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Harmonia, Melos, and Rhythmos: **Aristotle on Musical Education**

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Aristotle believes that music is very important for the formation of character. Musical education can lead us toward virtue when we are still young and unable to understand what virtue and happiness are, and why they matter (*Pol.* viii 1340a10-15 and cf. *NE* x 1179b20-30). In Classical Greece, the beneficial effects of musical education were to a large extent taken for granted.¹ Understanding ancient Greek views on the moral effects of musical education is especially difficult for us because they often seem to amount to an unreflective acceptance of a traditional belief. I look at Aristotle's theory of musical education as we find it in *Politics* viii and in *Problems* xix. Starting from Aristotle's focus on melody and rhythm, I argue that he does provide his theory of musical education with solid philosophical grounding. In his view, musical education does not rely on the blind transmission of emotions, but it is a kind of perceptual training. This training teaches us to recognise fine actions and characters perceptually and to enjoy and pursue them for their own sake.

Melody and Rhythm

Aristotle mentions *harmonia* in his account of musical education (*Pol.* viii 1340a42 and 1341b36), but he is mostly interested in melody (*melos*) and rhythm (*rhythmos*): 'We see that music is made of melodies and rhythms, and we should know what influence each of these has on education'.² This specific interest in melody and rhythm can guide us in interpreting his theory. One of the difficulties of trying to understand ancient Greek accounts of musical education stems from the semantic breadth of the term *mousikē*. *Mousikē* can include poetry, storytelling, the combination of dancing, singing, and acting that we find in Greek tragedies as well as music strictly speaking, that is, merely instrumental and

¹ Plato discusses musical education in *Rep.* iii and *Laws* ii and vii, and probably takes his cue from and develops the views already exposed by Damon (*Rep.* iii 400b-c) and the Pythagoreans. The relationship between Plato, Damon, and the Pythagoreans is a wide and controversial topic, and the following list of representative sources is far from being exhaustive: on Damon, see Aristides Quintilianus, *De musica* ii 14 and on the difficulty of reconstructing the analogies and differences between Damon and the Pythagoreans, see Woerther 2008, 93n19. It is doubtful whether Damon proposed a fully worked out theory of the benefits of musical education (see Barker 2007, 11-12 and 252n29 and Wallace 2004).

² τὴν μὲν μουσικὴν ὁρῶμεν διὰ μελοποιίας καὶ ῥυθμῶν οὔσαν, τούτων δ' ἑκάτερον οὐ δεῖ λεληθέναι τίνα δύναμιν ἔχει πρὸς παιδείαν (1341b24-25). *Politics* translations are based, sometimes loosely, on Kraut 1997. For the specific interest in melody and rhythm, see 1340a19-20 and a39.

vocal music. Aristotle's focus on melody and rhythm helps us to overcome this interpretive difficulty. It clearly indicates that he is especially interested in the educational powers of music in the strict sense, and not merely as an accompaniment to poetry or theatrical representations. This does not of course mean that Aristotle is not at all interested in the educational power of music as an accompaniment of tragedy or poetry. It just suggests that this kind of music is not the main focus of *Politics* viii (see 1340a14-b26, Brüllmann 2013, 356-357, Ford 2004, 316-324). In this respect, Aristotle's *Politics* viii is similar to Plato's *Rep.* iii 398c-403c and different from Plato's *Laws* ii 665a-c, where the focus is on *mousikē* as including *chōreia*, the art of dancing and singing (on the *Republic*, see Schofield 2010 and Barker 2005, 19-57, and on the *Republic* and the *Laws*, see Pelosi 2010).

The focus on melody and rhythm also implies that Aristotle is especially interested in the *progressive* nature of music as a movement (see Barker 2005, 108-110).³ *Harmonia*, melody, and rhythm are the three fundamental components of an ancient Greek musical piece. *Harmonia* means first and foremost tuning, the different tension and organization that we can give to strings of a lyre or *kithara* depending on the piece we have to play. *Harmonia* also has a secondary use, whereby it means mode. A mode is a set of distinctive intervals in a scale, upon which different melodies can be constructed (see West 1992, 178-190 and Barker 2005, 21-24). *Harmonia*, in both cases, furnishes the static structure upon which the composer or the performer can base their composition or execution.

Unlike *harmonia*, melody is a movement that can be descending, ascending, jumpy, or following the scale step by step. Melody has a progressive feature that *harmonia* lacks (see West 1992, 190-218 and Aristides Quintilianus *De musica* ii 21, cf. 16.18-17.2, 81.4-6, 130.2, Ptolemy *Harmonics* ii 12. Barker 1990, 2:341n96, 418, 430ff., 483, 531).

Ancient Greek rhythm generally drew upon the metric of verses, and was based on the binary opposition between 'short' and 'long' syllables. The division between the two was probably very well defined, with the long duration lasting twice as long as the short one (West 1992, 129-133). Ancient Greek metric and rhythmic were however distinct, and some of the most important sources, including Aristoxenus, do not discuss metrical analysis at length. In some cases, rhythmicians and metricians used a completely different terminology and classification for the same measures (see Aristides Quintilianus *De musica* i 38.5 and Pearson 1990 for Aristoxenus' *Elementa Rhythmica*). Thus rhythm, like *harmonia*, gives a fixed structure to the otherwise confused movements of the melody (Aristides Quintilianus, *De musica* i 31.10-13, trans. Barker 1990, 2:434). Yet, unlike *harmonia*, Ancient Greek rhythm has a progressive, as well as a static, aspect. Not only can it structure the pattern of the movement and determine the proportion of 'long' and 'short' notes, but it can also determine the *tempo* (West

³ My argument is indebted to Barker's analysis of the similarity between the temporal development of actions and melodies, and differs from his view in so far as it focuses on the fact that what matters for Aristotle is that actions, characters, and music are called 'fine' for similar reasons.

