

Chapter Title: Attunement: How the Musicology and Metaphysics of Taras Shaped Athenian Philosophy

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Book Title: Meter and Music in Ancient Greece

Book Subtitle: Selected Essays from the Ninth Interdisciplinary Symposium on the Hellenic Heritage of Sicily and Southern Italy

Book Editor(s): John Robert Bagby, Ronald Blankenborg, Jorgen R. Gatt

Published by: Parnassos Press — Fonte Aretusa. (2025)

Stable URL: <https://www.jstor.org/stable/jj.32942752.5>

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John Robert Bagby¹

Attunement: How the Musicology and Metaphysics of Taras Shaped Athenian Philosophy

Aren't these the reasons, Glaucon, that education in music and poetry is most important? First, because rhythm and harmony permeate the inner part of the soul more than anything else, affecting it most strongly and bringing it grace, so that if someone is properly educated in music and poetry, it makes him graceful, but if not, then the opposite.²

If we were living among the ancient Greeks, we might have found it appropriate to begin by calling on the Muses as we embark on a journey into what I believe is one of the most important threads of ancient Greek wisdom—music. Most scholars and students today do not appreciate just how significant harmonics and musicology were in shaping ancient philosophy. Philolaus, Archytas, and Aristoxenus of Taras (modern-day Taranto in Southern Italy) made perhaps the greatest contributions in intertwining philosophy and musicology in classical Greece. I will unpack their role in Athenian philosophy and perhaps the muses will help us along

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² Socrates in Plato's *Republic* 401d3–e1 in Plato, *Complete Works*, ed., John M. Cooper (Indianapolis: Hackett, 1997). ἄρ' οὖν, ἦν δ' ἐγώ, ὦ Γλαῦκων, τούτων ἕνεκα κυριωτάτη ἐν μουσικῇ τροφή, ὅτι μάλιστα καταδύεται εἰς τὸ ἐντὸς τῆς ψυχῆς ὃ τε ῥυθμὸς καὶ ἁρμονία, καὶ ἐρωμενέστατα ἅπτεται αὐτῆς φέροντα τὴν εὐσχημοσύνην, καὶ ποιεῖ εὐσχήμονα, ἐάν τις ὀρθῶς τραφῇ, εἰ δὲ μή, τοῦναντίον;

the way, although Aristoxenus, in proper peripatetic fashion, appears to naturalize and demystify the Muses. He and Theophrastus make melodiousness (musicality as productive knowhow) a feature of the *psychē* (mind/soul) with its own nature and forms. To study the *forms* in music we must understand them through musical experience.

To the ancient imaginary, music was not a mere human invention of entertainment. The Muses were, of course, the *source* of inspiration, that is, properly speaking, the divine cause of music. Yet, Aristoxenus did not reduce or erase the spiritual and religious dimensions of music. Instead, the peripatetic Tarantian conducted a purely musicological study as a scholar practitioner in *Harmonika Stoiceia*. His project is ultimately inscribed within the tradition of music therapy and driven by a philosophical vocation (Pseudo-Plutarch, *De Musica*, 32 1142d). His novel study was, in many ways, a continuation of Athenian philosophy that synthesized Aristotle's dynamic sense of being (potency, activity, actuality) with Socratic moral and metaphysical psychology.

But I will also show that we cannot fully appreciate Socrates's psychology (what I call the philosophy of Attunement) without certain insights given by Archytas concerning ancient tuning practices, and what is more, we find that Aristotle's concrete and dynamic sense of form was inspired by Archytas. Combining Archytas's view of *form* and his pioneering work in musicology leads to the development of a new science of musical harmony which lends a plethora of insights to the moral psychology and metaphysics that took form in Athens and finally was turned into a science of melodiousness as such by Aristoxenus.³ The arc of this essay

³ On this topic see Varoli, "Pythagoreans and Aristoxenians in Ptolemais's Pythagorean Elements of Music," in this volume.

will follow the thread from Archytas to Aristoxenus by way of Athens and show that attunement was central to an integrative intellectual project that expanded on all disciplines and aimed at making philosophy a *way of life*.

Pythagoreanism in Taras

The Pythagorean philosophy of Taras during 5th-4th centuries BCE was woven into a series of core questions for Plato and Aristotle. Taras's widely neglected, but innovative philosophers bookended the most famous lineage of Greek intellectual history: the two schools in Athens, the Academy and the Lyceum. Archytas was pivotal in the progress of ancient musicology, offering a mix of mathematical, theoretical, and technical insights, and integrating them with an unexpected mixture of philosophical depth and architectonic breadth. The influence of Archytas's thought can be found scattered across Plato's *Republic*, *Phaedo*, and *Timaeus*, only to be reconfigured again in Aristotle's *Metaphysics* and *Politics*.⁴ Already with Pythagoras, the study of harmony led to metaphysical psychology. The two most well-known and probably most prolific Pythagoreans, Philolaus and Archytas, had little to none of the mythological mystique of their long-deceased master from the island of Samos.

Since we only have fragmentary texts of these philosophers of Taras, by and large, their ideas have been forgotten in the dustbins of history. But without Philolaus we would know very little about Pythagorean cosmology (even if

Ptolemais (quoted in Porphyry's *Commentary on Ptolemy's Harmonics* 1.2.25–26) describes Aristoxenus as setting out with perception, developing it by expertise, and appealing to reason when necessary. He nevertheless united the perception-based practice to a higher vocation in philosophy and psychical healing.

⁴ Aristotle. *The Complete Works of Aristotle*, ed. Jonathan Barnes (Princeton, N.J.: Princeton University Press), 1984.

he transformed it) and without Archytas, we would know nearly nothing of the rich harmonic practices of ancient Mediterranean music cultures. Archytas was probably about thirty years old when Socrates was put to death and is most remembered for his friendship with Plato, especially his role in the political drama of the Syracusan tyrant, Dionysius II, recounted in Plato's seventh letter.⁵ Aristotle is more explicit about his debt to Archytas, who he credits with, among a number of profound contributions, one of truly great import to Aristotelian metaphysics and its close relation to the study of nature though sense-perception.

The study of form

According to Aristotle, Archytas was the first to formulate a coherent account of hylomorphic causality in natural phenomena, introducing a dynamic sense of form and privation: a central and indispensable aspect of his own metaphysics. Aristotle gives an example that is typical of Archytas's view: "stillness of air" (*Metaphysics* 8.1043a22), which is parsed to reveal that the *form* is stillness, and the *matter* is the air. Here, matter and form are inseparable in the actuality of the concrete situation. Stillness is nowhere a substantial existing thing like earth. Instead, it is a state of the total system, a mode, modification, or way of configuring—the air is "activated" in its state of rest. Stillness pervades the air but is in fact only the absence of external movements imparted onto the air:

⁵ According to Diogenes Laertius, Philolaus, his followers, or his book also played a role in this drama, and some even claim that Plato bought his book and copied out the *Timaeus* from it. See G.S. Kirk, J. E. Raven, and M. Schofield, *The Presocratic Philosophers, Second Edition* (Cambridge: Cambridge University Press, 1983), fr. 423.

What is calm? Smoothness of the sea. The underlying subject as matter is the sea; the enactment (*energeia*) and shape (*morphē*) is the smoothness.

