# Music, Soundscapes and Performance in Greek Tragedy

M. Isabel PANOSA DOMINGO

Universitat de Lleida

mariaisabel.panosa@udl.cat

## Abstract

This article sets out, firstly, a general overview of the presence of music in Greek theatre. Secondly, it discusses the interpretive possibilities derived from the study of the theatrical text to extract systematic information about the performance of music and soundscapes in drama, especially in tragedy. The results are compared with the musicological evidence and the theatrical devices and spaces, together with their acoustic conditions for sound projection. In the text, the background for the performance of sound is largely provided by nature and the phenomena triggered by the four elements as instruments of deities, as we can see in Greek mythology and the archetypal imaginary of ancient Greeks. Besides, there is human nature, which is revealed through the dramatic action itself and the expression of pain, emotion and passion by characters. In tragedy, these references are used as highlights within the narrative and as resources for creating images or evoking soundscapes. Moreover, based on the Pythagorean conception, the universe would also have a sound translation in music as a reflection of the harmony of the spheres. This philosophical consideration, which is linked to the theoretical aspects of ancient Greek music, presumably had a materialisation on stage by performing movements conceived in an astral sense. The article presents some results and reflections from the tragedies analysed, in particular the passages that suggest sound effects or indicate the use of music with a determined function. Among these expressions, the scenes which involve manifestation of deities, lamentation songs, funerary rituals and Bacchic worship occupy a privileged place. Many soundscapes and hymns identified give shape to the sacred framework perpetuated by the Hellenic tradition, in which the community gets involved within and beyond the story.

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## Introduction

One of the purposes of this article is to provide a general overview of the role of music in Greek drama and other elements related to the staging of the plays. The second purpose focuses on analysis of the evidence on the music and soundscapes in tragic plays corresponding to the classical period, although some examples of other dramatic genres are also provided as illustrative instances of the subject analysed.

The main sources for this study are textual, and this article is primarily based on analysis of the text. Nevertheless, there is also archaeological and iconographic evidence to be considered. Indeed, the iconographic track is an explanatory or complementary reference due to the visual details it provides. Furthermore, the archaeological finds provide us with information on theatrical spaces, theatrical devices and the types and features of instruments used in drama.

This research in progress is centred on the extraction and classification of all occurrences in order to record and define frequencies, contexts, vocabulary and metres used. In the following lines, the key aspects of the role of music in tragedy as well as the overall interpretation based on the cases examined will be presented.

## Text and Performance

Textual sources about music in drama can be further subdivided. The primary source is the very text of the plays. We also have some original fragments of papyri containing brief parts or passages of tragedies and satirical dramas supplied with musical notation (Panosa 2023). They represent a limited and scarce sample, which leads us to ask significant questions about the reason for such scarcity of tragic musical papyri. This lack affects not only drama but all literary works that ancient Greeks composed to be performed with music.

The structure of tragedy consists of recited, dialogued and strictly sung parts, to which a choreographic line combining gesture and movement was to be added as a parallel counterpoint by the choir.

The role of the choir and the function of the sung parts are essential not only for the analysis of the musical setting, but also because of its capacity to communicate contents to the audience. The choir, with its reflections, clarifications and assessments, is placed in the text and in the staging as the mediator between the scene and the spectators; or, in Castiajo's words, as "um intermediario entre o mundo ficcional da peça e a realidade da audiência" (Castiajo, 2012: 110). It is the ubiquitous interlocutor who facilitates the transmission of the message with which the poet has imbued the text. This transmission occurs not only through words, but also, and above all, through singing and choral movement, thus ensuring both rational and emotional communication and aiming to have an impact on spectators and possibly provoke determined reactions. Indeed, as argued by Zimmermann (1991: 21), the choir personifies the poet as the voice of humanity and reveals the emotions of spectators by means of music. On the other hand, and along with Wiles, we can discuss Pickard-Cambridge's statement, based on Plato's view, that tragedy is essentially a form of choral dance, or Aristotle's view that the choir functions as a character within the drama (Wiles, 2010: 63).

If we talk about music in tragedy, we can refer to two very different aspects: a) the use of music in the staging of a play, that is as a performative language; and b) the contents of the text that indicate precise "musical moments". Both aspects are approached in our research.

If we talk about dance, we can focus on two issues: a) the choreographies performed by the choir during the play, as a performative language as well;[1] and b) the references to dance that we find in the events narrated.

A chorus from Sophocles' *Trachinian Maidens* (verses 205-224) provides a beautiful example of a paean sung to Artemis, the Nymphs and Dionysus, which describes the traits and mood of a Bacchic dance accompanied by the aulos:

| | |
|---|---:|
| ἀνολολυξάτω δόμος | 205 |
| ἐφεστίοις ἀλαλαγαῖς | |
| ὁ μελλόνυμφος· ἐν δὲ κοινὸς ἀρσένων | |
| ἴτω κλαγγὰ τὸν εὐφαρέτραν | |
| Ἀπόλλω προστάταν, | |
| ὁμοῦ δὲ παιᾶνα παι- | 210 |
| ᾶν' ἀνάγετ', ὦ παρθένοι, | |
| βοᾶτε τὰν ὁμόσπορον | |
| Ἄρτεμιν Ὀρτυγίαν, ἐλαφαβόλον, ἀμφίπυρον, | |
| γείτονάς τε Νύμφας. | 215 |
| αἴρομαι οὐδ' ἀπώσομαι | |
| τὸν αὐλόν, ὦ τύραννε τᾶς ἐμᾶς φρενός. | |

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1. In his *Poetics* (1447a), Aristotle states that dancers imitate character, emotion and action by means of the rhythm and particular positions or shapes (*schēmata*).

ἰδού μ' ἀναταράσσει,
εὐοῖ,
ὁ κισσὸς ἄρτι Βακχίαν
ὑποστρέφων ἄμιλλαν.                                    220
ἰὼ ἰὼ Παιάν·
ἴδε ἴδ', ὦ φίλα γύναι·
τάδ' ἀντίπρωρα δή σοι
βλέπειν πάρεστ' ἐναργῆ.[2]

"With a shout by the hearth let the palace roof ring
from those that are dreaming of bridal, and ye,
young men, let your voices in harmony sing
to the God of the quiver, the Lord of the free!
And the Paean withal from the maiden band
to Artemis, huntress of many a land,
let it rise over the glad roof tree,
to Phoebus' own sister, with fire in each hand,
and the Nymphs that her co-mates be!
My spirit soars. O sovereign of my soul!
I will accept the thrilling flute's control.
The ivy-crowned thyrsus, see!
with Bacchic fire is kindling me,
and turns my emulous tread
wherever the mazy dance may lead.
Euoî! Euoî!
O Paean! send us joy.
See, dearest Queen, behold!
Before thy gaze the event will now unfold."[3]

Another description concerning the Dionysian music, dance and rites, as well as the Nymphs, Maenads or Bacchants, and Aphrodite can be found in Euripides' satyr play *Cyclops,* in a song sung by the chorus of satyrs (epode, verses 63-71):

οὐ τάδε Βρόμιος, οὐ τάδε χοροὶ
Βάκχαι τε θυρσοφόροι,
οὐ τυμπάνων ἀλαλαγμοί,                                65
οὐκ οἴνου χλωραὶ σταγόνες
κρήναις παρ' ὑδροχύτοις·
οὐδ' ἐν Νύσᾳ μετὰ Νυμ-
    φᾶν ἴακχον ἴακχον ᾧ
    δὰν μέλπω πρὸς τὰν Ἀφροδί-                         70
    ταν, ἃν θηρεύων πετόμαν
Βάκχαις σὺν λευκόποσιν[4].