1992, 158-159 and *Problems* xi. 38).

Their distinctive progressive nature explains why Aristotle is especially interested in melody and rhythm, as opposed to *harmonia*. In light of this clarification concerning the relevance of the progressive aspects of music in the *Politics*, we can return to Aristotle's account of musical education.

Musical Education and Emotion Transmission

Musical education is certainly not meant to lead us all the way toward the acquisition of virtue.⁴ Nevertheless, it is reasonable to think that musical education, as it is described in the *Politics*, is at least capable of contributing to moral education as it is described in the *Nicomachean Ethics*. Both treatises rely on the same educational principles and employ similar expressions. For example, they stress the importance of habituating us to feel pleasure and pain correctly, or as we should (*NE* 1104b11-12, 1179b24-26, and *Pol.* 1340a15-17).

Aristotle concentrates on the contribution of musical education to moral education in *Politics* 1340a10-b20. Lines a15-17 summarise how musical education is meant to work:

Since then it happens that music is a pleasure, and virtue happens to be about rejoicing and loving and hating rightly, it is clear that there is nothing that we should learn and to which we should habituate ourselves more than correctly distinguishing and rejoicing at good characters and fine actions.⁵

It is easy to see why, as this passage suggests, we need both to learn how to discriminate correctly fine actions and characters and also to habituate ourselves to rejoice at fine actions and characters. As we know from *Nicomachean Ethics* ii, in order to become virtuous we need both to learn to recognise what is good and fine, and also to habituate ourselves to rejoice at it (see Burnyeat 1980, Broadie 1991, 103-110, Sherman 1989, 152-199). But why should music have anything to do with virtue, and more specifically with learning and habituation? The only information this passage gives us is that music is pleasant, and not much appears to follow from that.

In the following lines, Aristotle adds some details to his account. First, he suggests that melodies and rhythms can be educational because in them we find likenesses (*homoiōmata*) or imitations (*mimēmata*) of characters and emotions (1340a21-25 and a39).⁶ Second, he argues that music, as opposed to other forms of art, has a special status, for *in melodies themselves* we find a *true likeness* or *mimēsis* of character (1340a27-39). Third, he demonstrates that melodies affect

⁴ I thank an anonymous referee for pressing this point.

⁵ ἐπεὶ δὲ συμβέβηκεν εἶναι τὴν μουσικὴν τῶν ἡδέων, τὴν δ' ἀρετὴν περὶ τὸ χαίρειν ὀρθῶς καὶ φιλεῖν καὶ μισεῖν, δεῖ δὴλονότι μανθάνειν καὶ συνεθίζεσθαι μὴθὲν οὕτως ὥς τὸ κρίνειν ὀρθῶς καὶ τὸ χαίρειν τοῖς ἐπιεικέσιν ἦθεσι καὶ ταῖς καλαῖς πράξεσιν. See the Platonic parallel at *Rep.* iii 401b-402c.

⁶ Throughout *Politics* viii, Aristotle writes either that we find likenesses (or imitations) of character *in* melodies and rhythms or that melodies and rhythms *have* likenesses of character. As I argue below, these are two ways of saying the same thing, i.e., music is in some way *similar* to character.

us differently depending on the *harmonia* they are based on:

In the melodies themselves there are imitations of character, and this is clear. For the nature of the *harmoniai* is simply different, and as a result listeners are put into different dispositions and do not have the same way of reacting to each of them. The reaction to some (the one called Mixolydian, for example) is more mournful and grave; but to some others (the more relaxed *harmoniai*, for example) they react by weakening their intellect...this applies in the same way to rhythms. For some of them have a steadier character, others a dynamic one, and among them some have more constrained movements, others have movements more fit for the free.⁷ (1340a40-b10)

Music's affective powers are, for Aristotle, a sign that we can find imitations and likenesses of character in melodies. The different emotional reactions to a piece of music are a result of the different nature of its *harmonia* or its rhythm.

Some interpreters take their cue from this passage to argue that music's affective powers are more than a sign of its mimetic nature. They argue that music's affective powers are able to explain its educational powers too.⁸ It is however unlikely that Aristotle associated music's educational function with its affective powers only. Music, especially if it is not accompanied by words, moves us emotionally without transmitting the intentional content of emotions. It can make us feel, say, angry and combative without making us think or imagine a slight and a pleasant revenge. But these contentless emotions cannot train us not to feel angry at the wrong time and towards the wrong people. Hence, they could not help us to acquire the correct character disposition, as Aristotle understands it, with regards to anger or any other emotion (see, e.g., *NE* iv 5 and Brüllmann 2013, 368-372 for the same critique). For similar reasons, the thesis that musical education provides us with representations or paradigms of fine actions and characters is implausible. Instrumental music, or music without words, seems unable to represent or mimic actions and characters in this way (*contra* Sherman 1989, 183 and Hitz 2012, 298-306).