τί ἐστι γαλήνη; ὁμαλότης θαλάττης τὸ μὲν ὑποκείμενον ὡς ὕλη ἢ θάλαττα, ἡ δὲ ἐνέργεια καὶ ἡ μορφή ἢ ὁμαλότης.⁶

This way of defining formal and material ingredients together at once (*amphō*) in the activities of nature enabled peripatetic natural science. Form as activation is something beyond the parts but also is immanent to them as a whole (*Metaphysics* 1045a9–10). By no means is this the craftsman's image of matter, that of a sculpture wherein the *form* preexists in the mind and is "imposed" on the matter. In this case, the lack of any external force makes the air or water take an undisturbed form that is understood through the nature of these simple bodies. Indeed, "the enactment is different for different matter" (1043a13). The matter itself, being left alone, undisturbed, takes on these qualities, assumes this form. Nature's unlimited variety of movements becomes intelligible as a plenum of patterned processes organized by immanent and relational forms where matter (*hylē*) and shape (*morphē*) or enactment are inseparable. If we want to understand Aristotle's dynamic sense of hylomorphism, we should look at its role in natural and biological processes (*On the Heavens* 378b10; *Generation and Corruption* 327b1–28a31; *Meteorology* 378b27–379b20).⁷ Combining Archytas's view of *form* just described and his pioneering work in musicology also lead to the development of a new science of musical harmony which lends a plethora of insights to moral psychology and

⁶ Aristotle, *Metaphysics* 1043a54–6. My translation.

⁷ John Bagby, "Aristotle on Intensity," *Epoché: A Journal for the History of Philosophy* 28.2 (2024): 243–271.

metaphysics. We will come back to that after surveying the philosophy of music in Athens.

Musical form and attunement

While Archytas greatly advanced the study of harmonics and ethnomusicology, it is not until *Problemata XIX: On Harmony*—a delightfully inquisitive peripatetic text of unknown authorship which compiles questions that probe the nature of music itself—that the field of musicology truly begins, at least in the textual history.⁸ The nature of music was not merely questioned but also rendered in a *formula* by Theophrastus, who asserts that its nature, origin, and essence are “the movement of the soul that occurs in correspondence with its release from the evils due to the emotions.”⁹ These two inventive texts opened the way for Aristoxenus to make of musicology a practice not unlike medicine. In fact, the two disciplines prove to be tangled together, so that “medicine is for the purification of the body, and music for the soul.”¹⁰

Music comes from an artistic knowhow that can be developed as a purely musical expertise yet is inseparable from its ways of imbuing the soul with qualities, forms, and ultimately is inseparable from moral virtues and philosophy.¹¹ Aristoxenus’s study of music proceeds by an investigation of

⁸ See John Robert Bagby, “The Nature of Music in Peripatetic Phenomenological Musicology,” *Epoché: A Journal for the History of Philosophy* 28.1 (2023): 75–86.

⁹ Porphyry, *Commentary on Ptolemy’s Harmonics*, tr. Andrew Barker (Cambridge: Cambridge University Press, 2015), 61.16–65.15.

¹⁰ Aristoxenus *On the Pythagorean Life*, fr. 26. See Antonietta Provenza, “Aristoxenus and Music Therapy: Fr. 26 within the Tradition on Music and Catharsis,” in *Aristoxenus of Tarentum: Texts and Discussion*, ed. C. Huffman (New York: Routledge, 2012), 93.

¹¹ See Eleonora Rocconi, “Aristoxenus and Musical *Ēthos*,” in *Aristoxenus of Tarentum: Texts and Discussion*, ed. Carl Huffman (New York, NY: Routledge, 2012), 65–90.

musical perception to understand the nature of melody in general. But in the quoted fragments of pseudo-Plutarch's *On Music* we are given a glimpse of Aristoxenus's views that are not purely musicological, but concern the moral and philosophical question of why melodies have diverse effects on our *psychē* and character. These place him more squarely in the ancient traditions of music therapy that we find also attributed to Orpheus, Pythagoras, and Socrates, and are taken seriously by Plato and Aristotle (especially Plato's *Phaedo* and *Laws*, and Aristotle's *Politics*).

Musical form was understood as operating by a mood-mode parallelism. This means certain changes to the harmonic structure result in different aesthetic and emotional qualities in the overall form of the song. We have this in tonal music today: minor is considered sad and major is happy, the scale makes possible the expression of character in the way bodily posture and gesture (especially in sculpture, acting, or dance) make manifest our emotions and attitudes. These psychological descriptions are helpful for a novice musician but are crude and wildly inaccurate if taken as absolutes.¹² You can make joyful music in minor keys and the most agonizing laments in major. Chopin has many mournful pieces in major keys; half of

¹² Giulio Carraturo, Victor Pando-Naude, Marco Costa, Peter Vuust, Leonardo Bonetti, and Elvira Brattico. "The major-minor mode dichotomy in music perception," *Physics of Life Reviews* 52 (2025): 80–106. This meta-analysis of scientific and philosophical research on mood-mode parallelism argues that both the underlying harmonic structure as well as the subjective and cultural priming irreducibly give shape to musical perception. Each mode has distinct musical potentialities such that while the actualization of them in musical experience involves the concrete peculiarities of culture, history, and psychology, these subjective elements are in play with the general or essential capacities of the mode, which withhold some independence as physical or natural elements.

his funeral march is in major tonality! This does not disprove the parallel of mood and mode, it only demands that we investigate it more deeply and come up with new concepts that are adequate to the particulars. A sad major will always have a different type of sadness than a sad minor. Every modality contains certain expressive possibilities and limitations.

The modern notions of mode, modulation, and key were referred to ambiguously in Greek music culture by the terms *tonoi* and *harmoniai*. Each term refers to a variety of music forms, everything from rhythmic, melodic, and stylistic content to far more abstract and philosophical concepts like effort, intention, temperament, tenor, and attunement, with a variety of aesthetic and moral connotations therein, which we will unpack below. Archytas shows us another way of modifying the mood and mode on a microlevel of attunement (*hērmosmena*) and calculated the ratios used by practicing musicians. They would slightly detune one or two of the intervals of the Diatonic tetrachord, which detunes the string and are called “soft” (*malakai*) or “relaxed” attunements (*chalarai*; Plato, *Republic* 398e). The physical alteration of the string tension mirrors the psychological change of affect. Claudius Ptolemy later catalogues all these and subcategorizes *hērmosmena* (literally, “what has been attuned”) to refer to a variety of common ancient microattunement variations and some others of his own creation (*Harmonikon* 2.14). The mode (pattern of smaller and larger intervals) and the attunement (microadjustments to the mode) are conceptually separable, and musicians can do any combination of mode and attunement. But in practice and historically, these would be linked in such a way that certain modes were customarily associated with certain attunements, as with the relaxed and tense Lydian (*Republic* 398e).