2.  Lloyd-Jones and Wilson (1990), pp. 249-50.

3.  Campbell (1906), pp. 182-83.

4.  O'Sullivan and Collard (2013), p. 80.

> "There is no Bromius here, no choruses either, no thyrsus-wielding Bacchants, no rapturous cries from drums, no bright drops of wine beside the rushing waters of springs. Nor can I sing with the Nymphs on Nysa the song 'iacchos! iacchos!' to Aphrodite, whom I pursued, flying along with the white-footed Bacchants."[5]

Other examples come from Euripides' *Bacchantes*. We just mention the first chorus (verses 64-169), which contains a full description of Dionysus' origin and personality, bloody rites, dances, Phrygian music, cries of Evoe, attributes (such as the thyrsus and the ivy crown), and members of his *thíasos*.

### Music in the Functional Structure of Tragedy

Music was an essential part of Greek tragedy. Wilson (2002: 39) considers it much closer to the concept of 'choral opera' than to the concept of 'theatre'. In his *Poetics* (1450a 8 ff.), Aristotle considers music as one of the six constituent elements of tragedy, along with words, characters, thought, plot, and 'what is to be seen', or sight (*opsis*).[6] In *Politics* (1341-42), he also describes the cathartic power of music.

Beye (1974) and other scholars[7] analysed the works belonging to the great tragedians and established the details of theatrical techniques and stage direction used by playwrights as well as the basic structure of tragedy. In this structure we can distinguish the parts in which music had a main role, involving the choir and the aulos player:[8]

1) The *párodos*, performed after the prologue,[9] which usually consists of sung anapaests. In the *párodos*, as a rule, the choir entered the scene marching from one of the theatre side sections and moved following the *aulētēs* towards the *orchēstra*, either singing or simply following the *aulētēs* steps in anapaestic rhythm. When arriving at the *orchēstra*, the choir performed a song in lyrical metres accompanied by the aulos and danced simultaneously.

2) The stasims, which are responsory strophic chants between the coryphaeus (*koryphaîos*) and the choir. They were alternated with the various episodes of the play (usually 3 to 5), consisting of dialogued parts by the actors. Sometimes the choir — or more commonly the coryphaeus — could also maintain a lyrical dialogue with the actors

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5. O'Sullivan and Collard (2013), p. 81.

6. See Liapis *et al.* (2013: 1) on *opsis* and the definition of 'performance'.

7. For example: Zimmermann (1991), Taplin (2002), Wilson (2002), Davidson (2002) Guidorizzi (2003) and Fuentes (2007: 31-46). A reference book with guidelines and recorded experiments for the performance of ancient Greek tragedies at present with rigorous criteria has been written by Ley (2015). Rhem (2016) reminds us that the approach to Greek tragedy has to consider its original context.

8. The main responsibility for the music throughout the play fell on him. He also had to ensure that the choir and the actors could sing in the correct tuning, by giving them their 'keynote' (*endosimón*) (Wilson, 2002: 60). However, in Knox's opinion, music was not a very complicated flute-work. See Knox (in Dunn, 1996: 154). On the features of music in Greek drama see Wilson (2005) and Ercoles (2020).

9. The prologue is a part in iambic trimetres which can be recited as a monologue or dialogue at the beginning of the play and immediately followed by the *párodos*.

in the form of choral odes. This was the case in the so-called *kómmoi*, being marked by a lamentation style.[10] In the choral odes, especially in Sophocles' tragedies, the protagonists and choruses communicate with one another by combining lyrics with mythological themes, and archaic devices (Nooter, 2012: 24).

3) The *éxodos*, an exit chant by the choir, usually short, which used to conclude the play.

There were dialogued parts without music recited by the actors or coryphaeus, melodramatic recitatives (*parakatalogē*) accompanied by the aulos, and sung parts by the choir or actors (Pickard-Cambridge, 1968: 156-157, 257; Fuentes, 2007: 28-29). The sung parts adopted the amoebeus (*amoibaîos*), or alternated lyrical dialogue, being introduced and concluded by means of clauses or proems that allowed the transition from speech to singing (Guidorizzi, 2003: 105).[11] On the other hand, the dialogued parts recited by the actors adopted the *stichomythía* style and were above all in iambic metre, since it was considered that this was the most appropriate rhythm for discourse in Greek.[12]

It is worth mentioning that there are also lyrical examples performed by the main actor in the form of monodic singing, especially at the end of drama. Music gradually became much more important. This tendency was accentuated in Euripides' works[13] and increased in later tragedians, while the presence of choral singing was progressively reduced. By the mid-4th century, choirs took part in choral interludes (*embólima*) between different plays (Pickard-Cambridge 1968: 233).

As already mentioned, choral appearances in dramas were usually accompanied by dance. For Wiles (2010: 88), dance was regarded as a mimetic expression, and its roots as a form of imitation are to be found in worship, in the context of ritual movements enacted by the officiants.[14] The mimetic expression of Greek dance could be achieved by employing rhythmical gestures and motions as well as signs with the hands (*cheironomía*) (Pickard-Cambridge, 1968: 246-248).[15] We already find this feature in choral poetry from the archaic period. This combination of singing and dancing was known as *molpé*.[16] In the case of tragedies, the most common dance was called *emméleia*, characterised by its solemnity and dignity (Ath. *Epit*. 14.28;

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10.    *Kommós* means 'beat the chest with the hands' and was a song performed by the choir and actors together. See Castiajo (2012: 115 and n. 40), who refers to Aristotle's *Poetics* (12.1452b.24): "a *kommos* is a lamentation common to the chorus and those on stage" (Bernadete and Davis, 2002, p. 32)

11.    See Panosa (2023) for an analysis of the extant Greek tragic papyri with musical notation.

12.    According to Aristotle (*Poetics*, 1449a), who argues that trimetres are frequent in daily speech: μάλιστα γὰρ λεκτικὸν τῶν μέτρων τὸ ἰαμβεῖόν ἐστιν. σημεῖον δὲ τούτου, πλεῖστα γὰρ ἰαμβεῖα λέγομεν ἐν τῇ διαλέκτῳ τῇ πρὸς ἀλλήλους (Gallavotti, 1974: 14). See also Pickard-Cambridge (1968: 156) and Fuentes (2007: 30).

13.    Knox (in Dunn 1996: 154) reminds us that Euripides employed a music composer: Timotheus.

14.    Wiles (2010: 77) also reminds us, for the Hellenistic period, of the correlation between stage and *orchēstra*, on the one hand, and actors and dancers, on the other, being the former linked to the sphere of reason and morality and the latter to physical self-expression.