One might object that musical education can work even if it is blind, provided

⁷ ἐν δὲ τοῖς μέλεσιν αὐτοῖς ἔστι μιμήματα τῶν ἡθῶν (καὶ τοῦτ' ἔστι φανερόν· εὐθὺς γὰρ ἡ τῶν ἁρμονιῶν διέστηκε φύσις, ὥστε ἀκούοντας ἄλλως διατίθεσθαι καὶ μὴ τὸν αὐτὸν ἔχειν τρόπον πρὸς ἐκάστην αὐτῶν, ἀλλὰ πρὸς μὲν ἐνίας ὀδυρτικωτέως καὶ συνεσθηκώτως μᾶλλον, οἷον πρὸς τὴν μιξολυδιστὶ καλουμένην, πρὸς δὲ τὰς μαλακωτέρας τὴν διάνοιαν, οἷον πρὸς τὰς ἀνειμένας, ...τὸν αὐτὸν δὲ τρόπον ἔχει καὶ τὰ περὶ τοὺς ῥυθμούς (οἱ μὲν γὰρ ἥθος ἔχουσι στασιμώτερον οἱ δὲ κινητικόν, καὶ τούτων οἱ μὲν φορτικωτέρας ἔχουσι τὰς κινήσεις οἱ δὲ ἐλευθεριωτέρας). Aristotle's use of the term *harmonia* suggests that *harmonia* is used here as synonymous with melody, for it is what is listened to (i.e., it is the object of *akouontas*). On this point, see Kraut 1997, 198-199.

⁸ According to Brüllmann 2013, 368-372, music's affective powers explain why music contains likenessness of characters, but do not explain why it is educational. According to Woodruff 1992, 91 and Woerther 2008, 100, music's affective powers explain both why music is a likeness or mimesis of certain emotions and why it is educational. According to Barker 2005, 103-105 music's affective powers explain its educational function, but not its special mimetic nature.

it is suitably controlled. By exposing children to music that gives rise to good emotions and by keeping them away from music that gives rise to shameful emotions, we can help them to associate pleasure with good emotions. This simpler account of the contribution of music's affective powers to moral education, however, is still unconvincing. Although we might think that for Aristotle some emotions such as paralysing panic or uncontrollable fury are shameful in all circumstances, there is no evidence that he took some others to be always good or fine. Joy, anger, or fear are good in some circumstances, and inappropriate in others. Hence, it is hard to believe that he thought music capable of teaching us to associate pleasure blindly with some emotions that are always good or fine.

Furthermore, Aristotle himself suggests that musical education does not merely transmit blind emotions, but addresses our recognitional faculties too. At 1340a15-17, b20-25, and b35-39, the point of musical education seems to be to train us to *recognise* fine melodies, fine actions, and good characters as well as to rejoice at them. Hence, we have some good reasons to think that Aristotle's musical education is unlikely to work as blind emotion transmission. To explain music's educational powers, we need to look beyond its affective powers.

Melodies, Rhythms, Actions and Characters

The educational powers of music can be better understood if we focus on its progressive nature, which is especially evident in its melodic and rhythmic aspects. The progressive nature of music suggests that there are important similarities between melodies, rhythms, actions, and characters. These similarities explain why in melodies and rhythms there are likenesses and imitations of characters and actions. First, melodies, rhythms, actions, and characters are alike in their temporal development. Second, *fine* actions and *fine* characters are similar to *fine* melodies and rhythms. Third, fine listening to a musical piece is similar to acting finely and to displaying a fine virtuous character state. In this section, I analyse these similarities in turn. In the final section, I argue that musical education can work as character training precisely in virtue of these special similarities between music, actions, and characters.

Let us start from the similarities in temporal development. Its progressive nature distinguishes music from other art forms. It explains why likenesses of actions and characters are found especially in music:

It so happens that in the other objects of perception, as in the objects of touch and taste, there is no likeness of characters, although in the objects of vision there is a little (figures [sc. of statuary, but presumably paintings too] are of this kind, but only a little, and not everyone shares in this kind of perception. Furthermore, these resulting figures and colours of characters are not likenesses of characters, but more signs, and these signs are distinguishing marks for the emotions...) but in melodies themselves there are imitations of characters.⁹ (1340a29-39)

⁹ συμβέβηκε δὲ τῶν αἰσθητῶν ἐν μὲν τοῖς ἄλλοις μηδὲν ὑπάρχειν ὁμοίωμα τοῖς ἥθεσιν, οἷον ἐν

In this passage, the objects of auditory perception are compared with the objects of touch, taste, and vision. We find likenesses of characters only in the objects of vision and hearing (cf. Plato, who finds *mimēmata* of character in embroidery, weaving, and architecture in *Rep.* iii 401a1-2; see also Xenophon, *Memorabilia* iii 10.5). However, there is a difference between the objects of vision and the objects of hearing. Only the objects of hearing can truly be likenesses or imitations of character qualities.¹⁰ In the objects of vision, like paintings or statues, we do not find likenesses of character strictly speaking. Rather, we find mere *signs* of character. Paintings and sculptures can give indications of emotional states like anger, for example, by depicting the frowning face of an angry man, or his tense posture. But unlike music they cannot produce a likeness of character qualities.

Music is especially suitable to produce likenesses of character because of its progressive nature. This distinctive feature of music is evident in *melody* and *rhythm*, the elements of the musical piece in which we find likenesses of character (Barker 2005, 108-110). In addition, one of the most evident differences between music and artistic representations such as paintings or sculptures is precisely that music develops through time and is progressive.