How do mathematical relations that describe differences in tension result in contrasting emotions and characters? This

whole discussion immediately forces us to reflect on the complexity of emotions and habituation, which is why this topic was so central to both Plato and Aristotle. We need to look at the soul in its growth and upbringing, learn what makes it healthy and strong, and conversely, sick, and debilitated (Plato *Laws* 653c–654a, Aristotle *Problemata* 19: 920b29–921a2). Education is accomplished by Apollo and the Muses (*Laws* 654a), above all, perhaps, because we imitate the attunement of their divine spirit and intention. The philosopher is attuned (*hērmomenos*; *Republic*, 410e, 443e) in the sense that they are both moderate or self-restrained (*sōphrōn*) and courageous (*andreios*). Ultimately it is only by harmonizing (*harmottein*) the two seemingly incompatible virtues that the philosophical nature emerges (410e).

Socrates's metaphysical psychotherapy is centrally concerned with attunement understood as the health, strength, and virtue of the soul. It restores us to our full potential by removing the impediments (e.g., false opinions) to the harmonious exercise and development of our capacities. We have the potential to do both great and terrible things, and it all comes down to putting our powers together in the right way, not being driven by greed, nor acting merely to exploit. The way we have familiarized ourselves with the world and others has occurred by our chance encounters rather than being conducted intentionally or methodically. Chance leads more to a disharmonious soul than to one with temperance and courage. What most average people think about life and death is just so many false beliefs derived from fear and a lack of experience and imagination. This knowledge based on *images* and imitation fosters envy, vanity, egotism, and the desires for fame, power, and wealth, all of which, if left unchecked, develop into shameless violence, which takes the archetypal forms of the tyrant and complete injustice in the *Republic* Books II, VIII, IX. Socratic philosophy in *Phaedo* is the therapy that can

heal souls before they become habituated into these wretched conditions born from the fear of death.

The tyrant, according to Socrates, is the most tormented of all souls. He accordingly listens to torturous laments played in Mixolydian, and tense-Lydian attunements (*Republic*, 398e) The ancient mixolydian is the modern Phrygian mode which is a minor scale that has a diminished second scale degree that can in fact be used to play something mournful, frightened, even tormented;¹³ a music that reflects the tyrant's ceaseless agony. The tense-Lydian refers to a micro-tuning modification of the Lydian mode, likely to sharpen the minor third and sixth, as later described by Ptolemy (*Harmonikon*, 2.14) and which we will look at more closely in the next section. The tyrant's anxious state follows along with his constant mistrust; an agitation of the depths arising from his perceived need to use the utmost violence to preserve his power. The tyrant cannot for a second break his tireless vigilance, which involves weaving a thousand lies and murdering everyone he ever cared for or trusted. The tyrant will break every bond of fidelity with others, even murder his parents and children. He seeks power and advantage with psychopathic apathy. Here, the political and philosophical import of musicology is not an ironic or narrative flourish, but essential to Athenian moral psychology more broadly. Furthermore, it suggests that the relaxed and carefree Lydian can, by a small adjustment of attunement, become the grief-stricken lament of the tyrant as a soft licentiousness can lead, by a tightening, to a frenzy of envy, greed, and ambition. Glaucon then assures Socrates that the Phrygian mode will:

¹³ Jeffrey Bostwick, George A. Seror, and W. Trammell Neill. "Tonality without Structure Using Drones to Induce Modes and Convey Moods," *Music Perception: An Interdisciplinary Journal* 36.2 (2018): 243–49.

...fittingly imitate the sounds and the intonations (*prosōdias*) of a courageous man who is engaged in warfare or in any violent works, and who, when he has failed, either meeting wounds or death or having fallen into some other mishap, in all these conditions, with resolute obstinance, confronts and wards off misfortune. (Plato, *Republic*, 399a–b. My translation).

They assign this attunement to the auxiliary class to promote their forced condition of service to the laws of the guardians. There are good reasons to question the assessment of the Phrygian, based on Aristotle's evaluation of them in *Politics* VIII, as being associated with Dionysus. We will return to this, the key for now is that the mode and mood run in parallel.

Attunement is the molding of the *psychē* according to what it perceives. It is therefore dynamic and developmental; one becomes habituated to an attunement of attitude, and this manifests itself in the melodies that appeal to one's particular disposition and temperament. Each person's musical preference, their taste, has to do with the moods they are habituated to, not simply as a culmination of the entire past, their character, but also the shifting moods of the seasons or fate. Tyrants listen to entirely different music than those who Socrates calls philosophers or guardians because their souls are in radically different conditions. The philosophical attunement of the soul calls forth music that promotes the affects, moods, and desires involved in being a philosopher: they are patient, temperate, observant, tranquil-minded, noble—in a word, apollonian (*Republic* 399e, *Phaedo* 85b, *Cratylus* 404d–406a, *Laws* 654a). But here too I would prefer to read Plato through Aristotle and not suppose he wants to conclude that certain music can actually *turn you into* a tyrant, only that it can be appealing to certain states of mind. It is much more reasonable that the modes all had contexts in which they were not only useful musically but more importantly, psychotherapeutically.

Mood-mode complexity and depth was a central feature of ancient Greek music, as evidenced in the surviving fragments presented and analyzed by West.¹⁴ Poetry likely employed certain modes in typical scenes and modulated mode between songs or parts of songs to match the mood or the change of narration. Later, as the tragedians began expanding the complexity of theatrical production, likely there was a corresponding advancement in instrumental music, changing genus, systema, key, and ethos. More adventurous modulations became characteristic of Athenian theaters and the so-called “New Music.”¹⁵ Most today don’t realize that they were using harmonics in a far more complex and interesting way than we do today in equal temperament. While we can modulate and transpose between key with systematic ease, we cannot change either the genus or attunement as they did—at least not without quite a lot of effort and modifications to our instruments. Having familiarized myself with the distinctive tones of their harmony, it is not hard to imagine they would have been able to create fantastically moving music, changing between moods by altering the modes and genera with the cumulative effect of eliciting the profound and sublime emotions of pity, fear, veneration, or even inspiration, in their audience, as Aristotle attests (*Politics* 8.4–6). In theater, one enters the attunements of heroes, tyrants, and unjust gods. But are the two gods separable and even opposites? Can they be at odds and undermine one another—in the way Nietzsche portrayed?¹⁶ Or is Dionysus lurking behind all the masks and

¹⁴ Martin Litchfield West, *Ancient Greek Music* (Oxford: Clarendon Press, 1992), 190–197.

¹⁵ See Robert E. Drummond, “A Return to Tradition Through New Musical Revolution in Aristophanes’s *Birds*” in this volume.

¹⁶ Friedrich Nietzsche, *Die Geburt der Tragödie aus dem Geiste der Musik*, (Leipzig: E. W. Fritzsch, 1872).

appearing as Apollo, the healer, who devises from afar the trajectory of the whole ordeal with an eye towards healing the listeners' souls and returning them to a blessed state?

