

BEYOND THE FRAGMENTS:
REALIZATIONS IN ANCIENT GREEK MUSIC

John Curtis Franklin, University of Vermont

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In this concert-lecture I presented six new impressions of ancient music, of which three are reproduced here.¹ The unifying idea was to explore imaginatively areas of the ancient Greek aural experience not preserved in the extant scores, owing both to the chances of survival and the limitations of ancient notation (which represents only melody, with no precise microtonal information; rhythm of course is also partially recoverable).

Each of the six exemplified a different interplay of evidence and artistic license. By license I do not mean simply free invention merely, or even invention informed by scholarly supposition—although there is a good measure of both. Rather, I have included extraneous material—both musical and conceptual—which cooperates or contrasts suggestively with the authentic core of each piece. Ancient and modern elements were freely combined, for instance by giving extant melodies modern pop accompaniments, or using (virtual) ancient instruments to perform Greek folk music and *rembetika*. By placing known ancient melodies, rhythms, scales and instrumentation in diachronic dialogue with contemporary music, and synchronic dialogue with ancient contextual information, one can produce pieces which, where not authentic, do have appealing historical dimensions, and are (one hopes) musically effective. The goal has been to stop the gap between certainty and ignorance with ‘material’ which is not entirely arbitrary, but sympathetic to, and sometimes cognate with, the ancient nucleus.

The sound palette itself includes the extant fragments, rhythmic gestures ‘cloned’ from modern Greek folk music (see below), samples of replicas built, owned and/or played by generous colleagues (S. Rühling; A. Kilmer; Robert Brown; Bo Lawergren; Simon O’Dwyer), and several loops taken (with permission sought) from ethnomusicological field recordings. These materials were assembled with software tools normally used in popular music production: midi sequencing, sampling (editing, playback), and the technique of looping, whereby sections of audio in different tempos and keys may be synchronized and harmonized (at a varying price of degradation to the original recording). I used: *Protools* (Digidesign); *Live* (Ableton); *Reason* (Propellerhead); a Kurzweil K2000 (with sampling option); and the magnificent modular software-synthesizer *Reaktor* (Native Instruments).

The most significant *scholarly* contribution is perhaps my use of microtonal tunings recorded by ancient authors, achieved on a “Virtual Lyre” (see below). Here digital emulation displays one of its few attractions over live performance with replica instruments: a computer, with its merciless precision, lets one produce ‘ancient sounds’ with perfect clarity, bypassing the ingrained instincts of modern performers to conjure a striking aural alterity. One hastens to admit that not all ratios recorded by the ancient musical writers reflect performance realities to the same degree, and individual cases remain controversial. Yet even when we are presented with numerological fantasies, these still constitute source material of genuine antiquity and considerable artistic interest. Bringing them to computerized life at least constitutes the achievement of the aesthetic and intellectual ideals of at least some Greek *mousikoi*—a grave-offering to some harmonic hero-cult.

SELECTIONS

§1 *Hymn to Nemesis*, Mesomedes of Crete, first century CE. Mesomedes was a court composer to Hadrian, and this is one of his several compositions which have survived. In my realization I sought to evoke the military bands which were inspired in parts of the Near East by the Neo-

¹ Other selections are available from www.kingmixers.com.

Assyrian ascendancy—an arbitrary choice, but I was investigating the subject at the time.² The Lydian ensemble described by Herodotus, which accompanied Alyattes' march against Smyrna, consisted of massed harps, panpipes, and bass and treble pipes (*auloi* in the Greek: pipes of different length are clearly shown in one Assyrian relief). The grafting of a hymn to Nemesis onto this situation produces a certain resonance with Herodotus' moralizing portrayal of the rise and fall of the Mermnad dynasty, with Alyattes its most presumptuous member. In my recording, each treble pipe of the melody is in a different diatonic tuning of Ptolemy. This produces a very lively clash, which must have been a common experience in ancient ensemble music (*synaulia*), even if the precise relations I have used are suspicious on several grounds. The bass pipes play simple drones (something I would do differently now). The harp parts are in octaves, following one interpretation of *antiphonos*, a word which occurs from Pindar onwards in connection with such instruments. In my view these passages should be connected to a harp-based orientalizing musical fashion, emanating from Sardis, the capital of Lydia, which was an Assyrian client-state at this period—a sort of Paris to the Archaic Aegean (again, Herodotus). At any rate, singing in octaves was normal Greek practice (referred to explicitly in e.g. the Aristotelian *Problemata*), and I have done so here. I also added a loop of a parading snare-drum ensemble, recorded by A. Lomax and D. Carpitella in Palermo in 1954.³ This was mostly for dramatic effect. Yet deep hand-drums were apparently used in some Neo-Assyrian marching ensembles, to judge from imperial reliefs. The crowd in the background is itself a piece of music archaeology, coming (with kind permission) from G. Lawson's classic *Sounds of the Roman World*. It might be imagined as the local, angry Greek audience whom Alyattes deported *en masse*, in best Neo-Assyrian style, after destroying Smyrna.