The *Problems* give us further evidence in support of this interpretation:¹¹

τοῖς ἀπτοῖς καὶ τοῖς γευστοῖς, ἀλλ' ἐν τοῖς ὁρατοῖς ἡρέμα (σχήματα γὰρ ἔστι τοιαῦτα, ἀλλ' ἐπὶ μικρόν, καὶ <οὐ> πάντες τῆς τοιαύτης αἰσθήσεως κοινωνοῦσιν· ἔτι δὲ οὐκ ἔστι ταῦτα ὁμοιώματα τῶν ἡθῶν, ἀλλὰ σημεῖα μᾶλλον τὰ γινόμενα σχήματα καὶ χρώματα τῶν ἡθῶν, καὶ ταῦτ' ἔστιν ἐπίσημα ἐν τοῖς πάθεσιν· ...), ἐν δὲ τοῖς μέλεσιν αὐτοῖς ἔστι μιμήματα τῶν ἡθῶν. The text and content of this passage are difficult to interpret. I follow OCT and accept Müller's insertion of οὐ before πάντες at 1340a31 *contra* Jowett 1885, 300. Another possible emendation suggested by Susemihl (see Susemihl and Hicks 1895, 593) consists in transposing ἀλλ' ἐπὶ μικρόν thus: σχήματα γὰρ ἔστι τοιαῦτα, καὶ πάντες τῆς τοιαύτης αἰσθήσεως κοινωνοῦσιν, ἀλλ' ἐπὶ μικρόν. If one accepts this emendation, the passage suggests that visual art is similar to characters in a small way, as opposed to being recognised as similar to characters only by some people. Whatever version one prefers, the gist of Aristotle's point here is that music is more similar to character than visual art.

¹⁰ Throughout *Politics* viii, Aristotle uses the terms ὁμοίωμα and the term μιμήμα as synonyms (see Halliwell 1990, 491). Consider for example 1340a26-42 quoted above, where he begins his argument stating that we find ὁμοιώματα of character in melodies and concludes the proof by noting that in melodies there are μιμήματα of character. Here I translate ὁμοίωμα and μιμήμα as 'likeness' and 'imitation'. The translation does not capture the nuance of meanings of these terms, but serves the purpose of clarifying Aristotle's view on the educational power of music.

¹¹ Even if we cannot prove that Aristotle was the author of these texts, it seems impossible to deny the similarity between the views in *Problems* xix 27 and 29 and in *Politics* viii. In both texts, likenesses of characters are to be found in *melos*, rather than *harmonia*. Both texts suggest that there is a difference in the educational powers of music and the other arts (on these points, see Anderson 1980, 79). See Gevaert and Vollgraff 1901, xvii ff. for the thesis that *Problems* xix 27 and 29 are by Aristotle. See d'Eichthal and Reinach 1900 for the view that they are not. The first attribution of this book of the *Problems* to Aristotle is by Aulus Gellius, *Attic Nights* i 11. Barker 1990, ii 85-86 suggests that *Problems* xix were written by Aristotle's students as a record of his research and as an aid to further enquiry in the late fourth or early third century. Louis 1993, 94ff. agrees and argues that the musical problems were collected together at a later stage (hence the discrepancies between, e.g., *Prob.* xix 7 and 37). Marengi 1957 and Marengi 1966 defend the authenticity (or at least the Aristotelian spirit) of the musical *Problems* and their connection with the acoustic problems. For further

Why does what is heard, alone of perceptible objects, possess character? For, even when it is without words, nonetheless melody possesses character. But colour, smell or flavour don't. Or it is because that which is heard alone has movement? Not, however, the movement in us to which the sound gives rise (for such movement is also related to the other [sc. perceptible objects])...but we perceive the movement which follows such and such a sound. This movement has a likeness [sc. of characters] both in the rhythms and in the melodic order of the high and low notes, but not in the mixture. For symphony doesn't possess character. ...These movements are connected with actions (*praktikai*), and actions are indicative of character.¹² (xix 27)

In this passage, the progressive nature of melodies is emphasized, and supplemented with an analysis of the progressive nature or of the 'movement' (*kinēsis*) of rhythm (cf. Aristoxenus' *Elementa Harmonica* ii 34-35 in Da Rios 1954, 43-44). Melody and rhythm are movements not only because whenever a perceiving subject interacts with them she undergoes some kind of physical alteration (that happens in any case of perception). Rather, melody and rhythm are movements because they flow and change through time. They are perceptible successions of different, ordered, notes or durations.

Not only are melody and rhythm movements, but they are also *praktikai*, i.e., connected with actions. This connection between melody, rhythm, and actions requires further clarification. Often Aristotle calls something *praktikos* to mean that it leads, in some way or other, to action (see, e.g., *NE* vi 1140a4 on *phronēsis praktikē*). But can melody and rhythm be *praktikoi* in that sense? do they make us act? Another passage of the *Problems* suggests that *praktikos* here has a slightly different meaning (see on this point Barker 2005, 109-110):

Why do rhythms and melodies, which are voice, resemble characters, whereas flavours do not, nor yet colours and odours? Is it because they are movements, as actions also are? Now activity possesses and produces character, but savours and colours do not produce it equally.¹³ (xix 29)

arguments in support of using the pseudo-Aristotelian *Problems* as aids to explain Aristotle's views when they do not contradict the authentic texts, see also Van der Eijk 2005 and Forster 1928.