We find a blending or collaboration between these two contrasting gods in the first two books of Plato's *Laws* (653d). Our sense of rhythm and harmony, according to the Athenian Stranger, was implanted in us by "Apollo and the muses and the god Dionysus" (672d), even if the latter produces a frenzy of motion that Apollo subsequently disciplines and tempers into strength and grace (653e, 672c). These two opposite attunements, frenzy and grace, need to be brought into their own sort of balance and harmony, rather than trying to eradicate one of them. This harmony is "less the rational synthesis of opposites than the irrational symbiosis of the heterogeneous."¹⁷

This is the subtext of Glaucon's assertion that Phrygian is suitable for implanting courage in times of calamity (*Republic* 399a). But then Glaucon is wrong to agree that they are in fact throwing out Dionysus's and Marsyas's instruments in favor of Apollo's. Aristotle makes this explicit: "The Socrates of the *Republic* was not right to retain only the Phrygian along with the Dorian, however, particularly since he includes the flute (*aulos*) among the instruments he rejects." (*Politics* 1342a32–4).¹⁸ The philosophical attunement would then be modulating between Dorian and Phrygian, reflecting the attunements of courage (*andreia*) and temperance (*sōphrosunē*) (*Republic* 399c) the dual nature of the philosopher is this symbiosis: "a soul attuned (*hērmosmenou*) in this way is temperate (*sōphrōn*) and courageous (*andreia*)" (*Republic* 410e8, my trans.). Dionysus

¹⁷ Vladimir Jankélévitch, *Music and the Ineffable*, tr. Carolyn Abbate. (Princeton, NJ: Princeton University Press, 2003) 18.

¹⁸ Aristotle. *Politics*, tr. C.D.C. Reeve (Indianapolis: Hackett, 1998). All further translations are from this source.

causes frenzy while Apollo channels it into discipline and skill (*Politics* 1340b27). The philosophical attunement is a symbiosis of heterogeneous elements that entails divergent tendencies with the Muses, Apollo, and Dionysus each representing a different facet of the psychology of musical inspiration and philosophical attunement. Aristotle, points to this while critiquing Socrates: "That is why some musical experts rightly criticize Socrates because he rejected the relaxed harmonies for the purposes of education..." (*Politics* 1342b23–25). Aristotle concludes his discussion of attunements by affirming that Lydian is apt for instilling order and facilitating education (1342b29). Was Socrates wrong in his assessment? Or was Glaucon? We will come back to this question later, and I will suggest that these dramatic elements play a philosophical role: they motivate us to modulate our attunement, to adopt a philosophical attitude.

At any rate, it appears that the ancient poet-musicians, were standing in for philosophers, playing the role of healer, psychagogue, and educator. However, they were unable to explain or defend their practice, Homer most of all, let alone did they form a *way of life* (*Republic* 600d). The Orphic Theogony seems to have taken matters of mythology into their own hands and put myth and song to use in cosmology, metaphysics, and psychology.¹⁹ Socrates's philosophy was the "greatest music" (*Phaedo* 61a) because he extracted the psychotherapeutic effects of mystical musical experience from its cult, ritual contexts, and shaped it into a method that involves reasoning. In *Republic* IX, Socrates praises Pythagoras and criticizes Homer, because Pythagoras was able to form a "way of life" that is teachable. Homer, to his credit, does provide our oldest record of the ancient Greek medical arts (*Iliad*, 11.846–8) as well as healing by means of charms

¹⁹ Kirk, Raven and Schofield, *Presocratic Philosophers*, 21–7.

(*Odyssey*, 19.457) and presents music as a means of pleasing the gods (Homer, *Iliad*, 1.472).²⁰

In *Republic* III, (398c–104e) Socrates plays ignorant about musicology and defers to Glaucon, but we know Socrates was in fact a musician, dancer, and composer as Xenophon showed in his *Symposium* and Plato in *Phaedo*. He repeatedly used musical analogies in many of his arguments. On the day he was executed, according to Plato, he was composing music and said that a series of dreams had urged him to make music, and Socrates answered, thinking he had already been spending his whole life fulfilling this calling:

...since philosophy, in my view, is the greatest music,
and that's just what I was doing

...ὥς φιλοσοφίας μὲν οὔσης μεγίστης μουσικῆς,
ἐμοῦ δὲ τοῦτο πρᾶττοντος.²¹

Socrates formed a method of philosophy that is dramatized using mystical healing: he administers purging and curative drugs to the soul, like Pythagoras's music, but in the form of dialectics—a fairly common trope in Plato (*Phaedo* 57a, 115d; *Lysis* 220d, *Cratylus* 394a, 405a–b; *Republic* 389b, 595b; *Laws* 666b–d; *Charmides* 155e, 157b), along with purification, (*katharsis/katharmos*: *Phaedo* 82d, *Sophist* 226d–228b. Cf. *Cratylus* 405b; *Republic* 364e; *Phaedrus* 243a, 244e), inspiration

²⁰ Homer *Iliad* 1.469–74: “But when they had let go out all desire for beverage and food, the youths filled the mixing bowls full to the brim with drink and distributed it to all, first offering libation into the goblets. So the whole day long they sought to appease the god with song, singing the beautiful paean, the sons of the Achaeans, hymning the god who works from afar; and his heart grew joyful as he listened.” Homer. *Iliad, Volume I: Books 1–12* (Cambridge, MA: Harvard University Press, 1924). My translation.

²¹ Plato, *Phaedo*, trans. Eva Brann, Peter Kalkavage, and Eric Salem (Annapolis: Focus Philosophical Library, 1998), 61a2–3.

(*enthousiasmos/ekbakcheuoussa*: *Timaeus* 71e, *Phaedrus* 245a) and mystical initiation (*Phaedo* 69c–b). Socrates used conversations and questioning to manifest the limits and powers of our knowledge, and this process itself is a purification of the *psychē*. Plato tried to present the Socratic method as a means of entering into a *way of life* by transforming the dialectic into a program of education, which he preserved in the form of written dialogues. By engaging with the dialogues, we continue to be philosophically educated, not merely training but rather an awakening, an initiation into a *way of life* by Plato.

Socrates's achievements as a moral and metaphysical psychologist of attunement—using his own soul to understand the vicissitudes and powers of soul—were facilitated by his understanding of affects developed in musical education and expression. No doubt Socrates was keenly observant of inner life, and he revealed a great deal about the patterns of human behavior and how our attitude influences our intermittent successes and calamities. He studied each modulation of psychical attunement and investigated how they correspond to either healing or hurting the soul and the community.

While Socrates presents himself as lacking the technical knowledge of music theory, I hazard that he was not actually so ignorant. Glaucon provides most of the technical details in *Republic* III, while Socrates merely assents (398e). However, Socrates also draws out several consequences of Glaucon's advice, for example, that they will also be throwing out all the various instruments used to play the modes and styles they are banning (399c–e), betraying his feigned ignorance. Even his appeals to the theories of the Athenian musicologist Damon, points toward his possession of such knowledge (400b, 424c). Socrates refers to Damon as his friend in *Laches* (197d).

Furthermore, we need not adhere to the Aristotelian simplification that Socrates focused entirely on concerns of human life in community: justice, virtue, piety, etc., reducing

philosophy to moral psychology (Aristotle *Metaphysics* 1078b15) and moral psychology to systematic knowledge (1144b20–30). Above all, I cannot accept the implication that a Socratic moral philosopher might remain willfully ignorant of the trends in intellectual production, whether in natural philosophy, arts, or harmony. On the contrary, Socrates sought these out, studying with Anaxagoras (*Phaedo* 97c) and while he came to a view of nature as a complex system of tensions and relaxations, forming into organized systems by the guidance of a cosmic intelligence, he ultimately found the purely physical explanations given by Anaxagoras unsatisfying (98c). Socrates went off his own (the “second sailing”; 99d) and sought the ultimate cause of natural realities in an understanding of the good. He attempted to approach the good *via* the soul itself in its striving for the good (99a–d). Socrates’s philosophy is not a systematic knowledge cataloging true definitions, but rather an engagement with others in dialogue aimed at inciting and spreading philosophical thought by modeling and training philosophical attunement. Likewise, Socratic philosophical attunement is not purely apollonian, but a symbiosis of heterogeneous, divergent tendencies, incorporating frenzy and grace without mere logical synthesis.