15.    Among the rhythmical movements, or *orchēsis*, Plutarch (*Quaest. Conv*. IX, 747b ff.) distinguishes motions (*phoraí*), postures or attitudes (*schēmata*), and indications (*deíxeis*). See Pickard Cambridge's comments (1968: 249) on this reference.

16.    On Greek dance, see Weiss (2020) and the referred bibliography.

Guidorizzi, 2003: 63). The choir consisted in early times of 12 members and advanced in a circular movement. With Sophocles the choir members (*choreutaí*) rose up to 15 and could be arranged in a triangular or rectangular formation, being divided into 5 rows of 3 dancers (Csapo and Slater, 1994: 353; Castiajo, 2012: 104, 118-19)[17].

Throughout the play, choral dances in tragedy acquired the character of the passions or feelings aroused by the events narrated. The poet drove spectators to reflection and assessment by means of words, and the performative mechanisms served to reinforce this effect. The *hyporchēma* seemed to be a performance in which dancers accompanied one or more singers by illustrating the words with their rhythmical movement.[18] Thanks to sources such as Athenaeus (*Epit.* 14.28), Pollux or Lucian of Samosata,[19] we know about several dance steps played in ancient drama:

- *Kalathískos* ('basket'): probably a movement consisting of holding the hands over the head.
- *Xiphismós*: the dance of sword.
- *Thermaustrís*: the dance of tongs, with jumps up and crossing the legs before falling to the ground.
- Warrior dances, the best known of which is the Pyrrhic dance.

The subjects or situations where we find a direct or indirect reference (even incidental) to music in tragedy are:

- Allusions to certain myths.
- Details on mythological beings related to music: Apollo, Dionysus, the Muses, the satyrs, Pan, and the Sirens, among the most frequent.
- Celebrations: religious ceremonies, contests or *epithalamoi* (songs for weddings).
- Funeral rituals (*thrēnoi*) or worship rituals to the heroes or gods (*paeans*), occurring quite often.

For example, a passage from Euripides' *Iphigenia at Aulis* contains a song by the chorus referring to a wedding-hymn, the marriage-feast of Peleus in the presence of the choir of the Muses (verses 1036-1048):

τίν' ἄρ' Ὑμέραιος διὰ λωτοῦ Λίβυος
μετά τε φιλοχόρου κιθάρας
συρίγγων θ' ὑπὸ καλαμοεσ-
σᾶν ἔστασεν ἰαχάν,
ὅτ' ἀνὰ Πήλιον αἱ καλλιπλόκαμοι                    1040
δαιτὶ θεῶν ἔνι Πιερίδες
χρυσεοσάνδαλον ἴχνος

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17. On the number of the choir members for every period and type of performance, see Sansone (2016).

18. See Pickard-Cambridge (1968: 255) and his comments on the sources on the *hyporchēmatikē órchēsis*.

19. Nevertheless, it has to be taken into account that these sources date from about six centuries later (Pollux: 2nd -3rd centuries, Lucian: 2nd century) and the information is not completely reliable.

> ἐν γᾷ κρούουσαι
> Πηλέως ἐς γάμον ἦλθον,
> μελῳδοῖς Θέτιν ἀχήμασι τόν τ᾽ Αἰακίδαν,                    1045
> Κενταύρων ἐν ὄρεσι κλέουσαι
> Πηλιάδα καθ᾽ ὕλαν.[20]
>
> "What wedding-hymn was that which raised its strains to the sound of Libyan flutes, to the music of the dancer's lyre, and the note of the pipe of reeds?
> It was on the day Pieria's lovely-haired choir came over the slopes of Pelion to the wedding of Peleus, beating the ground with print of golden sandals at the banquet of the gods, and hymning in dulcet strains the praise of Thetis and the son of Aeacus, over the Centaurs' hill, down woods of Pelion."[21]

## Soundscapes: Sound and Music

The sphere of sound and soundscape has more significance in Greek tragedy than it might seem at first glance. It is a wide field of enquiry which can branch into several areas: topics, functions (symbolic, literary) and source of transmission (human, animal, the four elements).

With reference to soundscapes, we can mention:

- Manifestation of deities through the elements as expression of power, rivalry, warning or threat, response to a prayer, fury, or punishment imposition through calamities or natural disasters.
- Manifestation of living beings in nature, mainly animals — especially birds —, which also transmit divine messages, or messages coming from mortal or semi-divine beings that have undergone a metamorphosis.
- Sound of objects, with symbolic or denotative meaning.
- Human voice and its nuances: volume, timbre, pitch (high or low), expressed in declarative language or rhetorical figures.

In the first two types they are sounds of nature, but not spontaneous sounds, because they have a supernatural 'origin' or motivation. Moreover, they are 'audible' only to certain people or characters within a determined myth narrative.

Regarding the first type, there is a short reference to Zeus' power through lightnings in two verses (430-431) from Aeschylus' *Seven against Thebes* by the messenger:

> τὰς δ᾽ ἀστραπάς τε καὶ κεραυνίους βολάς
> μεσημβρινοῖσι θάλπεσιν προσήικασεν.[22]

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20.  Murray (1963), pp. 321-22.

21.  Coleridge (1907), pp. 425-26.

22.  West (1990), p. 86.

"As for lightning-flashes and the thunder's bolts, he likened them to rays of heat at midday."[23]

Another example which integrates sound effects and visual elements can be found in a comedy, in particular a choral ode from the *párodos* of Aristophanes' *Clouds* sung by the first semichorus. This is a dramatic expression of the divine power of waters, giving a striking effect to the performance as well:

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ἀέναοι Νεφέλαι,      275
ἀρθῶμεν φανεραὶ δροσερὰν φύσιν
εὐάγητον,
πατρὸς ἀπ' Ὠκεανοῦ βαρυαχέος
ὑψηλῶν ὀρέων κορυφὰς ἔπι
δενδροκόμους, ἵνα      280
τηλεφανοῦς σκοπιᾶς ἀφορώμεθα
καρπούς τ' ἀρδομέναν θ' ἱερὰν χθόνα
καὶ ποταμῶν ζαθέων κελαδήματα
καὶ πόντον στενάχοντα βαρύβρομον·
ὄμμα γὰρ αἰθέρος ἀκάματον      285
σελαγεῖται
μαρμαρέαισιν ἐν αὐγαῖς.
ἀλλ' ἀποσεισάμεναι νέφος ὄμβριον
ἀθανάτας ἰδέας, ἐπιδώμεθα
τηλεσκόπῳ ὄμματι γαῖαν.[24]      290

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"O ever-floating Clouds, let us raise to view our dewy, radiant shapes: let us soar from the deep-sounding bosom of Father Ocean to the leaf-tressed peaks of the lofty hills. There, from some specular height, we shall have full prospect of the teeming foison and the sacred watered earth: there we shall hear the rushing voices of the streams divine and the deep-booming sea. The unresting eye of day flashes forth in crystal rays. But come, let us doff the misty veil of our immortal guise, and with far-glancing eye gaze upon the world."[25]

For the second type, that is the manifestation through animals, a good example also comes from a comedy: Aristophanes' *Birds*. In this case, music seems to be more relevant in soloist parts than in choruses. This play includes a monody by Tereus (verses 227-262) singing as a hoopoe and mixing onomatopoeic sounds with articulated language[26] in his speech:

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23. Smyth (1952), p. 357.

