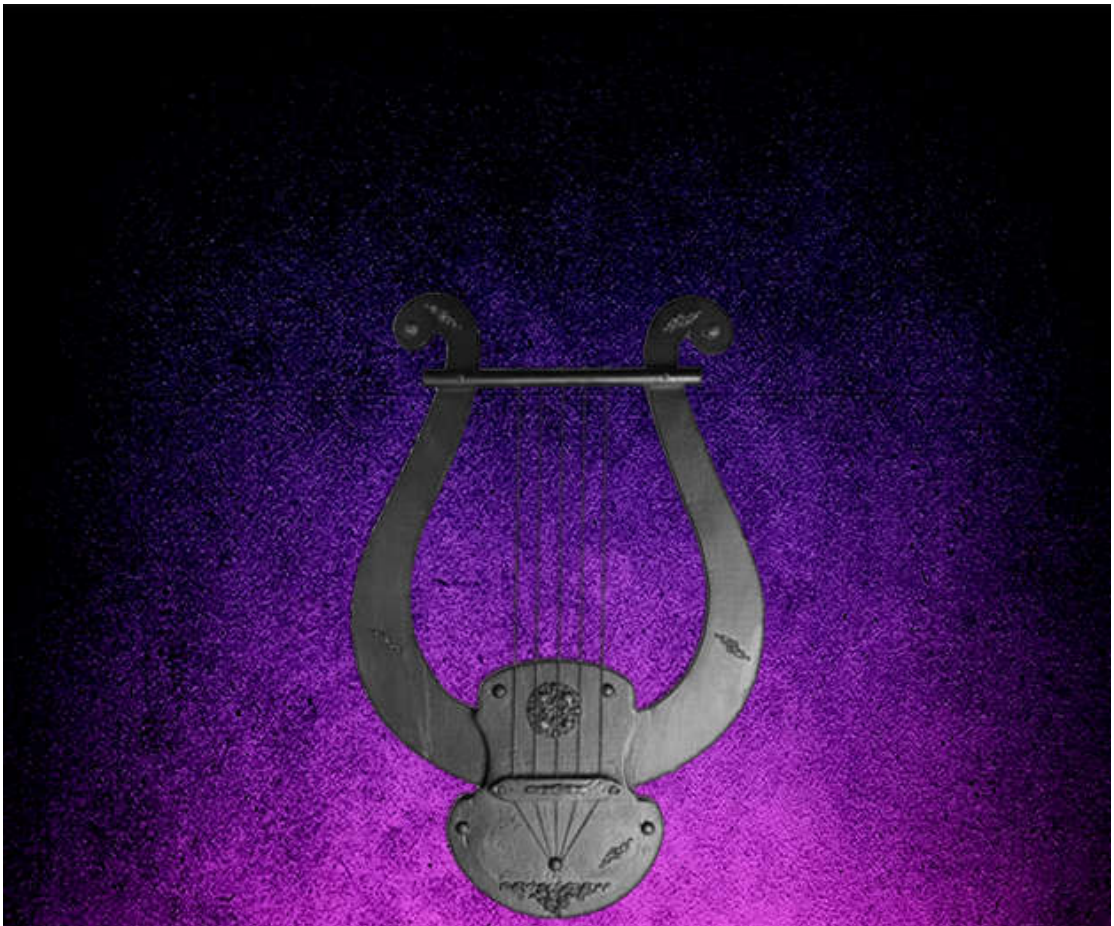

Aristoxenus

Complete Works

DELPHI CLASSICS

Ancient Classics Series

The Complete Works of

ARISTOXENUS OF TARENTUM

(fl. 4th century BC)

Contents

Version 1

The Complete Works of

ARISTOXENUS OF TARENTUM

By Delphi Classics, 2021

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The Translation

Taranto, ancient site of Tarentum, a coastal city in Apulia, Southern Italy — Aristoxenus' birthplace

Ancient ruins in the Temple of Poseidon, Taranto

The Elements of Harmony

Translated by Henry Stewart Macran, 1902

Flourishing in the fourth century BC, Aristoxenus of Tarentum was a Greek Peripatetic philosopher and a pupil of Aristotle. Almost all of his writings, consisting of four hundred and fifty-three books, dealing with philosophy, ethics and music, have been lost. Only a treatise on music, *Elements of Harmony* (Ἁρμονικὰ στοιχεῖα) survives in a significant state, though the text is incomplete. The book is of invaluable worth, providing the chief source of knowledge on ancient Greek music.