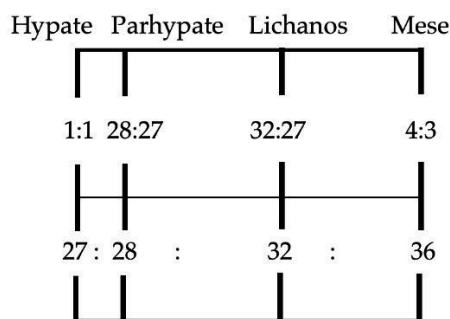
Plato saw no conflict in mixing the Socratic psychology of attunement with an expanding interdisciplinary project of immense intellectual scope, no doubt Pythagorean in origin, enveloping mathematics, harmonics, gymnastics, astronomy, art, and politics. This bewildering polymathy is taken to new heights by Aristotle and the peripatetic school. To that same end, let’s go back to Archytas and try to appreciate the subtlety and breadth of his harmonic and musicological insights.

Archytas and Complex Modulation

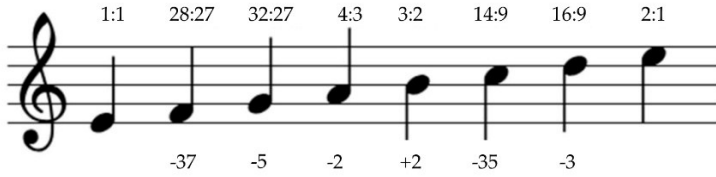
Archytas precisely described the soft (*malakai*) or relaxed (*chalarai*) attunements, what are today known as 7-limit just intonation, which refers to tunings based on the 7th harmonic

(Ptolemy *Harmonikon* 2.14). This classification of scales by “limits” takes its name from the harmonic series, determined by the highest prime factors used in the tuning system. In Archytas we have intervals of 28:27 and 14:9, and 28 and 14 are factors of 7. Ptolemy recorded 3, 5, 7, 11, and 19 limit tunings from across the Mediterranean. Archytas went further than Pythagoras and Philolaus’s 3-limit attunement by giving the oldest mathematical description of scalar structures, different than the diatonic we have focused on so far; those referred to by Ptolemy (*Harmonikon* 2.14) as the “genus,” i.e. enharmonic, and chromatic. He there established a clear understanding of the complex microtonal modulations that ancient musicians devised by ear using the natural harmonic overtones.

Archytas’s soft diatonic, preserved by Ptolemy, is formed by detuning the second and fifth notes of the scale, which produces a quite small semitone of 28:27 which is ~63 cents, so ~37 cents flat of equal temperament. Most musicians can notice a ~15 cent tuning modification. This “softening” is noticeable by any listener and produces a nuanced tone color. His tetrachord has the following ratios 27 : 28 : 32 : 36. They can be separated and given the same denominator 27, to get 27:27 reducible to 1:1, a unison, 28:27 semitone, 32:27 Pythagorean minor third, 36:27, which reduces to 4:3, a perfect fourth.



And then we would double this tetrachord starting a whole tone 9:8 above it. That gives us the bare bones of his tuning.

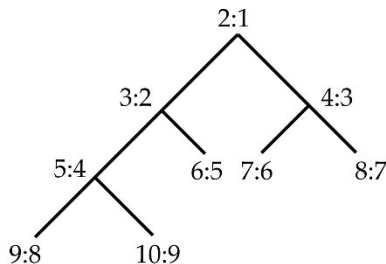


Top: ratios. Bottom: deviation from equal temperament.

The tetrachord of Archytas is derived from a set of intervals found much lower in the harmonic series, based on the 6:7:8 ratio between the 6th 7th and 8th harmonics. Archytas gives us some tools to help this all make sense. As evidenced in fragment 2, Archytas is attributed with categorizing the three main classes of musical intervals, Geometrical, Arithmetic, and Harmonic.²²

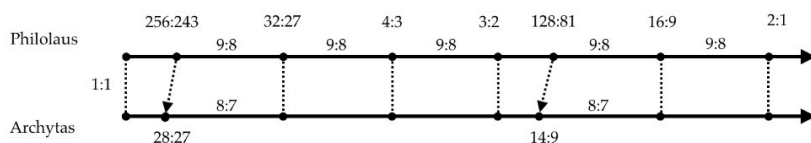


They in fact occur in this exact order within the harmonic series (2:1, 3:2, 4:3) and then alternate between arithmetic (3:2, 5:4, 7:6, 9:8,...) and harmonic (4:3, 6:5, 8:7,...). They are superparticular ratios ($n/n-1$) having the form: odd-even and even-odd. We can thus reconstruct Archytas's pyramid:

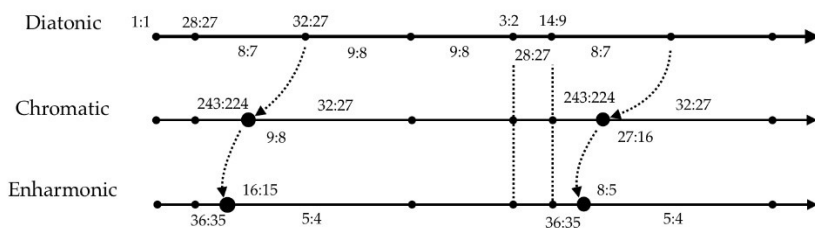


²² Carl A. Huffman, *Archytas of Tarentum* (Cambridge: Cambridge University Press, 2005), 163.

If we isolate the third triad in this series, on the righthand branch at 4:3, which is tonally a perfect fourth, divided by the septimal minor third 7:6, we get the beginning of Archytas's tetrachord. The practical method of tuning is easy by ear, being only a slight modification of Pythagorean 3-limit tuning as described by Philolaus.



It is not difficult to modulate from Archytas's soft Diatonic to his chromatic and enharmonic genera.



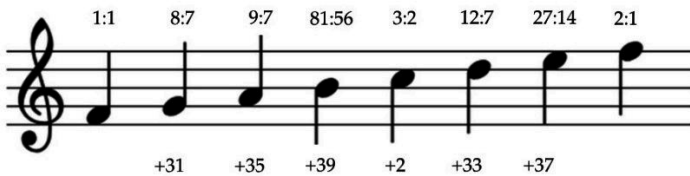
We achieve it by further detuning *lichanos* and *paranete* using harmonics 3, 5, or 7. Archytas and Philolaus were not arbitrarily picking numbers they liked, but studied already existing musical practices, and the musicians who invented them devised them by listening to the overtones and organizing them in diverse attunements.

We think about the modes and scales differently than they did. We represent the starting and ending notes of our scale as the tonic or fundamental, while for the ancient Greeks, the middle note, *mese*, functioned musically as *the tonal center*. The names of the modes in ancient Greece are mostly not the same as the medieval names which we use today. The following

chart shows the ways of determining the contemporary equivalents of the ancient names. The middle column are the commonly misidentified scalar equivalent, but these need to be adjusted to Mese, as just described.