24. Oates and O'Neill (1938), pp. 74, 76.

25. Oates and O'Neill (1938), pp. 75, 77.

26. See other instances in Aristophanes' *Frogs* (verses 209-220 and 228-235) by the chorus of frogs singing with onomatopoeic sounds and verbal allusions to Dionysus, the Muses, Apollo, Pan, the aulos, and the lyre.

ἐποποῖ ποποποποποποποῖ,
ἰὼ ἰὼ ἰτὼ ἰτὼ ἰτὼ ἰτώ,
ἴτω τις ὧδε τῶν ἐμῶν ὁμοπτέρων·
ὅσοι τ᾽ εὐσπόρους ἀγροίκων γύας                              230
νέμεσθε, φῦλα μυρία κριθοτράγων
σπερμολόγων τε γένη
ταχὺ πετόμενα, μαλθακὴν ἱέντα γῆρυν·
ὅσα τ᾽ ἐν ἄλοκι θαμὰ
βῶλον ἀμφιτιττυβίζεθ᾽ ὧδε λεπτὸν                            235
ἡδομένα φωνᾷ·
τιὸ τιὸ τιὸ τιὸ τιὸ τιὸ τιὸ τιό.
ὅσα θ᾽ ὑμῶν κατὰ κήπους ἐπὶ κισσοῦ
κλάδεσι νομὸν ἔχει,
τά τε κατ᾽ ὄρεα τά τε κοτινοτράγα τά τε κομαροφάγα,      240
ἀνύσατε πετόμενα πρὸς ἐμὰν αὐδάν·
τριοτὸ τριοτὸ τοτοβρίξ·
οἵ θ᾽ ἑλείας παρ᾽ αὐλῶνας ὀξυστόμους
ἐμπίδας κάπτεθ᾽, ὅσα τ᾽ εὐδρόσους γῆς τόπους             245
ἔχετε λειμῶνά τ᾽ ἐρόεντα Μαραθῶνος, ὄρνις
πτερυγοποίκιλός τ᾽ ἀτταγᾶς ἀτταγᾶς.
ὧν τ᾽ ἐπὶ πόντιον οἶδμα θαλάσσης                            250
φῦλα μετ᾽ ἀλκυόνεσσι ποτῆται,
δεῦρ᾽ ἴτε πευσόμενοι τὰ νεώτερα,
πάντα γὰρ ἐνθάδε φῦλ᾽ ἀθροΐζομεν
οἰωνῶν ταναοδείρων.
ἥκει γὰρ τις δριμὺς πρέσβυς                                   255
καινὸς γνώμην
καινῶν τ᾽ ἔργων ἐγχειρητής.
ἀλλ᾽ ἴτ᾽ ἐς λόγους ἅπαντα,
δεῦρο δεῦρο δεῦρο δεῦρο.
τοροτοροτοροτοροτίξ.                                          260
κικκαβαῦ κικκαβαῦ.
τοροτοροτοροτορολιλιλίξ.[27]

"Epopopoi popoi popopopoi popoi, here, here, quick, quick, quick, my comrades in the air; all you who pillage the fertile lands of the husbandmen, the numberless tribes who gather and devour the barley seeds, the swift flying race that sings so sweetly. And you whose gentle twitter resounds through the fields with the little cry of tiotiotiotiotiotiotiotio; and you who hop about the branches of the ivy in the gardens; the mountain birds, who feed on the wild olive-berries or the arbutus, hurry to come at my call, trioto, trioto, totobrix; you also, who snap up the sharp-stinging gnats in the marshy vales, and you who dwell in the fine plain of Marathon, all damp with dew, and you, the francolin with speckled wings; you too, the halcyons, who flit over the swelling waves of the sea, come hither to hear the tidings; let all the tribes of long-necked birds assemble here; know that a clever old man has come to us, bringing an entirely new idea and proposing great reforms. Let all

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27.   Hall and Geldart (2017), pp. 30-4.

come to the debate here, here, here, here. Torotorotorotorotix, kikkabau, kikkabau, torotorotorolililix."[28]

In addition, we find the manifestation of supernatural beings, such as the Sirens, Erinyes (or Eumenides), and the singing sphinx of Oedipus.

Sounds produced by armed human beings with animals in motion (horsemen) compared with the noise of elements of nature (wild waters) and reinforced by visual details (dust) describe through words landscapes and soundscapes in a passage from Aeschylus' *Seven against Thebes* sung by the chorus (verses 78-86), just after expressing a feeling of panic:

<     > θρέομαι φοβερὰ μεγάλ' ἄχη·
μεθεῖται στρατὸς στρατόπεδον λιπών·
ῥεῖ πολὺς ὅδε λεὼς πρόδρομος ἱππότας·          80
αἰθερία κόνῙς με πείθει φανεῖσ',
ἄναυδος σαφὴς ἔτυμος ἄγγελος.
†ἐλεδεμνὰς†
πεδί' ὁπλόκτυπ' ὠτὶ χρίμπτει βοάν·
ποτᾶται, βρέμει δ' ἀμαχέτου δίκαν          85
ὕδατος ὀροτύπου.[29]

"We cry aloud for fear. O day of woe!
They have left the camp.
They are on their way.
The host is streaming hither, horsemen in the van,
A mounted multitude. The dust persuades me,
Seen in the sky, dumb harbinger, but sure.
The tramp of hoofs upon the nearer plain
Falls on mine ear, threatening captivity.
It hovers close at hand, the heightening roar
As of wild waters irresistible
Rending the hills."[30]

Another striking sound effect comes from Aeschylus' *Seven against Thebes* sung by the second semichorus (antistrophe 3, verses 900-903):

διέκει δὲ καὶ πόλιν στόνος·
στένουσι πύργοι, στένει
          πέδον φίλανδρον.[31]

"Through the city too passeth the sound of lamentation; the battlements lament; the land that loveth its sons' laments."[32]

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28.   Oates and O'Neill, Jr. (1938), pp. 743-44.
29.   West (1990), pp. 67-8.
30.   Campbell (1906), p. 77.
31.   West (1990), p. 112.
32.   Smyth (1952), p. 397.

Sound and sight are mutually linked in a short expression by the blinded Oedipus in Sophocles' *Oedipus at Colonos* (verse 139): "Behold me! For I 'see by sound,' As mortals say"[33] (ὅδ' ἐκεῖνος ἐγώ· φωνῇ γὰρ ὁρῶ, τὸ φατιζόμενον)[34]. Sophocles centred his plays around the subject of sight as a way of perception by means of verbal and thematic techniques to create dramatic movements (Seale, 1982). In this play, the author focuses on the capability of truly seeing without a visual perception. Oedipus can *see* through hearing as well as through revelations.