§2 *Lysander of Sicyon 1*. Lysander was mentioned by Philochorus as a pioneer of solo kithara playing who used a range of showy techniques, including (probably) overtones and microtonal shadings. The piece is based on a free-form improvisation (*taxim*) on the *sandouri* by Nikos Kalaitzis, recorded in 1994 and included in the brilliant collection *Aiolis Lesbos*.⁴ That this was collected on Lesbos adds a nice cultural-historical dimension, given the island's central importance for Archaic citharody. I began by making a 'midi score'—like the perforations of a player-piano roll—using waveform-editing to identify each attack with sample-accurate precision (where possible), and then in the Protools sequencer inserting midi-note messages at the corresponding time and pitch (the original mode of the piece is given as *makam niavedi*). I then compressed this from a four-octave range to a seventh, eliminating accidentals and transposing or 'rotating' the scale so that the most frequent notes fell on scale degree four (= ancient *mesê*). The resulting data could then be used to drive the Virtual Lyre (see below) in any ancient tuning desired. Consequently the only tonal information which survives from the original piece is the spatial relationship between scale degrees, independent of both absolute and relative pitch (the essence of the Aristoxenian concept of *dynamis*); and the gyrations described introduced considerable further distortions to the original performance. After trying several tunings I opted for the Mixolydian *harmonia* recorded by Aristides Quintilianus as being current in the fifth century. A.Q. presents this via a system of quarter-tone notation, but some of these I have adjusted to lesser resonant relations following the observation of Winnington-Ingram that the even tone-fractions of Aristoxenus often conceal ratios like 5:4, 6:5, and 7:6 etc., the more accurate expression previously adopted by Archytas.⁵ Rhythmically, however, the piece is a precise replication of the original performance, as though Archytas had tuned a lyre and then handed it to Mr. Kalaitzis to see what he could do with it. A rather suggestive transhistoric collaboration is thereby established. While I am not suggesting any continuity of precise rhythmic material from ancient times, it is pleasant to bear in mind that distribution patterns of cognate melodies show how rhythmic forms can undergo very slow evolution—independently of tonal material, and maintaining an identifiable contour for many centuries.⁶

² See further Franklin 2007.

³ *Italian Treasury: Sicily*, Rounder Records 11661-1808-2.

⁴ *Aiolis Lesbos* (Crete University Press, Π.Ε.Κ. 10).

⁵ Winnington-Ingram 1932; see further Franklin 2005; for arguments against the practical reality of 7:6, Hagel 2006.

⁶ See e.g. Lord and Bartók 1951, 52-6 *et passim*.

§3 Athenaeus: *Paean* (first three sections), 127 BCE, inscribed on the Athenian treasury at Delphi, one of the most important cult centers of Apollo from the eighth century onwards. This remarkable hymn to the golden-lyred god begins in a style which harks back to the music of the Archaic period or earlier, judging from a fragment of Aristoxenus concerning the legendary Phrygian aulete Olympus. There follows a section of the fully developed Hellenistic art music which grew from the fifth century innovations of the so-called New Music.⁷ In this track I have aimed for a reasonable degree of historical accuracy, although of course the percussion is gratuitous, and overdubbing myself more than twelve times to rival the number of performers recorded for the occasion, though technically feasible, produced diminishing timbral returns. The lyre tunings in the opening sections incorporate the enharmonic of Archytas. The New Music section is equal-tempered, since the mature system of pitch-keys (*tonoi*) likewise supposes a 12-semitone articulation of the octave. One lyre is the Sumerian replica from the royal cemetery of Ur, built for *Sounds from Silence*, the seminal music-archeological recording by Anne Kilmer, Richard Crocker and Robert Brown.⁸ The piece closes with a local soundscape, both modern and very old, if not properly ancient—scores of goat-bells played by a herd of goats, which I recorded at Delphi in 2003.

THE VIRTUAL LYRE

I developed this instrument using *Reaktor* (see above), a platform ideally suited to the job. It includes the following features. The initial sound source comes not from traditional oscillation (although that too is possible) but from sample-playback. Thus one may subject replica instruments, previously recorded (see above), to microtonal modification. To allow a garden-variety keyboard controller to be used—an important desideratum for live performance—one must bypass the standard midi-protocol of equal temperament; fortunately Reaktor lets you track individual note on/off messages; the pitch of each may then be set independently. The end result is that each white key of a midi keyboard may be set to any pitch between a fifth above or below 440Hz (any other value could have been chosen too, and the instrument could be extended to use the black keys for 11 independent pitches); moreover this pitch control may be mapped to e.g. midi-controllable knobs, so that ‘tuning’ the instrument involves a good degree of verisimilitude. Individual meters display pitch values in both cents and Herz, while the ratio between any two ‘strings’ may be viewed on a 7x7 matrix, which recalculates values continuously as individual strings are adjusted. This lets one detect significant resonant relationships between non-adjacent scale degrees—a crucial feature of ancient Greek tunings.⁹ The lyre also has an oscilloscope which may be adjusted for amplitude level and time, and can take snapshots. One may toggle between equal temperament and microtonal settings. A *synecheia* ('continuity') function can automatically set the pitches of the upper strings to either a fifth (*diazeuxis*) or a fourth (*synaphê*) from the lower tetrachord. The midi keyboard may also be constrained to the same seven pitches, regardless of the octave played. Thus one may finger a melody an octave or greater in scope (as often occurs in the Greek fragments), while the actual pitches sounded will be limited to seven. A series of 13 switches transposes the overall tuning up or down by semitones, to simulate the Aristoxenian *tonoi*. There are presets of all tunings known from ancient Greek theorists.

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⁷ See generally Hagel 2000.

⁸ Kilmer, Crocker and Brown 1976

⁹ See Franklin 2005.

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