Mode conversion		
<u>Ancient Name</u>	<u>Modern Scalar</u>	<u>Adjusted to Mese</u>
Mixolydian	Locrian	Phrygian
Lydian	Ionian	Lydian
Phrygian	Dorian	Mixolydian
Dorian	Phrygian	Aeolian
Hypolydian	Lydian	Locrian
Hypophrygian	Mixolydian	Ionian
Hypodorian	Aeolian	Dorian

The Lydian happens to be the only Greek mode that maintains its original naming. When we play Archytas's "relaxed" diatonic in the Lydian mode we get a very spaced out and dreamy feeling tonality that uses what we today call super major thirds (9:7 and 80:63).



Top: ratios. Bottom: deviation from equal temperament.

Today, Lydian is considered the brightest mode and is often used to imitate something heavenly or dreamy. Here is a very commonly accepted view of the quality of each mode:²³

²³ W.A. Mathieu *Harmonic Experience* (Rochester: Inner Traditions International, 1997), 76. There are countless YouTube videos that

Ancient Mode	Modern	Quality	Tonality
Lydian	Lydian	Brightest	Major, sharp 4
Hypophrygian	Ionian	Happy	Major
Phrygian	Mixolydian	Bittersweet	Major, flat 7
Hypodorian	Dorian	Sad with hope	Minor, sharp 6
Dorian	Aeolian	Serious, sad	Minor
Mixolydian	Phrygian	Darker, scary	Minor, flat 2
Hypolydian	Locrian	Dissonance	Diminished

While many of the suggested affective connotations found in *Republic III*, are consistent with contemporary music theory, the microtonal change of attunement remains, by and large, a forgotten technique. Microtonally attuning each mode will alter its affective value, exaggerating or distorting it, while keeping the melodic form intact.

There are reasons to believe that the complex microtonality of more ancient musical forms had already fallen out of practice by the second century, but at any rate, they never die out entirely and were luckily preserved in Claudius Ptolemy’s *Harmonikon*.²⁴ We know diversity and modulation of

use equivalent schemata, e.g., *David Bennett Piano*. They are organized by ascending in fifths. Ptolemy suggests this very organization of hypodorian—dorian—mixolydian (*Harmonikon* III.7). Lydian sits at the bottom of this chain of fifths, reflecting its extreme relaxed softness. See also Kirk Fitzpatrick, “Soul Music in Plato’s *Republic*,” *Voegelin View*, January 15, 2018, online.

²⁴ West, *Ancient Greek Music*, 164, thinks it likely developed out of a simpler pentatonic which predated both enharmonic and diatonic genus. The 40,000-year-old bone flutes already utilized hexatonic scales. See Michael Spitzer, *The Musical Human: A History of Life on Earth* (London: Bloomsbury, 2021), 341. The stepwise motion of

attunement was used in the theatre, but even the Athenian national anthem was reported to be sung in the enharmonic genus and modulated to Phrygian, which is our modern mixolydian mode.²⁵ Ptolemy also says in book III chapter six of the *Harmonikon* that the enharmonic is metaphysically related to nature, while diatonic is more theological, and even says that enharmonic implies relaxation and softness.

The differences in genus, modulation, as well as in *hērmomena*, provided a unique expressive potentiality for melody-making. It is not speculative that enharmonic melodies would have unique aesthetic and moral qualities not available in diatonic tunings. Music that modulates between these expressive differences of attunement creates another sort of contrast with its own particular aesthetic and moral qualities.

Medicinal modulations of the *psychē*

When learning to play different attunements, as found in both the macrotonal modulations between tonal centers (*tonoi*) and even more so in these diverse methods of tuning, it is never enough for one to simply memorize scales. We must also learn how to play them *musically*, to bring them to life and make them melodious. This involves learning what potentials are in the organization of the sounds themselves. Certain styles and feelings are only possible when we use certain *systema*—arrangements of intervals. In a similar manner, the modern art of orchestration draws more out of the melody by selecting the instrumentation which best exaggerates and enhances the intended feelings. We can go in another direction with the

diatonic is easier to sing than the large intervals of the pentatonic, so the singing of diatonic melodies likely far predates the invention of tonal instruments.

²⁵ See Andrew Barker, “Did Aristoxenus Write Musical History?” in *Aristoxenus of Tarentum: Texts and Discussion*, ed. Carl Huffman (New York, NY: Routledge, 2012), 23.

same sort of intention, instead of changing instruments or timbre, we fine tune each scale, making it be more attuned with the feeling of the song—*hērmomena*. The melody is attuned to the tuning when it becomes more expressive of the attitude and style of the melody. By analogy, the philosopher must do more than engage in arguments and explanations: the attunement of the *psychē* makes or breaks the philosophical viability of thinking and discourse. The attunement exists between the notes in the way that the temperaments exist between all the activities and experience which make the philosopher philosophical. Along with thinking, we need a philosophical temperament, tenor, and expertise; a spirit of fairness, a yearning for truth, the courage to admit our errors, confront our ignorance, and work in open dialogue with others. Neither softness nor tension is good by itself, without the other.

Socrates gets Glaucon to agree to outlaw Archytas's tuning, and to declare Dorian the only mode suitable for philosopher guardians in times of peace. This position is also voiced by the Athenian general Laches who cites Spartan practice, and excludes both Phrygian and Lydian (*Laches* 188d). Nicias, another general present in the dialogue, is said to be taking music lessons from Damon of Athens, as advised by Socrates (180c) who proclaims himself to be friends with Damon. Perhaps the relaxed Lydian is not suitable for heroes and warriors off to battle, but it was useful for the philosopher as a *pharmakon* that can be a medicine or a poison, depending on how it is administered.

Aristotle's defense of Lydian (Aristotle, *Politics*, 8.7 1342a–b) and other modulations affirms their cathartic and spiritual potential (1340b1–10, 1342a10).²⁶ Phrygian is dithyrambic and “causes one to be inspired” (*my trans.* 1340b4). Aristotle is

²⁶ See G.R.F Ferrari, “Aristotle on Musical Catharsis and the Pleasure of a Good Story,” *Phronesis* 64.2 (2019): 117–171.

cautious to say “Socrates of the *Republic*” when he criticizes the views as taken at face value, that is, outlawing almost all modulations. Considering Socrates’s interest in psychology of attunement, it is far more likely that Aristotle’s views are in line with Plato and Pythagorean music therapy. Ultimately, they all touch back on the dionysian and apollonian healing arts which appear to involve complex modulations that steer the soul away from sickness and vice toward health and virtue (Ptolemy *Harmonikon* III.7). We find it in Aristoxenus, but we also find indications that he deviated from Pythagorean and Socratic spiritualism.

Soul and harmony

Aristoxenus is reported to have thought that the soul itself was an *attunement* of natural bodies, and perhaps *nothing at all*, as Cicero claimed (*Tusculanae Disputationes*, 1.22.51). This is, of course, the view presented by Simmias in a famous but ambiguous passage of the *Phaedo*, in which Socrates refutes the materialist interpretation of the soul as *harmonia*. It is possible that this argument originated from Philolaus, but even this claim is speculative.²⁷ Was there something like a philosophy of the soul particular to the philosophy of Taras? McKirahan recently offered arguments that distance Philolaus from Simmias’s arguments for the ephemerality of the soul. I will provide different arguments here based on the practices of micro attunement.