Concerning human voice and its nuances in pain expressions, there is an illustrative passage from Aeschylus' *Suppliants* (strophe 6, verses 111-116) where the chorus of Danaids sings a lamentation song. Performative details are provided by the text (low and shrill wails, crying):

> τοιαῦτα πάθεα μέλεα θρεομένα λέγω,
> λιγέα βαρέα δακρυοπετῆ.
> ἰή, ἰή,
> ἰηλέμοισιν ἐμπρεπὴς θρεομένη μέλη                    115
> ζῶσα γόοις με τιμῶ.[35]

> "Such miserable sufferings while I wail, now shrill, now low, blended with falling tears, alas! alas! resembling funeral dirges, though yet alive I celebrate my own lament."[36]

We find similar features in a monodic lamentation song from Euripides' *Orestes* by Electra (verses 960-970):

> κατάρχομαι στεναγμόν, ὦ Πελασγία,                    estr. 960
> τιθεῖσα λευκὸν ὄνυχα διὰ παρηίδων,
> αἱματηρὸν ἄταν,
> κτύπον τε κράτος, ὅν ἔλαχ' ἁ κατὰ χθονὸς
> νερτέρων        Περσέφασσα καλλίπαις θεά.
> ἰαχείτω δὲ γᾶ Κυκλωπία,                              965
> σίδαρον ἐπὶ κάρα τιθεῖσα κούριμον,
> πήματ' οἴκον.
> ἔλεος ἔλεος ὅδ' ἔρχεται
> τῶν θανουμένων ὕπερ,
> στρατηλατᾶν    Ἑλλάδος ποτ' ὄντων.[37]              970

> "Land of Argos! I take up the dirge, doing bloody outrage on my cheek with pearly nail, and beating on my head, the meed of [Persephone] that fair young goddess of the nether world. Let the land of the Cyclopes break forth into wailing for the sorrows of our house, laying the steel upon the

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33. Campbell (1906), p. 265.
34. Lloyd-Jones and Wilson (1990), p. 362.
35. West (1990), p. 133.
36. W. Headlam and C. E. S. Headlam (1909), p. 115.
37. Murray (1963), p. 187.

head to crop it close. This is the piteous strain that goes up for those who are doomed to perish, the chieftains once of Hellas."[38]

The last part of Aeschylus' *Persians éxodos* (verses 1038-1077) is an emblematic example of the performative style of lamentation in Greek tragedy. All elements (voice, noise, gestures) are integrated in an emphatic dialogue between Xerxes and the chorus, who mourn the defeat of the Persian army and the deceased:

| | | |
|---|---|---|
| ΞΕ. δίαινε διαῖνε πῆμα· πρὸς δόμους δ' ἴθι. | estr. | 6 |
| ΧΟ. αἰαῖ αἰαῖ, δύα δύα. | | |
| ΞΕ. βόα νυν ἀντίδουπά μοι. | | 1040 |
| ΧΟ. δόσιν κακὰν κακῶν κακοῖς. | | |
| ΞΕ. ἴυζε μέλος ὁμοῦ τιθείς. | | |
| ΧΟ. ὀτοτοτοτοῖ· | | |
| βαρεῖά γ' ἄδε συμφορά· | | |
| οἴ, μάλα καὶ τόδ' ἀλγῶ. | | 1045 |
| | | |
| ΞΕ. ἔρεσσ' ἔρεσσε καὶ στέναζ' ἐμὴν χάριν. | ant. | 6 |
| ΧΟ. διαίνομαι γοεδνὸς ὤν. | | |
| ΞΕ. βόα νυν ἀντίδουπά μοι. | | |
| ΧΟ. μέλειν πάρεστι, δέσποτα. | | |
| ΞΕ. ἐπορθίαζέ νυν γόοις. | | 1050 |
| ΧΟ. ὀτοτοτοτοῖ· | | |
| μέλαινα δ' ἀμμεμίξεται, | | |
| οἴ, στονόεσσα πλαγά. | | |
| | | |
| ΞΕ. καὶ στέρν' ἄρασσε κἀπιβόα τὸ Μύσιον. | estr. | 7 |
| ΧΟ. ἄνια ἄνια. | | 1055 |
| ΞΕ.  καί μοι γενείου πέρθε λευκήρη τρίχα. | | |
| ΧΟ. ἄπριγδ' ἄπ'ριγδα, μάλα γοεδνά. | | |
| ΞΕ. ἀῧτει δ' ὀξύ. ΧΟ. καὶ τάδ' ἔρξω. | | |
| | | |
| ΞΕ. πέπλον δ' ἔρεικε κολπίαν ἀκμῆι χερῶν. | ant. 7 | 1060 |
| ΧΟ. ἄνια ἄνια. | | |
| ΞΕ.  καί ψάλλ' ἔθειραν καὶ κατοίκτισαι στρατόν. | | |
| ΧΟ. ἄπριγδ' ἄπ'ριγδα, μάλα γοεδνά. | | |
| ΞΕ. διαίνου δ' ὄσσε. ΧΟ. τέγγομαί τοι. | | 1065 |
| | | |
| ΞΕ. βόα νυν ἀντίδουπά μοι. | epod. | |
| ΧΟ. οἰοῖ οἰοῖ | | |
| ΧΕ. αἰακτὸς εἶς δόμους κίε. | | |
| ΧΟ. ἰώ, ἰώ. {Περσὶς αἶα δύσβατος.} | | |
| ΞΕ. †ἰωὰ δὴ κατ' ἄστυ.† | | 1070 |
| ΧΟ. †ἰωὰ δῆτα, ναὶ ναί.† | | |
| ΞΕ. γοᾶσθ' ἁβροβάται. | | |
| ΧΟ. ἰώ, ἰώ· Περσὶς αἶα δύσβατος. | | |
| <ΞΕ. .   .   .   .   .   .   .  > | | |

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38.   Coleridge (1907), p. 311.

<XO. .    .    .    .    .    .    . >
  ΞΕ.    ἠή ἠή, τρισκάλμοισιν
<XO.>ἠή ἠή, βάρισιν ὀλόμενοι.                                    1075
<ΞΕ. πρόπεμπέ νύν μ’ ἐς οἴκους.>
  XO.    πέμψω τοί σε δυσθρόοις γόοις.[39]

*“Xerxes.* Shed tears, tears for the calamity; and go towards thy home.
*Chorus.* Alas, alas! Grief, grief!
*X.* Cry aloud now in response to me.
*Ch.* A wretched offering to a wretched man from wretched men!
*X.* Wail aloud, making the sound in unison.
*Ch.* Alack, alack! Here is another heavy blow. Alas! much indeed do
I grieve over this.
*X.* Beat, beat on [thy head], and groan aloud for my sake.
*Ch.* I shed tears in lamentation.
*X.* Cry aloud now in response to me.
*Ch.* ’Tis my concern, O master.
*X.* Raise thy voice now with wailing.
*Ch.* Alack, alack! Again shall fall confusedly blows that bruise and call
forth shrieks of pain.
*X.* Beat thy breast too, and cry aloud the Mysian lament,
*Ch.* Grievous, grievous fate!
*X.* —and make havoc, I bid you, of the white hair of thy beard,
*Ch.* With clutching hands [I do so] ’mid cries of anguish.
*X.* —and utter a shrill note,
*Ch.* This too will I do.
*X.* —and with thy fingers rend thy robes about thy breast,
*Ch.* Grievous, grievous fate!
*X.* —and pluck thy hair, and lament over the army.
*Ch.* With clutching hands [I do so] ’mid cries of anguish.
*X.* Let thine eyes grow moist.
*Ch.* I am bathed in tears.
*X.* Cry aloud now in response to me.
*Ch.* Ah me! Ah me!
*X.* Go towards your homes with sounds of mourning,
*Ch.* Alas, Persian land, so sad now to tread!
*X.* —crying Alas! through the city.
*Ch.* Alas indeed! yea, yea.
*X.* Utter aloud your lament, as ye step delicately onward.
*Ch.* Alas, Persian land, now so sad to tread!
*X.* Ah me! ah me! in three-banked galleys (ah me!) all perished . . .!
*Ch.* I will escort thee with mournful sounds of woe.”[40]

