries. One of Timotheos' dithyrambs was sung by the boys' chorus of the Cecropid tribe at the Great Dionysia at Athens in 319 BC. (They won the prize.) His Persai was performed by a citharode at the Nemean Games in 205. Some forty or fifty years later one Menecles, an official envoy from Teos to Crete, entertained his hosts with recitals to the kithara of works of Timotheos and Polyidos among others. Polybius records that young men in Arcadia at this period were taught the nomes of Philoxenus and Timotheos and danced them in the theatres to aulos accompaniment. A Stoic writer on music, Diogenes of Seleucia, referred to a composition by Krexos that his readers might be expected to have heard, and he was able to compare Philoxenus' style of dithyramb with Pindar's. The emperor Nero, who liked to perform as a citharode, had in his repertoire a Niobe and a Nauplios, which may well have been the nomes of Timotheos that bore those titles. Again, we cannot be sure that the original music was still being used, or if it was, how faithfully it had been preserved. If it was a version of the original, we would imagine that its preservation owed more to a professional tradition of direct tuition of one musician by another than to continuous copying of scores.

The longest and finest specimens of ancient music that we possess are the two Paeans by otherwise unknown Athenian composers inscribed at Delphi following their performance there in 127 BC. These are the earliest examples of inscriptions being used for the recording of music. There are three later instances, two of them from sanctuaries, the third a funerary stele. The durable nature of the medium has ensured that these texts, with varying degrees of damage, have been preserved to the present day; but we cannot tell whether anyone took any notice of them in antiquity after they were set up. What was the intention of those who caused them to be inscribed? The Delphic Paeans were festival texts performed by a choir of 39 men accompanied by a kithara. Were they inscribed in the hope that some future ensemble would take them up and mount new performances? Or simply as a proud record of artistic achievement? In the case of the funerary stele, it bears an elegiac couplet (without music) and then a little song with a philosophical message:

While you're alive, shine, man, don't be the least bit blue.
Life's for a little span;
Time demands its due.

The passer-by could read the verse, and if he happened to be acquainted with musical notation, he could also learn the melody to sing it to.

As I have said, such knowledge was probably never very widespread. There is some evidence from the second century BC for musical notation, both in its melodic and rhythmic aspects, being taught in Ionian high schools. But Dionysius of Halicarnassus

does not use it in discussing the *Orestes* melody. Quintilian advises that the budding orator should study music, but that he will not have time to go into it so thoroughly as to learn to sing from a score. Many of the technical writers on music, including Aristoxenus, Cleonides, Nicomachus of Gerasa, Ptolemy, and Porphyry, make no use of notation. Several of the later ones, from the third century AD on, do use it, or at any rate set out tables of the note symbols used in each key. But one of them, Gaudentius (fourth or fifth century?), speaks of the notation as something used by the ancients, and it seems to be implied that it was no longer in general currency. The latest papyri with notation are from the late third or early fourth century.

The texts that appear in the papyri of the Roman period are never by identifiable authors. In a few cases they may go back to the classical or Hellenistic periods, but the music looks more recent. The papyri seem in general to have been collections used by recitalists, and we do not get the impression that they were playing much of a role in transmitting old or famous compositions from generation to generation.

There was, however, one composer, some of whose music was transmitted from the second century into the Middle Ages and hence to us. This was Mesomedes, a citharode of Cretan origin who became a court musician to the emperors Hadrian and Antoninus Pius. We have fourteen or fifteen of his poems, and musical notation is preserved for five of them in manuscripts of the 13th to 15th centuries. How did this come about?

There are several pieces of evidence for Mesomedes' reputation in late antiquity. Eusebius recorded his *floruit* in his *Chronica*. Dio Cassius identifies him as 'the man who wrote the citharodic nomes', and Synesius, the cultured Christian Neoplatonist from Cyrene, about 400 AD, quotes from his hymn to Nemesis as something that 'we sing to the lyre'. Johannes Lydus also quotes from it.

Mesomedes' music seems to us plain, limited, and uninspired by comparison with many of the pieces that we know from other sources. So why was he so celebrated, and why did some of his compositions survive so long? I think the answer must be that they were adopted as standard items in teaching young musicians to play the lyre. (Perhaps imperial patronage was a deciding factor here.) That is why Synesius speaks of his hymn to Nemesis as something that 'we sing to the lyre', rather as someone today who has had piano lessons might refer to the works of Carl Czerny, or a flautist to those of Marcel Moyse. In the medieval tradition, Mesomedes' pieces are associated with a late musical treatise by one Dionysius, transmitted with other works of music theory. They are accompanied by annotations identifying the musical key and the metres. At an earlier stage all this material may have been included in a corpus of writings on music bearing the title  $\dot{\eta}$  Mouguk $\dot{\eta}$ . We may suppose that towards the end of antiquity the teaching of Hellenic music as a practical art had ceased, and that the Mesomedes scores had passed from the didactic tradition to that of theoretical writing.

Another technical treatise, the so-called Anonymus Bellermannianus, preserves a set of six short instrumental pieces without ascription. These too must derive from the ancient teaching repertoire, as they are no more than simple exercises. One of them is just an ascending and descending scale, while two of the others consist merely of a series of permutations of four consecutive notes, clearly a fingering exercise.

The transmission of Greek music, then, was fitful and much depended on chance. Music for the most part was regarded as an ornament to poetry, with little claim to classic status of its own. It was the words that counted for more; and they were much easier to transmit in writing through the ages.

ABSTRACT: The paper enquires how Greek music was transmitted from one generation to another. Some written transmission is documented, but it is clear that dramatic and lyric texts were normally copied without music, and for authors earlier than Euripides scores may never have existed. Musicologists' knowledge of older music must have relied on a performance tradition among amateurs or professionals. The notation systems seem to be inventions of the fifth century. They were known and used only by specialists, and they are ignored even by many of the technical writers on music. Notated texts were not part of the ordinary textual tradition and followed their own formatting conventions. They were in general anthologies used by recitalists, and they played little role in transmitting famous texts through the centuries. Only Mesomedes' music and the Bellermann instrumental pieces survived into the Middle Ages, no doubt because it had been adopted as didactic repertory.

KEY-WORDS: Greek music, Greek musical notation, Mesomedes, Euripides, Timotheus, papyri.