Socrates himself indirectly indicates an alternative interpretation of *harmonia* that he accepts elsewhere (*Republic* 398c–401e, 410e, 443e). The alternative interpretation says that all tuning is evidence of the causal influence of a soul which is

²⁷ Richard McKirahan, “Philolaus on the Soul,” in *Pythagorean Knowledge from the Ancient to the Modern World: Askesis, Religion, Science*, eds. Almut-Barbara Renger and Alessandro Stavru (Wiesbaden: Harrassowitz, 2016), 63–76.

irreducible to *the attuned* as effect, whether that is a musical instrument or the vital processes in the body. The soul is attuned (disposed, affected, habituated) but it is not merely the attunement as such, which would reduce it to the resulting quality of being put in tune. The soul is an ongoing activity of attuning; sensing, judging, and working to bring the limits into harmony, a process which is present in even the simplest melodies. It is an attention to action which precisely plays notes in an intentional order. The soul is a stream of modulations between attunements regulated by ethos, rather than a single fixed system.

The philosophers of Taras were in fact discussing what today is called emergence or supervenience through music, cosmology, and the study of form.²⁸ A living being is a self-tuning harmony: the soul harmonizes the limited and unlimited, hot and cold, odd and even; a force bringing life into balance. The fact of being in tune is destroyed when the strings are loosened or broken, but the essence and possibility of this *harmonia* has not been destroyed; we can restore it and we recollect its enduring possibility in the very act of discerning that an instrument is out of tune, or someone sings out of key. Even Simmias admits that *harmonia* is something invisible, without body, and beautiful (Plato, *Phaedo* 85e4–86a3). It is not impossible but unlikely that Philolaus and Aristoxenus were the sort of naturalistic eliminativists, as understood today, where the activities of life and the soul are nothing more than physical processes. This does not mean they did not struggle with the fear of death as Simmias voices (*Phaedo*, 86b). Perhaps these more existential themes were indeed discussed by the later Pythagoreans, and not merely Plato or Socrates.

For Philolaus, the elements do not come together in the perfect harmony that produces life by accident. They are

²⁸ See Bagby “Aristotle on Intensity,” 252–4, 260–1.

harmonized by intelligence and soul. Number is the very intelligibility of things,²⁹ their unity and relationality.³⁰ The soul is the harmonizing of contraries, a plurality of physical tensions, so many limits related by proportions that are not merely ordered but harmonized, attuned—drawing more out of the constituent parts considered as a totality. The form is the attitude and melodic continuity that, like a gesture, unifies multiplicity meaningfully through intelligent and expressive effort. Harmony makes evident the community of limit and unlimited, a continuity of matter and form in the cosmos. Likewise, music stimulates and appeals to mind and body simultaneously. Hence the Pythagorean percept: “medicine is for the purification of the body, and music for the soul.”³¹

Archytas and Aristoxenus were studying the formal structures of music as irreducible to their constituent parts. These forms are not understandable solely in terms of material causality or the mathematical structure of its tuning. Furthermore, the soul as the attunement of the physical is not a byproduct of random arrangements that can be dispersed but is the product of the nature of music which proceeds and succeeds all music-making. It is something like an attractor in contemporary views of self-organization, a resonance that intensifies through mutual alteration among the parts. Aristotle raises this question in *De Anima* 1.4, which suggests that attunement can help us understand *hexis* (active disposition, habit) rather than the soul itself. But this too, perhaps, undersells the viability and the importance of the Pythagorean metaphysical and medical models of *harmonia*. *De Anima* 1.5 discusses his predecessors’ theories on the source of

²⁹ Kirk, Raven and Scholfield, *Presocratic Philosophers*, 326. Fr. 427.

³⁰ See Jeffrey A. Golub, “Metron and Harmonia at the Limit of Transgressive Thinking,” in this volume.

³¹ Aristoxenus *On the Pythagorean Life*, fr. 26.

continuity in the soul, and these are in fact inseparable questions. Perhaps the living body kindles the potentiality of life, “holds it together”: *synecheia* (as something dependent on being tuned; *Phaedo* 86b), while the soul is what holds itself together: *entelecheia* (what has already brought itself into tune). The continuity of life and of melody indicate a form that is irreducible to that which is merely held together. Neither the living body nor music will endure in existence without the uninterrupted activity of the soul.³²

Recapitulations and consequences

If Socrates has something like a Pythagorean lineage behind his philosophy, it is precisely in his religious dedication to the therapeutic side of philosophy and the role of harmony. I do not think Plato or Socrates wanted to outlaw the music Archytas described mathematically. I think we would do much better to reinterpret Plato in light of the philosophy of Taras.

We do not need, for example, to believe that the cosmos was formed with a soul whose pattern is made up of several stacked Pythagorean tetrachords (*Timaeus* 35b), or “while heaven’s body was born visible, soul herself was invisible and partook of calculation and attunement [*harmonias*]” (*Timaeus* 36e). The *Timaeus* is not a face value collection of Plato’s “doctrines” but an attempt to think on a deeper level about the cosmologist’s own demiurgic activity in making sense of existence. Further *tinkering* is required by the demiurge, which

³² See Jessica Wiskus, “On Song, Logos, and the Movement of the Soul: After Plato and Aristotle,” *Revista Portuguesa de Filosofia* 74.4 (2018): 917–34. *Ethos* (character formed by habit) is a sempiternity, or undying motion of the soul such that philosophical attunement has continuous influence as a tendency that is only intermittently active but shapes the whole of one’s life.

draws from the carpentry connotation in *harmottō*.³³ Things need to be glued together, welded, and riveted (*Timaeus* 42e7–43a3). The tinkering with language and concepts, “reasoning... musically” (*Timaeus* 55c) that is cosmology or metaphysics, is yet unfinished. Nature is not the grand stack of consonances forever drowning without change, but rather unfurls innumerable melodies just as human life shifts drastically between moods with the shifting winds of fate.

In the fragments of Philolaus, we have a straight on attempt at describing reality on the level of principles, and best of all his terse formulas are decked out with the latest in philosophical terminology, unknown to Pythagoras.³⁴ In the very little we have, we find the architectonic blueprint for an entire system of ideas, but only in sketch. In *Timaeus* we have a grand system, spread out in a more narrative and metaphorical language, but with added layers of internal questioning that can constantly unweave the thread of the cosmogenesis story, placing us in the position of taking up the role of cosmologist.³⁵ Plato works on multiple levels and often demands being read against himself. He is not content to hand down another speculative blueprint, his goal is to reveal the limits and possibilities of cosmology and philosophy, to make the problems our problems, to transform the reader and exhort them to the philosopher’s vocation. The philosophical value of the text more often lies in how we interact with it, what insights it affords us in our own time as philosophers, how it facilitates the modulation our thinking. The goal is to draw us into

³³ See Manuel Mazzuchini, “The Cosmic Sound of Nature: Insights into a Physis of Music,” in this volume.

³⁴ Kirk, Raven and Schofield, *Presocratic Philosophers*, 324.