Finally, there is a nice example of a *thrēnos* or lamentation song, typical of funerary contexts, combining singing with musical instruments (Pan flute, aulos, and *phórminx*) and weeping. This is the case of a sung dialogue between

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39.    West (1990), pp. 56-8.
40.    W. Headlam and C. E. S. Headlam (1909), pp. 72-3.

Helen and the chorus from Euripides' *Helen*, particularly the introduction and first strophe (verses 164-178). Here Helen wishes that the Sirens and Persephone join her in this lamentation song dedicated to the deceased in Troy:

ὤ, μεγάλων ἀχέων καταβαλλομένα μέγαν οἶκτον
ποῖον ἀμιλλαθῶ γόον; ἢ τίνα μοῦσαν ἐπέλθω 165
δάκρυσιν ἢ θρήνοις ἢ πένθεσιν; αἰαῖ.
    πτεροφόροι νεάνιδες, estr.
    παρθένοι χθονὸς κόραι
    Σειρῆνες, εἴθ' ἐμοῖς γόοις
    μόλοιτ' ἔχουσαι Λίβυν 170
    λωτὸν ἢ σύριγγας ἢ
    φόρμιγγας, αἰλίνοις κακοῖς
    τοῖς ἐμοῖσι σύνοχα δάκρυα·
    πάθεσι πάθεα, μέλεσι μέλεα,
    μουσεῖα θρηνήμα-
    σι ξυνῳδὰ πέμψειε
    Φερσέφασσα 175
    φόνια, χάριτας ἵν' ἐπὶ δάκρυσι
    παρ' ἐμέθεν ὑπὸ μέλαθρα νύχια
    παιᾶνα
    νέκυσιν ὀλομένοις λάβῃ.[41]

"Ah me, what piteous dirge shall I strive to utter, now that I am beginning my strain of bitter lamentation? What Muse shall I approach with tears or songs of death or woe? Ah me!
Ye Sirens, Earth's virgin daughters, winged maids, come, oh! come to aid my mourning, bringing with you the Libyan flute or lyre, to waft to Persephone's ear a tearful plaint, the echo of my sorrow, with grief for grief, and mournful chant for chant, with songs of death and doom to match my lamentation, that in return she may receive from me, besides my tears, dirges for the departed dead beneath her gloomy roof!"[42]

Before addressing the interrelation between sound and music, we could consider a possible gradation or differentiation between the following concepts: sound, noise, silence and music. From this point, further groupings could be taken into account, as an expression of conceptual dualities of opposite or even complementary elements: sound-music, noise-music, sound-silence, silence-music, and from the latter we could delve into the Pythagorean conception of the music of the spheres, the music of Cosmos, that is, the music of order.

All the aspects mentioned above (sound, noise, silence, music) are present in any living, dynamic reality. They all complete the acoustic characterisation of a living community in its physical space. Comprehensive

41.   Murray (1963), p. 9.
42.   Oates and O'Neill (1938), p. 13.

characterisation includes, of course, visual aspects, textures, frame or setting, and, of course, words communicated, which convey contents. Understanding the whole of a fragment of life involves knowing all these characterising elements. Greek tragedy, conceived on stage as a global expression, is projected to perform all these elements — natural, rational, emotional and sacred — simultaneously. With words, music, choreography and scenography, the poet makes a re-exposition of myths on stage and updates them while providing characters with human reasoning and attitudes to achieve a direct connection with the audience.

Thus, sound resources in language are used to draw soundscapes. They evoke a sound image of what is described in the scenes about the events that are happening or about those that the choir or characters are narrating, even if they happened in another time or space. One focus of our enquiry consists in identifying these sound images in the text in order to possibly find out a coding or the linguistic expressions associated with them. By identifying cases and analysing them it is possible to classify elements and contexts and elucidate those having a significant influence.

In his *Republic*, Plato alludes to the mimetic capability of the sonic and choreographic aspects of the poetic art. Moreover, as observed by Rocconi, soundscapes could be performed by means of voices, gestures and music (*mousikē téchnē*) through the *mímēsis*, in particular through the aural and visible imitation of extramusical elements (animals, phenomena, etc.). Singing and instrumental music (aulos and lyre),[43] besides the choreutic movement, also had narrative and performative contents (Rocconi, 2014: 704-706, 712-713).

Three main areas stand out from our approach on sonic environments: the soundscape of nature, the soundscape of human activities, and the soundscape attributed to the divinity or the sacred sphere.

Sound, as opposite to silence,[44] can become an orderly and eloquent expression, such as speech or other sound images found in tragic texts (and in Greek literature in general). We can mention as examples: the melodious song of a bird, the flowing of a stream, the cadence of the sea waves, the swaying of the sea breeze; in short, a kind of music of nature that suggests a harmonious and balanced state.[45] Noise could be intended in this context as the non-harmonic superposition of sounds, or even the excess of a determined sound emitted, becoming in all cases a manifestation of imbalance.

In music, we perceive an eloquent human reveal of contents (that is, rational elements discernible through words in singing), but also a reveal of emotions, feelings or passions. In tragedy, both types of elements were integrated in the lyrics and chosen metre, as well as in the musical aspects (rhythms, melodies, *tónoi* and registers), in voice inflections, in dance steps, in body language, and finally in facial expression by means of characterised

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43. In his *Poetics*, Aristotle also considers these instruments, as well as the *syrinx* and words, appropriate for the *mímēsis*. Reported by Rocconi (2014: 714).

44. Halleran (2005: 210-213) analyses the effects of silence in Greek tragedies, as well as the communicative capability of gesture.

45. Butler and Nooter (2019: 7) argue that ancient writers were concerned with mapping and theorising their sonic environments and temporalities.

masks. In this setting, the tragic choir played a key role, along with the lyrical appearances of main actors in solos during the crucial moments of drama.

Besides, in Greek tragedy the moments with the highest lyrical force frequently progress towards singing, in a transition that can integrate groans, cries and lamentations. As argued by Nooter (2012: 22), tragedy involves extreme emotions and is associated with the experience of suffering, desperation and loss. Such situations make up the point from which a tragic character begins to sing.