Aristoxenus was born at Tarentum, the son of a learned musician named Spintharus (otherwise Mnesias). He was instructed by Lamprus of Erythrae and Xenophilus the Pythagorean, before finally becoming a pupil of Aristotle, whom he appears to have rivalled in the variety of his studies. According to the Suda, Aristoxenus heaped insults on Aristotle after his death, when Theophrastus was named the next head of the Peripatetic school, which position Aristoxenus had coveted after achieving great distinction. Nonetheless, the story is contradicted by the Peripatetic philosopher Aristocles of Messene (fl. 2nd century), who asserts that Aristoxenus only ever mentioned Aristotle with the greatest respect. Nothing is known of Aristoxenus' life after the time of Aristotle's departure, save for the comments he makes in *Elements of Harmony*. Aristoxenus was strongly influenced by Pythagoreanism, having grown up in the profoundly Pythagorean city of Tarentum, home also of the two Pythagoreans Archytas and Philolaus.

In *Elements of Harmony* Aristoxenus presents a complete and systematic exposition of music. It helped launch a tradition of the study of music based on practice, understanding music by study to the ear. Musicology as a discipline achieved nascency with the systematic study undertaken in Aristoxenus' landmark work, which treats music independently of prior studies that held it in a position of something purely and only in relation to an understanding of the kosmos. Aristoxenus' study of harmonics is especially concerned with treating melody (μέλος) in order to find its components.

In the first sentence of the treatise, Aristoxenus identifies Harmony as belonging under the general scope of the study of the science of Melody. He considers notes to fall along a continuum available to auditory perception, identifying the three tetrachords as diatonic, the chromatic and the enharmonic. The first book provides an explanation of the genera of Greek music and also of their species. This is followed by several general definitions of terms, particularly those of sound, interval and system. In the second book Aristoxenus divides music into seven parts: the genera, intervals, sounds, systems, tones or modes, mutations and melopoeia. The remainder of the treatise is taken up with a discussion of the many parts of music according to the order that Aristoxenus has prescribed. He makes extensive use of arithmetic terminology, notably to define varieties of semitones and dieses in the descriptions of the various genera.

In his second book, the author asserts that "by the hearing we judge of the magnitude of an interval, and by the understanding we consider its many powers." He later expands, "that the nature of melody is best discovered by the perception of sense

and is retained by memory; and that there is no other way of arriving at the knowledge of music."

In the third and final book, Aristoxenus describes twenty eight laws of melodic succession, which are of great interest to those concerned with classical Greek melodic structure.

Portrait bust of Aristotle; an Imperial Roman copy (c. second century AD) of a lost bronze sculpture made by Lysippos

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The Cylix of Apollo with the tortoise-shell lyre, on a fifth century BC drinking cup (kylix)

BOOK I

[The references throughout the translation are to Meibom's edition.]

[1] THE branch of study which bears the name of Harmonic is to be regarded as one of the several divisions or special sciences embraced by the general science that concerns itself with Melody. Among these special sciences Harmonic occupies a primary and fundamental position; its subject matter consists of the fundamental principles — all that relates to the theory of scales and keys; and this once mastered, our knowledge of the science fulfils every just requirement, because it is in such a mastery that its aim consists. In advancing to the profounder speculations [2] which confront us when scales and keys are enlisted in the service of poetry, we pass from the study under consideration to the all-embracing science of music, of which Harmonic is but one part among many. The possession of this greater science constitutes the musician.

The early students of Harmonic contented themselves, as a matter of fact, with being students of Harmonic in the literal sense of the term; for they investigated the enharmonic scale alone, without devoting any consideration to the other genera. This may be inferred from the fact that the tables of scales presented by them are always of enharmonic scales, never in one solitary instance of diatonic or chromatic; and that too, although these very tables in which they confined themselves to the enumeration of enharmonic octave scales nevertheless exhibited the complete system of musical intervals. Nor is this the sole mark of their imperfect treatment. In addition to ignoring diatonic and chromatic scales they did not even attempt to observe the various magnitudes and figures in the enharmonic as well as in the other genera. Confining themselves to what is but the third part of that complete system, they selected for exclusive treatment a single magnitude in that third part, namely, the Octave. Again, their mode of treating even branches of the study to which they did apply themselves was imperfect. This has been clearly illustrated in a former work in which we examined the views put forward by the students of Harmonic; but it will be brought into a still clearer light by an enumeration of the various subdivisions of this science, and a description of the sphere of each. [3] We shall find that they have been in part ignored, in part inadequately treated; and while substantiating our accusations we shall at the same time acquire a general conception of the nature of our subject.