¹² Διὰ τί τὸ ἀκουστὸν μόνον ἦθος ἔχει τῶν αἰσθητῶν; καὶ γὰρ ἐὰν ἡ ἄνευ λόγου μέλος, ὅμως ἔχει ἦθος· ἀλλ' οὐ τὸ χρῶμα οὐδὲ ἡ ὀσμη οὐδὲ ὁ χυμὸς ἔχει. ἢ ὅτι κίνησιν ἔχει μόνον οὐχί, ἣν ὁ ψόφος ἡμᾶς κινεῖ; τοιαύτη μὲν γὰρ καὶ τοῖς ἄλλοις ὑπάρχει· κινεῖ γὰρ καὶ τὸ χρῶμα τὴν ὄψιν· ἀλλὰ τῆς ἐπομένης τῷ τοιοῦτῳ ψόφῳ αἰσθανόμεθα κινήσεως. αὕτη δὲ ἔχει ὁμοιότητα ἐν τε τοῖς ῥυθμοῖς καὶ ἐν τῇ τῶν φθόγγων τάξει τῶν ὀξέων καὶ βαρέων, οὐκ ἐν τῇ μίξει. ἀλλ' ἡ συμφωνία οὐκ ἔχει ἦθος. ἐν δὲ τοῖς ἄλλοις αἰσθητοῖς τοῦτο οὐκ ἔστιν. αἱ δὲ κινήσεις αὗται πρακτικαὶ εἰσιν, αἱ δὲ πράξεις ἦθους σημασία ἐστίν. Translations of the *Problems* are based, sometimes loosely, on Mayhew 2011.

¹³ Διὰ τί οἱ ῥυθμοὶ καὶ τὰ μέλη φωνῇ οὕσα ἦθεσιν ἔοικεν, οἱ δὲ χυμοὶ οὐ, ἀλλ' οὐδὲ τὰ χρώματα καὶ αἱ ὀσμαι; ἢ ὅτι κινήσεις εἰσιν ὥσπερ καὶ αἱ πράξεις; ἦδη δὲ ἡ μὲν ἐνέργεια ἠθικὸν καὶ ποιεῖ ἦθος, οἱ δὲ χυμοὶ καὶ τὰ χρώματα οὐ ποιοῦσιν ὁμοίως. The idea that actions and melodies 'produce' charac-

In this passage, melody and rhythm are *praktikoi* because they are similar to actions. They are similar to actions because, like actions, they are movements. Actions, melodies, and rhythms resemble and produce character because they are movements.

The *Problems* give us a fuller picture of the similarities between music and character. Music is similar to character and to actions that produce character because it is progressive, because it is a movement. The similarity between musical movements and actions is the easiest to grasp. Musical movements involve orderly successions of high, low, long, and short notes. This orderly succession makes them similar to actions: complex actions especially (e.g., saving a drowning child) involve the orderly succession of different temporal components.

But what about characters? Characters, as opposed to actions, are states (*hexeis*), and notably states that are stable over time (see, e.g., *NE* ii 1105b20-30 and 1114a13-20). Yet, in *Problems* xix 27, likenesses of characters are not found in static concordance or ‘symphony’, i.e., in the simultaneous and static playing of two or more notes. Rather, they are found in the successions of notes or durations. Perhaps, then, characters have to be understood here as dispositions displayed in one’s behaviour and in one’s feelings, and not as un-displayed dispositions. One’s character is activated during one’s life in a variety of ways. Hence, we can find ‘likenesses of character’ only in a progressive form of art (see *Rhet.* ii 1356a37ff. and 1377b21-1378a6, where *ēthos* indicates *displayed* character dispositions).

The similarly complex order in variety in the temporal development of melodies, rhythms, actions, and characters leads to the second similarity between them. *Fine* melodies or rhythms are similar to *fine* actions and *fine* characters. Aristotle’s notion of ‘the fine’ (*to kalon*) is often, if not always, correlated with order or *taxis* (see *Meta.* xiii 1078a36-b1, *EE* ii 1218a21-23 and Lear 2006).¹⁴ Hence, the fineness of an action, character, or a musical movement is connected to the ‘order in variety’ they manifest in their temporal development.

In *Politics* viii Aristotle does not dwell on the characteristics of fine melodies because he thinks that ‘musicians and philosophers who happen to know a lot about music’ have already determined them (1341b25). Nonetheless, we have

ter can suggest either that they resemble character or that they instil it in the listener. Here, the difference between objects of vision and taste and objects of hearing in producing character is one of degree. This is consistent with *Pol.* 1340a29-39 quoted above, where Aristotle denies that objects of vision are likenesses of character, but admits that they might to some small extent be recognised as such (or that they might be recognised as such by some people).

¹⁴ Spelling out the exact nature of the relationship between fineness and order is difficult. The notions are surely connected, but it is hard to tell whether fineness or order is explanatorily basic. Without tackling this difficult question, all I argue here is that there is a similarity in the specific kind of order that fine actions, fine characters, and fine melodies (or fine rhythms) display. This similarity gives us a reason to believe that there is a similarity in the specific way in which actions, melodies, and characters can be recognized as fine. Aristotle trades on this similarity both in the passages of the *Politics* discussed in this article and in *NE* ix 1170a8-11, where he argues that ‘the decent person, in so far as he is decent, rejoices at virtuous actions and is pained at bad actions, in the same way as the musical person is pleased by fine melodies, but pained by the bad ones’ trans. Irwin 1999.

reason to think that the fine melodies used for education are orderly because they are kept within the range of intervals of a single *harmonia*, or a single mode. Order, in this context, is partially a matter of involving the right components, and no alien components. At 1142a25, modulating melodies that include chromatisms (*parakechrōsmena*) are described as deviant (*parekbaseis*). At 1341a18-b9 the flute, a modulating instrument, is banned from educational uses (cf. Plato's *Rep.* iii 399d1-5). By analogy, it is plausible to think that fine rhythms are orderly because they follow a specific metrical unit or a specific ratio (on appropriate and inappropriate rhythms in speech, see *Rhetoric* iii 8 and cf. *Rep.* iii 398d and 400b-d).