So, mourning style appears after the death of loved ones due to all kinds of misfortunes: natural disasters "sent by the gods", wars, or violent acts triggered by the desire for revenge as a result of madness or caused by the *hybris* of characters who refuse to follow the divine precepts. The latter become ethical precepts accepted by the tradition and are actually the subject for discussion and assessment addressed by tragic poets to their contemporary society.

### Staging Music and Sound

The reference musical instrument in Greek tragedy was the aulos,[46] a pair of double-reed pipes made of wood or bone. The aulos was present in many situations of daily life in ancient Greece: banquets, religious celebrations, military contexts, sacrifices, sport competitions, accompaniment of elegiac poetry and, of course, drama.

In drama, playing to the *aulos* was an especially demanding task since the sequential structure of the play required constant execution. Sustaining continuous performance was feasible for the *aulētēs* by using the *phórbeia* and carrying out circular breathing. This required skills and talent from the performers, who had to be highly qualified professionals. On the occasion of important theatrical events (such as the Great Dionysia), these musicians must have been renowned virtuosi[47] who were supported by wealthy *choregoí*. They used an instrument especially suited to the musical range required for tragic plays.[48]

As possible material evidence for the type of aulos that might have sounded in Greek theatres of the classical period, we have two copies of this instrument, in addition to the iconographic sources. The first one is the item found in Posidonia (Paestum, Italy) and published in 2014 by Psaroudakēs. This is a deer-bone double aulos discovered in a burial dated 480 BC. This chronology coincides with that of the so-called Tomb of the Diver or *Tomba del Tuffatore* (also in Posidonia), which represents two double-reed pipe players, the one with short wooden pipes and the other with large bone

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46. Sporadically the lyre too. Athenaeus (1.20 ff.) reports that Sophocles himself played the lyre in his tragedy *Thamyras*: καὶ τὸν Θάμυριν διδάσκων αὐτὸς ἐκιθάρισεν. See comments on this issue by Hall (2002: 9) and Wilson (2002: 43). On the music in the Sophoclean dramas, see Power (2012).

47. See Hall's analysis on the virtuosi *tragōidoi* (Hall, 2002: 12-18).

48. See Wilson (2002: 44), who discusses the assumption of 'tragic auloi' as a distinct type. This author (Wilson, 2002: 45-55) also provides evidence about the skills, provenance and social status of the *aulētai* in the classical period.

pipes. The Posidonia aulos is almost identical to the instrument found in Pydna, which dates, however, from a century later.[49]

Another example dating back to the classical period is the Elgin aulos, a wooden instrument preserved in the British Museum. It dates from about 500 BC and comes from Athens. According to Callum Armstrong, this is precisely the type used in Greek tragedy.[50] We look forward to the results achieved in the experimentation with these two specimens in order to clarify unknown aspects of the performance of soundscapes and music in Greek tragic dramas.

Hagel has carried out and published exhaustive studies on the technical features of the main ancient Greek instruments, especially the auloi from the classical and Hellenistic periods. A recent article (Hagel, 2020) includes a comparative analysis and an integrating explanation on this subject.

To enhance the knowledge on ancient Greek music we also have the information recorded in the textual sources. For example, we know that the period we are considering includes the legacy of a series of innovations applied to music performed with aulos as early as the 6th century BC. This stage is described as revolutionary by scholars such as Wallace (2003), who, based on references from Herodotus, Pseudo Plutarch and others collected in the Suda,[51] reports that Lasos of Hermione[52] devoted himself to research and experimentation on the *aulos* (by altering the rhythms for the music of dithyrambs). According to these sources, it was Lasos who wrote the first book on music.

Leaving aside the musical instruments, there were other auxiliary elements that improved other scenic aspects, such as the setting and visual or acoustic details. We refer, on the one hand, to structural and architectural elements of ancient Greek theatres:[53]

- The high stage, for actors.
- The versatile architectural elements of backstage (*skēnē*), where actors could change costumes or hide, but also from which they could speak by emitting a sound outward.
- The *orchēstra*, for the choir and musicians, next to the public.

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49. Two studies on the Pydna *aulos* are in Psaroudakēs (2008) and Hagel (2020). Barnaby Brown is experimenting with the sound and technical capabilities of the Posidonia and Pydna auloi using rigorous replicas.

50. See: https://callumarmstrong.co.uk/about-me/aulos/ [accessed: 4-23-2022]. Callum Armstrong has performed the music for the staging of two Greek tragedies with a replica of this double pipe: Aeschylus' *Suppliant Women* (premiered in 2016 in the UK with the Young Vic and Royal Lyceum Theatre in Edinburgh) and Euripides' *Heracles* (premiered in 2019 in the USA with the Barnard Columbia Ancient Drama).

51. Considering that the Suda (*Suidae Lexicon*) dates back to the 10th century.

52. Who worked in Athens during and after the Peisistratids.

53. See on this subject Vozani (2003: 95-127), Wilson (2005: 196-203), Halleran (2005: 200-203), and Liapis et al. (2013: 2-4). The performance spaces assigned to the different type of performers are linked to the conception of theatrical space as a principle of organisation, but this does not imply a rigid functionality of spaces in which actors necessarily perform on the stage and choir in the *orchēstra*, as observed by Wiles (2010: 114, 63.) Besides, there is the question about the type of relationship existing between the performers in the *orchēstra* and the spectators in the watching area (*théatron*); that is, if the audience was a passive subject or was involved in the action. See on this subject Wiles (2010: 207-209).

- The side corridors (*párodoi* or *eísodoi*), where the choir went down at the beginning and the end of the play while achieving the ongoing sound dynamics.

- The small raised platform or *theologeĩon*, which allowed the figure and voice of a god or ghost to be enhanced.

- The "stairs of Charon", to enable the appearance of characters emerging from the underworld.[54]

On the other hand, we refer to the use of machines that allowed the scenery to be changed, doors opened or closed, bodies brought out by means of a wheeled platform (the so-called *eccyclêma*) or characters moved up and down in the air (usually gods and goddesses),[55] and also machines which produced sound, such as the *bronteĩon* or thunder machine.[56]

Masks have been the subject of controversy in the discussion about their acoustic properties during the theatrical performances. The mask[57] clearly had an expressive purpose. It mainly served to distinguish tragic from comic actors. Pickard-Cambridge (1989: 190) mentions that the tradition recorded in the Suda[58] points to Aeschylus as the first to introduce masks in drama. In tragedies, it allowed psychological or emotional states to be highlighted, and specific characters to be identified. From another point of view, Wiles (2010: 77) explains that: "In tragedy the mask was principally a means of blotting out expression so that the actor had to use his body to transmit visual meaning." Moreover, the character can be intended as a mask; when the actor changes it, the character ceases to exist (Wiles 2010: 169).[59]

Concerning the possibilities of sound amplification of masks, some authors have been sceptical, arguing that if they were made of fine linen, they would have had little sound impact. Moreover, in their opinion, wearing a mask would rather have mitigated the projection of sound, so that actors involved in dramas needed to be endowed with a powerful voice.[60] In addition, actors needed to be trained in the practice of voice-production or voice-projection.[61] However, the appropriate acoustic conditions of theatres had to ensure or facilitate the reach of voice to the upper stands, considering the high position of the stage or even the higher position of the *theologeĩon* at the moments reserved for gods or special characters. Anyway, as argued by several scholars, the sound is projected more effectively to the audience if the actor faces forwards standing upstage right on the centre line and not

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54.   For instance, the spectre of Darius in the performance of Aeschylus' *Persians*.

