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DIAGRAMS AND “KANONIA” AS VISUAL REPRESENTATIONS OF MUSICAL INSTRUMENTS

IN THE THEORY OF PSALTIC ART

1. BRIEF HISTORICAL REFERENCE

The use of epoptic¹ instruments for the teaching of musical theory has been known since the ancient Greek era. Their central role is to provide a visual representation of the size of the intervals and the position of the bases of the various modes. However, visualization is of paramount importance for somebody who studies any kind of music which does not use instruments, such as Psaltiki, since many instruments are in themselves auxiliary tools. By using such an instrument, one may see the position of the notes and learn about the intervals. Many chanters throughout the history of Psaltiki have made use of instruments to facilitate the teaching of scales.

Examples of famous epoptic instruments are the monochord Pythagorean canon, also known from Euclid’s work *Katatomi Kanonos* (Fig.1.1) and the poly-chord Ptolemaic canon. The Greek theoreticians, as they were aware of all the four sciences included in the *Quadriovium*, namely arithmetic, geometry, music and

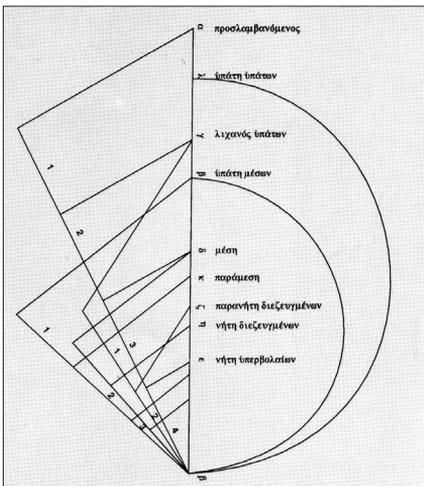


Fig. 1.1. Canon of Euclides

astronomy, visualized the relevant issues by using the characteristics to such an extent that, in fact, they left abstract geometrical shapes rather than real structures. Such an example with strings is the Helicon, known up to the post-Byzantine era from Pachymeres’s work, or from Meibomius, the editor of *Antiquae Musicae Auctores Septem. Graece et Latine* (1652). It is remarkable that Helicon is the name of the Mount where Muses of ancient Greek Mythology were said to live (Fig. 1.2.–1.7).

The use of diagrams continued uninterruptedly from the Byzantine era to our own. It is not accidental that one of the mean

1 The word “epoptic” derives from “epopti”, secret, having to do with mystery and vision. The ancient Greek word ἐποπτικάς refers to the “highest mysteries”, meaning teachings reserved for the ἐπόπτης, or “observer”, who would have been an initiated member, often of a religious group. [Editors’ note]

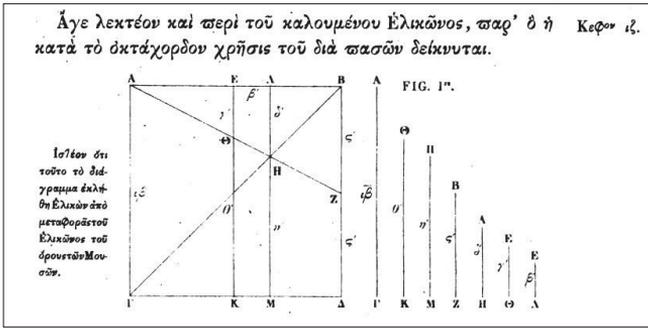


Fig. 1.2. Helicon of Pythagoras

ings for the word “canon” was “diagram”. Around the 14th century, the ancient word “canonion” (the term is found in the text of Aristides Quintilianus) appears in texts on music theory and survives until the late 19th century in the work of Gregorios Protopsaltes and Apostolos Conostas.

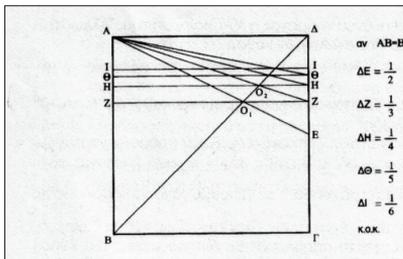


Fig. 1.3. Canon of Aristeides, Benevole-Meibomius

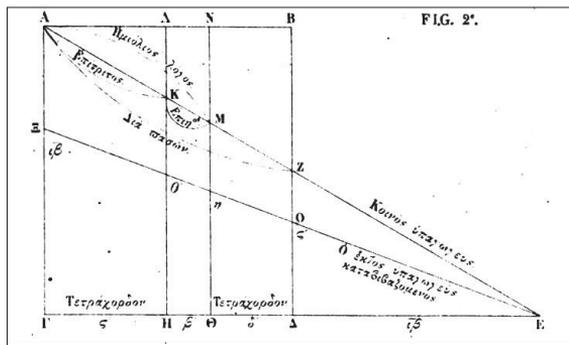


Fig. 1.4. Helicon of Ptolemaeus



Fig. 1.5. Helicon of Pythagoras, reconstruction

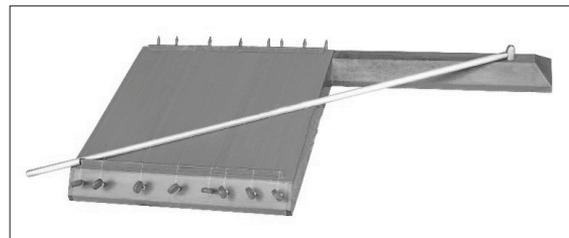


Fig. 1.6. Helicon of Ptolemaeus, reconstruction

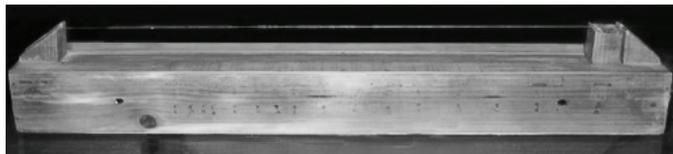


Fig. 1.7. Monochord

2. TYPOLOGY

The dominant instruments for the “visual” study of the intervals and the bases of the modes were stringed. The easy visual representation through the length of the string provided a useful key to understanding. Wind instruments or idiophones with bars (e.g., metallophones and xylophones) were in limited use or even completely unused. Looking back at the Byzantine, post-Byzan-