In the same way, a fine action has to involve the right components, or the right temporal sub-stretches. Fine child-saving, for example, involves swimming fast and performing first aid procedures, as opposed to (say) swimming stylishly and rebuking the child for her imprudence. Fine displayed character dispositions like bravery must have the right components too. A brave person will display her disposition in a variety of different ways. Depending on the occasion, she will fear certain things and not others: for example, she will not fear loss of reputation but she will fear death. She will be 'eager when in action, but quiet before action' (*NE* iii 1116a8-9).

In order to be distinctive of fine melodies, rhythms, actions, and characters, their orderly arrangement must be qualified further. It is not enough to involve the right components: a good, or appropriate arrangement of the components is also needed. Thus, some modes and rhythmic patterns but not others are appropriate for educational and fine melodies and rhythms (*Pol.* viii 1341b33-1342b18). Similarly, the arrangement of the temporal development of a fine action is appropriate for the circumstances and for the action's goal, a goal which must itself be worthwhile: in a fine case of child-saving, swimming does not follow but it precedes performing CPR (see also Lear 2006, 120 and Cooper 1998, 274). In the same way, the complex variety of actions and passions displayed by a fine character state like bravery does not follow a random arrangement, but an appropriate order: the brave person is 'whoever stands firm against the right things and fears the right things, for the right end, at the right time, and is correspondingly confident' (*NE* iii 1115b17-19). This feature is common to all virtues in so far as they are states lying in a mean.

The temporal development of fine melodies, fine actions, and fine characters is distinctively characterised by the appropriate orderly arrangement of the right components. From this we can move to the third and last aspect that fine actions, characters, and melodies have in common: for Aristotle, fine melodies should be enjoyed and listened to for their own sake and fine actions and characters should be enjoyed and pursued for their own sake.

The importance of the right motives for performing fine actions emerges if we compare them to the performance of good productions (*poiēseis*). The performance of actions (*praxeis*) is different from the performance of productions (*poiēseis*). Productions need to be aimed at something other than themselves, and

actions need not. While the house builder aims at something other than her performance of house building (i.e., the house), someone who performs a virtuous action need not have an aim other than the action itself. The builder has the goal of producing a good house. For the person who is performing an action, the excellent action itself is the goal (see *NE* vi 1140b1-5 and Whiting 2002 for discussion). In this respect, our motives in pursuing virtuous actions are similar to what Aristotle takes to be the right motives in listening to musical performances. We should listen to fine music for its own sake, and not (or not only) for the sake of relaxation (see *Pol.* viii 1338a10-b10, 1139b35-1140a5; see also *MM* i 1197a8-11 for a possibly related analogy between playing well and acting well).

Arguably, this similarity led Aristotle to the thesis that taking the appropriate pleasure in musical performances is similar to taking the appropriate pleasure in fine actions: *listening* finely is remarkably similar to *acting* finely or virtuously: in both cases, having the wrong motives prevents the activity from being done finely. Since not all melodies, rhythms, and actions are fine, merely enjoying the performance for its own sake is not enough to listen and act finely. To listen and act finely, one must perform actions and listen to melodies and rhythms that meet certain independent requirements. For example, they must follow an appropriate orderly arrangement. But listening to a fine melody or performing a fine action, in order to be finely done, needs to meet a further requirement: it needs to be done and enjoyed for its own sake.

Although Aristotle's account certainly depends on the accepted views of what counted as listening well and what did not, he does manage to provide it with some philosophical grounding. He reports that 'the ancients' thought that music is important because it teaches us to spend our leisure well, i.e., *scholazein kalōs* (1337b30-32). In order to be able to spend our leisure well, we need to be trained not only in disciplines that are useful towards money making, political activities, and household management, but also in disciplines that are practised for their own sake (1338a13-b10). And music is precisely an example of such a discipline.

However, not all types of musical performances are listened to for their own sake. Most tunes are played for the relaxation and amusement of the 'uneducated many' (1342a16-29; see also 1341a10-20). This prevents them from being finely listened to or performed, as well as making, according to Aristotle, their performers and listeners 'vulgar' (*banausoi*). Aristotle's comments on 'the many' and those who engage in productive work may be the effect of a cultural prejudice, but the crucial point of his views on musical and moral education can be defended independently of such prejudice. Perceiving the fine is surely difficult and requires a specific training. This view need not be accompanied by the assumption that most people (women, slaves, and productive workers) cannot undergo the relevant kind of training. Nor need it be accompanied by the view that performances for the sake of the listeners' enjoyment are vulgar.