55.   The so-called *theós apó mechanês*; in Latin: *deus ex machina*.

56.   We know about this machine for the classical period thanks to some *scholia* to theatrical plays and later references by Vitruvius (*De architectura*, V, 6, written in c. 15 BC) and J. Pollux (*Onomasticon*, c. 170 AD). On this subject: Rocconi (2014: 706).

57.   *Prosopón* or *prosopeion*: 'in front of the face' (from *ops*: 'voice').

58.   s.v. Αἰσχύλος

59.   Referring to Orestes in the *Oresteia*.

60.   Even more if they had to sing for example in a prone position on the ground. This was the case of the actor playing Hecuba. See Hall (2002: 21), who refers to Valakas (2002: 78).

61.   So, not necessarily making a violent effort, as argued by Pickard-Cambridge (1968: 167).

at the foot of the auditorium, hence the close connection between the visual and acoustical focus.[62]

In any case, and depending on the materials used for the masks and their morphology, we can assume an enhancement of voice volume by wearing them. They could be used to make the actor's voice more resonant (Pickard-Cambridge 1968: 195). Furthermore, they could accomplish a filter effect, expand the sound projection, improve the intelligibility of words and provide the actor with a better perception of his own voice. This is admitted by many scholars and demonstrated, on the one hand, by Vovolis and Zamboulakis (2007) and Vovolis (2009 and 2012); on the other, by Kontomichos and others (Kontomichos et al., 2014), who have reconstructed ancient Greek masks and experimented with them in the theatre of Epidaurus. They aimed to measure the extent of sound production by using masks and the resulting projection towards the audience located at different points of the auditorium.[63]

## Preliminary Results

So far, after a series of verifications some results can be extracted from the ongoing analysis on music and soundscapes in Greek tragedy for the classical period.

1. Three recurring topics associated with musical moments:

    a) Lamentations originated in a sudden misfortune, caused by the death of a loved one or as the consequence of a remorse.

    b) Plea song to the divinity (*paean*).

    c) Songs associated with the funerary ritual: the *thrēnoi* and funerary elegies, such as songs of praise for the dead, characterised by the notions of mourning (*pénthos*) and pain or suffering (*áchos*). It is also possible to approach the study of these practices from the ethnographical track. Contemporary examples of popular funeral poetry passed down from generation to generation are preserved.[64]

2. Predominance of two types of soundscapes:

    a) Actions by human beings, in which sound is suggested by means of language resources.[65]

    b) Messages revealed by the deities, conveyed by the sound of the elements (lightning and thunder, strong wind, big waves in storms, and earthquakes) or through animal voices, especially birds.

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62.    Wiles (2010: 69-70), who refers to Shankland (1973: 32) and Barker (2010: 148).

63.    On this point, see also the technical approach by Tsilfidis *et al.* (2011).

64.    Such as the *moiroloi*, documented in Epirus (northwestern Greece and southern Albania), studied by Katsanevaki (2017), and on the Mani Peninsula (southern Peloponnese), studied by Seremetakis (1991) and Vasiliki Kouré. Some other cases have also been documented in Adriatic Italy. A video related to the Women of Mani (*Maniátiko Moiroloi*) is available on this link: https://www.youtube.com/watch?v=TJxqC4fiqcM [accessed: 6-30-2020].

65.    Butler and Nooter (2019: 4) distinguish in Greek vocabulary for voices between the *phthongē*, that is the voice of an individual human, and *audē*, an essentially human voice that can be applied to divine beings, animals or objects which can be able to be understood by human listeners.

3. Scant iconographic evidence of dramas displaying details on musical and choreographic performance.

4. Lack of archaeological evidence to demonstrate or illustrate the information transmitted by textual sources on lyric and musical performance. An important exception is the so-called Tomb of the Musician, discovered in Daphne in 1981 and dated to the third quarter of the 5th century BC.[66] The tomb has brought important findings, such as musical instruments (an aulos and fragments of two lyres) together with four written wooden tablets and a roll of fragmented papyrus with lyrical text. The roll and the tablets have been analysed by Pöhlmann and West (2012), West (2013), Pöhlmann (2013), and Karamanou (2016).

This discovery, which associates the deceased with fragments of poems and musical instruments, contributes to the idea that — at least for the classical period — the poet could be both the author of the text and the composer of the music.

## Conclusions

To conclude, and returning to the starting point, the study of music and soundscapes in Greek tragedy is a matter of content and shape. The setting of the play, in addition to the different performative languages (music, gesture, movement) and complements (props, masks, sound effects, etc.), helped spectators to better understand the contents of the plot and to experience the feelings and emotions transmitted by the characters. Anyway, to find the clue for all these elements, it is necessary to go back to the text[67] of the play itself, the only thing that has survived, apart from some scenes depicted on Attic and Apulian painted vases. Sometimes a kind of stage guidelines are preserved, such as introductory captions of new scenes or even explanations to be recited by the actors in the prologue or when a change of scene occurs, or by the choir for anticipating new scenes as well.

Therefore, it is essential to pay attention to the "sound properties" of language; that is, to the potential of words and the literary resources to evoke sound, environment and the impact produced by them. This quality in tragic language is comparable to the visual qualities and allows us to imagine environments and soundscapes as if we were perceiving them in situ with the senses. These expressive resources in the hands of the great tragic poets were a very effective alternative to the unavailability of complex scenic mechanisms and to the rigid structure of theatrical buildings.

It was a matter of communication between the poet and the audience, and its materialisation took place in the civic space to ensure a complete communion between the drama, the citizens and the ethical precepts of the *polis*. Athens, the heart of ancient Greek drama, was in Rehm's words

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66.   In particular the Tomb II. The finds are currently kept in the Archaeological Museum of Piraeus.

67.   Sung or spoken, with poetry and rhetoric, with determined features for every voice playing in it. See Nooter (2012: 1) regarding Sophoclean tragedy.

"a performance culture". Therefore, by its social, religious and practical aspects, tragedy approximated the idea of theatre as integral to the life of the city (Rehm, 2016: 3-13).

Staging tragedies in Greek times meant a living expression of the dramatic text according to the guidelines given by the poet, who was often the set designer and theatre director.[68] This is the case of Sophocles and Euripides, being responsible for the words, the music and the choreography (Knox, in Dunn, 1996: 154). But every new performance allowed for staging variations, especially when the play was presented to the audiences in later times and by professional companies such as the *Technitai of Dionysus* in the Hellenistic period. However, the new scene was constructed from the main backbone of drama: the original text. And even more, performing soundscapes and music on stage made it possible to draw the outline of that sacredness perpetuated by the Hellenic tradition which involved, time after time, the civic community beyond the narrative.

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68.   This idea is argued by Taplin (1977: 129-130) and Romero Mariscal (2015: 496).

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