The preliminary step towards a scientific investigation of music is to adjust our different notions of change of voice, meaning thereby change in the position of the voice. Of this change there are more forms than one, as it is found both in speaking and in singing; for in each of these there is a *high* and *low,* and a change that results in the contrast of high and low is a change of position. Yet although this movement between high and low of the voice in speaking differs specifically from the same movement in singing, no authority has hitherto supplied a careful determination of the difference, and that despite the fact that without such a determination the definition of a note becomes a task very difficult of accomplishment. Yet we are bound to accomplish it with some degree of accuracy, if we wish to avoid the blunder of Lasus and some of the school of Epigonus, who attribute *breadth* to notes. A careful definition will ensure us increased correctness in discussing many of the problems which will afterwards encounter us. Furthermore, it is essential to a clear comprehension of these points that we differentiate distinctly between tension and relaxation, height and depth, and pitch — conceptions not as yet adequately

discussed, but either ignored or confused. This done, we shall then be confronted by the question whether distance on [4] the line of pitch can be indefinitely extended or diminished, and if so, from what point of view. Our next task will be a discussion of intervals in general, followed by a classification of them according to every principle of division of which they admit; after which our attention will be engaged by a consideration of the scale in general, and a presentation of the various natural classes of scales. We must then indicate in outline the nature of *musical* melody — musical because of melody there are several kinds, and tuneful melody — that which is employed in musical expression — is only one class among many. And as the method by which one is led to a true conception of this latter involves the differentiation of it from the other kinds of melody, it will scarcely be possible to avoid touching on these other kinds, to some extent at least. When we have thus defined musical melody as far as it can be done by a general outline before the consideration of details, we must divide the general class, breaking it up into as many species as it may appear to contain. After this division we must consider the nature and origin of continuity or consecution in scales. Our next point will be to set forth the differences of the musical genera which manifest themselves in the variable notes, as well as to give an account of the loci of variation of these variable notes. Hitherto these questions have been absolutely ignored, and in dealing with them we shall be compelled to break new ground, as there is in existence no previous treatment of them worth mentioning.

[5] Intervals, first simple and then compound, will next occupy our attention. In dealing with compound intervals, which as a matter of fact are in a sense scales as well, we shall find it necessary to make some remarks on the synthesis of simple intervals. Most students of Harmonic, as we perceived in a previous work, have failed even to notice that a treatment of this subject was required. Eratocles and his school have contented themselves with remarking that there are two possible melodic progressions starting from the interval of the Fourth, both upwards and downwards. They do not definitely state whether the law holds good from whatever interval of the Fourth the melody starts; they assign no reason for their law; they do not inquire how other intervals are synthesized — whether there is a fixed principle that determines the synthesis of any given interval with any other, and under what circumstances scales do and do not arise from the syntheses, or whether this matter is incapable of determination. On these points we find no statements made by any writer, with or without demonstration; the result being that although as a matter of fact there is a marvellous orderliness in the constitution of melody, music has yet been condemned, through the fault of those who have meddled with the subject, as falling into the opposite defect. The truth is that of all the objects to which the five senses apply not one other is characterized by an orderliness so extensive and so perfect. Abundant evidence for this statement will be forthcoming throughout our investigation of our subject, to the enumeration of the parts of which we must now return.

[6] Our presentation of the various methods in which simple intervals may be collocated will be followed by a discussion of the resulting scales (including the Perfect Scale) in which we will deduce the number and character of the scales from the intervals, and will exhibit the several magnitudes of scales as well as the different figures, collocations, and positions possible in each magnitude; our aim being that no principle of concrete melody, whether magnitude, or figure, or collocation, or position shall lack demonstration. This part of our study has been left untouched by all our predecessors with the exception of Eratocles, who attempted a partial enumeration without demonstration. How worthless his statements are, and how completely he failed even in perception of the facts, we have already dwelt upon, when this very

subject was the matter of our inquiry. As we then observed all the scales with the exception of one have been completely passed over; and of that one scale Eratocles merely endeavoured to enumerate the figures of one magnitude, namely the octave, empirically determining their number, without any attempt at demonstration, by the recurrence of the intervals. He failed to observe that unless there be previous demonstration of the figures of the Fifth and Fourth, as well as of the laws of their melodious collocation, such an empirical process will give us not seven figures, but many multiples of seven. Further discussion here is rendered unnecessary by our previous demonstration of these facts; and we may now resume our sketch of the divisions of our subject. [7]

When the scales in each genus have been enumerated in accordance with the several variations just mentioned, we must blend the scales and repeat the process of enumeration. The necessity for this investigation has escaped most students; nay, they have not so much as mastered the true conception of ‘blending.’.

Notes form the next subject for inquiry, inasmuch as intervals do not suffice for their determination.

End of Sample