Just as listening to music finely in the *Politics* involves listening to music for its own sake, so also acting finely in the *Nicomachean Ethics* requires doing virtuous actions for their own sake (see, e.g., *NE* 1105a30-b3 and 1115b12-13; the

view is echoed in *Rhet.* i 1366b35-40; see Irwin 1985, Irwin 2011, Rogers 1993, and Taylor 2006, 92n12). This requirement distinguishes acting finely from producing well. It also distinguishes acting finely from some instances of acting viciously. Good productive performances are oriented towards the achievement of an external goal, i.e., the product of the production. Similarly, acting viciously is not necessarily done for its own sake, but can be aimed at an external goal such as apparent pleasure, fame, or power (On vicious actions and vice, see Broadie 1991, 90-91, Müller 2015, and Irwin 2001). In addition, the fact that acting finely is oriented to an internal goal distinguishes it from some of its close cousins: performances that might seem to be done finely but really are not, because they are guided by the wrong motives. For example, seemingly brave actions for the sake of a monetary reward, or for the sake of public honours (*NE* iii 1116a16-35).¹⁵

The right motives matter for virtuous character states as well as for virtuous actions and fine music. Being oriented to the right goals distinguishes virtuous characters from their close cousins: real bravery is different from bravery for the sake of honour and bravery for the sake of fear. The really brave person acts for the sake of bravery itself, whereas bravery for the sake of fear or honour is governed by external goals (*NE* iii 1116a17-b3; see Hitz 2012, 271ff. and Lear 2005, 154-155).

The *Politics* and the *Problems* emphasise three similarities between music, actions, and characters: actions, characters, melodies, and rhythm are alike in their progressive development; fine actions, characters, melodies and rhythms need to display a similar order in variety; listening well to a melody, acting finely, and displaying correctly a virtuous character require the right motives or pleasures. These similarities between melodies, rhythms, actions, and characters are important for the educational powers of music because they capture some distinctive features of virtuous actions and characters. These features differentiate virtuous actions done finely from good productions, from vicious actions, and from good actions done from the wrong motives: good productions are aimed at an external goal, and so are not done for their own sake; vicious actions do not meet the formal requirement of following an appropriate order (though they might follow an inappropriate orderly arrangement) and need not be done for their own sake.

The same features are distinctive of virtuous characters. The orderly nature of virtuous characters differentiates them from vicious characters. A vicious disposition presents a complex variety of actions and feelings, some of which might even be the same kind of feelings or actions displayed at times by the virtuous person (among these 'shared' feelings and actions, Aristotle mentions fear and facing death in *Eudemian Ethics* iii 1229b35-1230a5). But a vicious disposition is different from a virtuous disposition in that its components are displayed in an arrangement so inappropriate that it leads to self destruction (*NE* ix 1166b7-29).

¹⁵ See in particular the discussion of political courage and Hitz 2012, 271. For Aristotle, political courage is inferior because it involves acting for the wrong motives (for fear of punishments or externally bestowed honour, for example).

The right motives matter for virtuous character states too: they distinguish real virtues from virtues for the sake of honour or fear.

Musical Education as Cognitive Training

The three similarities between music, actions, and characters I described in the previous section can guide our interpretation of music's educational function. They can explain why musical education can help us both to recognise fine actions and characters and also to rejoice correctly at them. Musical students can learn to recognise fine characters and actions because these characters and actions are similar to fine melodies and rhythms. This explains why Aristotle envisages musical education as a kind of recognitional training:

There is no doubt that whether someone himself participates in a performance makes a great difference to the development of certain qualities. For if people do not participate in performances, then one thing which is impossible or difficult is for them to become excellent judges (*kritas*) of them.¹⁶

Thus, in the first place, since in order to discriminate it is necessary to take part to the performances, for this reason they should play while young, and abandon the performances once they get old, and they should be able to discriminate (*krinein*) fine things and rejoice correctly in virtue of what they learnt when young.¹⁷

Young children learn to recognise fine melodies in their succession of ascending, descending, or jumpy notes. This enables them to grasp the melodies' appropriate orderly temporal development. Since fine melodies are similar to fine actions and characters, the recognitional skills acquired in the context of musical education are transferable to the context of moral education. If fine actions and characters are similar to fine music, learning to recognise the latter can be a way to learn to recognise the former.

Aristotle uses the verb *krinein* to indicate the type of grasp that allows trained students to discriminate the right kind of music, actions, and characters (1340a15-17 and b35-39). *Krinein* and its cognates are used to indicate both perceptual and intellectual grasps (*DA* 418a14, 424a5, 425b21, 427a20, 428a3). Since musical training is directed to children, we have a reason to suppose that it will not be directed to the thinking part of the soul. Children's intellect is not developed. The rational part of their soul will emerge only later in life (*NE* iii 1100a1, *Rhet.* ii 1384b23, and *Pol.* vii 1334b6-28). For this reason, musical education must engage first and foremost with the non-rational or perceptual part of

¹⁶ οὐκ ἄδηλον δὴ ὅτι πολλὴν ἔχει διαφορὰν πρὸς τὸ γίγνεσθαι ποιούς τινας, ἐάν τις αὐτὸς κοινωνῇ τῶν ἔργων· ἐν γὰρ τι τῶν ἀδυνάτων ἢ χαλεπῶν ἐστὶ μὴ κοινωνήσαντας τῶν ἔργων κριτὰς γενέσθαι σπουδαίους (*Pol.* viii 1340b20-25).