³⁵ Where the presocratic prose of Philolaus were voiced as an attempt to render a coherent account of the cosmos, the fragments of which approach a formula describing the whole of existence.

questioning for ourselves, to renew the study of the *psychē* and cosmos as a whole. Is such a renewal not also what Orphic cosmogony is with respect to Hesiod's *Theogony*? Or again, what Pythagoras was to Orphism? In some sense, Aristotle reformulated Plato's philosophical project as a whole, by refocusing philosophy on integrating the study of dynamic forms and processes in the sensible world. Clearly this was already a mainstay of the philosophy of Taras.

The unique complexity of Plato's texts—what makes them function as philosophical injunctions rather than doctrines—is clear in the *Phaedo*, where the arguments against the soul as *harmonia* cannot be read at face value but call for a deeper level of engagement that is, in the end, a modulation on the level of psychical attunement. In the passage which follows his refutations, he describes the soul as what tunes the body and later, that which tunes the mind. The *psychē* is not mere *harmonia*, but what brings about *harmonia*, and properly speaking the soul *has* a *harmonia*, which means that it is sometimes in a better condition and other times in a worse condition as with health in the body. The *harmonia* of the soul is redeemed as a central aspect of Socratic philosophy but not on the surface level in the text. Plato forces us to read between the lines and engage philosophically with the text, reading passages off one another and ultimately, thinking about it for ourselves. In the process we become aware of our soul as tuning, as what perceives the *out of tune* as such and cares for its adjustment. Attunement sits at the center of a philosophical way of life that mobilizes all intellectual and moral pursuits.

The same surface and layering of meaning unfolds in *Republic*, which is an exploration of politics and philosophy, how they can succeed or fail to interact. The purpose of the dialogue is not to hand over doctrines but to instigate and ignite new thinking about this complex and all-important intersection. The so-called musical and political conservatism,

i.e., the outlawing of scales and oversimplifications presented by Socrates, should not be read at face value without noticing their role in the unfolding of the dialogue.

Socrates is guiding Glaucon on a journey through the hellish nightmare that is the consequence of his own base impulses for luxuries, fame, and power. In a way, it is a theoretical look into the implications of these affects in axial age politics—a how-to manual on political collapse. The strict mathematical approach to ruling fails and leads to the fall of the “ideal” city. Long before the authoritarian censorship is eventually rejected by Socrates (*Republic* 607b–c), shortly after the outlawing of certain melodies and rhythms, Socrates goes on to discuss doctors and gets Glaucon to agree that it would be best for a skilled doctor to contract a variety of diseases, to become acquainted with them intimately, know them inside and out, so long as no long-term damage is incurred (*Republic* 408d). Reading this passage against the one outlawing modulation, we are led to think that philosopher guardians must in fact study all the modes and all the moods, even the tyrannical and the sophistic. It is by studying and understanding all these affects and motives that one can begin to see how and why cities rise and fall and begin to think politically. A city, just like the individual soul, is populated by appetites that are vying for satisfaction.

A few times along the winding paths of the *Republic*, Socrates remarks that even if they fail to create the perfect constitution in their dialogue, that the whole ordeal, the conversation itself, was a learning opportunity. In *Republic* and *Phaedo* Socrates routinely encourages us not to accept anything put forward without thinking through the consequences of the ideas and by reflecting on the way the ideas affect our souls. They are texts that demand our care and generosity, to draw more out of them than they contain by finding a hidden harmony that lies in the transformation of our psychical

attunement. Then we do not merely grasp some abstract truth, but become the kind of philosophers who use music and philosophy to heal the soul and promote thoughtfulness.

What appears as censorship, conservatism, or aristocratic gate-keeping is rather a defense of the integrity of the philosophical vocation, its kinship with music, and the need for musicians and poets to be philosophical, use their powers for the betterment of the soul and community. We must make philosophy our muse.

Anyone who aims at beauty and discrimination in his treatment of music ... should round it off with the other branches of learning and take philosophy as his principal teacher: for it is philosophy that has the capacity to judge the proper measure for music.³⁶

Conclusion

We are not told what modes Socrates was using to compose music in his final days. Perhaps the hymn to Apollo was in Dorian (*Phaedo* 60d). We are also given the happy image of him adapting the works of Aesop, which Socrates had memorized, to music (61b). He hints at a fable of his own which describes the cyclical nature of pleasure and pain (60b–c) also described by *Phaedo* (59a). It is not hard to imagine such a song would modulate to express these opposite states in succession, expressing a variety of pleasures and pains. It could modulate from the Dorian mode step wise in the scale down to Phrygian and then again, one step down to Lydian. We would have a musical movement tracing the decreasing of the soul's power and energy which corresponds to being led by one of the parts of the soul (reason, spirit, appetite) in *Republic* IV, and the series of political regimes (aristocracy, timocracy, oligarchy, democracy, and tyranny) in books VIII and IX. Going from

³⁶ *De Musica* 32 1142c–d; cf. Provenza "Music Therapy," 85.

democracy to tyranny would be modulating the attunement from relaxed to tense Lydian. Rising back up or modulating back to Dorian would make the distinctly philosophical attunement evident in contrast to the anguish of the tyrant.

Socratic moral psychology, ever focused on advancing philosophy as the greatest music, in accordance with his persistent dream (*Phaedo* 60e), insists on the questionability of our place in the cosmos and in community. As John Sallis said of the Platonic dialogues themselves, we must engage in a reading that stays:

...open to all that remains questionable in the dialogues, to all that is left open in their play of questioning; open also to the dialogical form of these texts and to all that pertains to this form, open to their multidimensionality, to their multivocality, to all the dramatic elements that belong to them.³⁷

The greatest value in the works of Plato is the philosophical attunement of questioning that they invigorate in us. This, above all, is the unwritten doctrine if there be one, what cannot be put into words and remains, even for Socrates, a matter of an intimate conversation with friends.

Music, transformed into philosophy is a knowledge of the soul by the soul that is always only secondarily a thought or put into words. Like initiation to the mysteries, it changes the person's whole orientation in life. The philosophical attunement is an intimate source of metaphysical implications, contained in the soul itself. It shows the soul has the power and energy to transcend itself through interdisciplinary knowledge production. Philosophy is more than arguments and dialectic; melody is more than a series of sounds heard one at a time. The

³⁷ John Sallis, *Being and Logos: Reading the Platonic Dialogues* (Bloomington, IN: Indiana University Press, 2019), xiii.

form in the philosophy of Taras is the dynamic system of ordered movement, a unified activity integrating a multiplicity of parts in a dynamic continuity. Musical modulation is not only a useful metaphor for the modifications of psychical form into diverse characters and dispositions, but also able to uncover how the *psychē* itself changes from one affect to another, which extends beyond music and is central to philosophy. By studying musical multiplicity, we study the diverse activities of the soul. Philosophy is, above all, a modification of attunement, a change of attitude that becomes a way of life. Metaphysics emerged in Athens from pondering the profound concepts and experiences related to attunement, initiated by Philolaus's and Archytas's investigations of dynamic forms, immanent in but irreducible to the sensible. Aristoxenus's musicology becomes metaphysical in this sense, seeing musical form as a continuity of sound and soul, irreducible to the pitches and intervals.