¹⁷ πρῶτον μὲν γάρ, ἐπεὶ τοῦ κρίνειν χάριν μετέχειν δεῖ τῶν ἔργων, διὰ τοῦτο χρὴ νέους μὲν ὄντας χρῆσθαι τοῖς ἔργοις, πρεσβυτέρους δὲ γενομένους τῶν μὲν ἔργων ἀφείσθαι, δύνασθαι δὲ τὰ καλὰ κρίνειν καὶ χαίρειν ὀρθῶς διὰ τὴν μάθησιν τὴν γενομένην ἐν τῇ νεότητι (1340b35-39).

the soul (cf. Plato's *Laws* ii 664e3-8, 670b2-3, and *Rep.* iii 401a-d).

Exactly how musical education engages with the non-rational part is open to speculation, for Aristotle does not explain the details of its cognitive workings. All we know is that it teaches us to recognise fine melodies, actions, and characters. Perhaps, what matters is that recognising a fine melody involves engaging with a particular melodic movement. Without this engagement, the relevant recognition cannot occur: our sensitivity to the order of a melody must follow its particular temporal development. It is enough for us to follow this orderly development perceptually, and we do not need to understand a universal explanation as to why some melodies and not others are fine. Thus, there is some connection between the sensitivity to particulars that musical expertise and virtue require (see *NE* vi 1141b8-20; Plato makes analogous considerations in *Laws* ii 667b-670e).¹⁸

Aristotle argues that musical education is a kind of perceptual-recognitional training, but he does not explain precisely how it works. He is, however, more explicit on how musical education leads us to take pleasure in fine actions and fine characters for their own sake:¹⁹

Someone who is accustomed to feel pleasure and pain in things that are alike [sc. to the real things] is close to someone who has the same attitude toward the real things. For example, if someone enjoys contemplating the image of something for no other reason than its shape, he will necessarily take pleasure as well in contemplating the thing itself whose image he is contemplating.²⁰

Taking pleasure in a mere likeness leads us to take pleasure in the 'real thing'. Applying this principle to fine melodies and rhythms, we obtain that someone who is accustomed to enjoying them for their own sake will enjoy for their own

¹⁸ For Aristotle's disciple Aristoxenus music requires perceptual training precisely because it is progressive:

Since this [sc. static and progressive] is the nature of music it is necessary to habituate perception and thought to discriminate finely what is static and what moves in the harmonised melodies. τοιαύτην δ' ἐχούσης φύσιν τῆς μουσικῆς ἀναγκαῖον καὶ ἐν τοῖς περὶ τὸ ἡρμωσμένον συνεθισθῆναι τὴν τε διάνοιαν καὶ τὴν αἴσθησιν καλῶς κρίνειν τὸ τε μένον καὶ τὸ κινούμενον. (*Elementa Harmonica* ii 34, 25-28 (Da Rios 1954, 44, 3))

Here Aristoxenus might be expanding Aristotle's views on the importance of training perception to discriminate the movements of fine music.

¹⁹ Hitz 2012, 298-301 suggests that taking pleasure in music teaches us to take pleasure in fine actions for their own sake and to recognise fine actions and characters. However, she (incorrectly, if I am right) assumes that the educational powers of music depend on its capacity to *represent* fine characters and action. Representational accounts are problematic, as I argued above, because it is difficult to see how music can represent character and actions if it is not accompanied by words or theatrical representations.

²⁰ ὁ δ' ἐν τοῖς ὁμοίοις ἔθισμός τοῦ λυπεῖσθαι καὶ χαίρειν ἐγγύς ἐστι τῷ πρὸς τὴν ἀλήθειαν τὸν αὐτὸν ἔχειν τρόπον ὅσον εἴ τις χαίρει τὴν εἰκόνα τινὸς θεώμενος μὴ δι' ἄλλην αἰτίαν ἀλλὰ διὰ τὴν μορφήν αὐτήν, ἀναγκαῖον τούτῳ καὶ αὐτοῦ ἐκείνου τὴν θεωρίαν, οὗ τὴν εἰκόνα θεωρεῖ, ἥδεῖαν εἶναι (*Pol.* viii 1340a23-28).

sake the ‘real things’ they are similar to: fine actions and fine characters. Since music is naturally pleasant, enjoying fine music for its own sake leads us to take the appropriate pleasure in it and what it resembles (1340b20-25).

Musical education cannot lead us all the way toward virtue. It cannot really teach us to *act* finely and to develop a fully virtuous character. Recognising fine actions and enjoying or pursuing them for their own sake is not sufficient by Aristotle’s own standards for acting finely or virtuously. Other conditions have to be satisfied: the virtuous action has to be chosen knowingly and from a stable and virtuous character state (*NE* ii 3). For example, enkratic actions might display the appropriate order in variety and be done for their own sake. Yet, they are not done virtuously because the agent who performs them is still conflicted.

Even if this is right, it does not undermine the idea that musical education can aid character education. Musical education teaches us a recognitional skill that helps us to spot at least some of the features that characterise fine actions and characters. It also teaches us to take pleasure in fine actions and characters for their own sake. Thus, it gives us at least a starting point to learn to be good.

Conclusion

Aristotle’s account of musical education is neither the result of the unreflective acceptance of a common belief nor a theory of blind emotion-transmission. Aristotle gives some philosophical grounding to the thesis that musical education forms our character. He maintains that musical education trains us to recognise some features of fine actions and fine characters and also to take pleasure in them for their own sake. It does so because fine music is naturally pleasant and similar to fine actions and fine characters. Aristotle, then, has some good reasons to believe that musical education can habituate us to ‘correctly distinguishing and rejoicing at good characters and fine actions’ (*Pol.* viii 1340a15-17).²¹

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