Technique and music possibilities of an ancient seven-chord lyre derived from ancient pottery and sculpture

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Apollo coming to Greece from the Hyperboreans
640 BC (National Archaeological Museum, Athens)

SUMMARY

Every instrument includes its own music philosophy. So does the ancient seven-chord lyre. The material of the construction, the structure of the instrument itself and the positioning of the performer's hands in combination with the theoretical knowledge of the era, could provide sufficient information to a contemporary musicologist/musician to reconstruct the technical/musical possibilities of the instrument. In addition to all this conception we must superinduce the practicing hours of a professional musician. The results of five years of intentional everyday practicing by a professional musician that knows how to set musical and technical goals in the frame of the technical possibilities that derive from a reconstructed instrument made by a professional luthier, will be presented in this paper. Hence, the presentation included both lecture and the performance on a reconstructed ancient lyre. All the techniques and musical examples are relied from one hand on the depiction of lyre players from the pottery and sculpture that have been analyzed through the original images/sculptures of the National Archaeological Museum of Athens, where the author worked as a researcher for three years, and other major museums of the world, and, from the other hand, on the ancient Greek music theory.

Standing in front of the representations or the remnants of an ancient instrument, the task of a musicologist is to classify, to analyze, to imagine through the evidence and finally (if the word finally exists) to conceive a whole world. The task of a musician is to play music reconstituting the sound of the instrument. In this paper I will present the results of five years of intensive everyday practicing by a professional musician that knows how to set musical and technical goals in the frame of the technical potentialities that can be derived from a reconstructed instrument made by a professional luthier. All the techniques and musical examples are relied firstly, on the depiction of lyre players from the pottery and sculpture that have been analyzed through the original images/sculptures of the National Archaeological Museum of Athens, where the author works as a researcher, and other major museums of the world, and secondly, on the ancient Greek music theory.

Forty years ago, I made the acquaintance of the ancient Greek music through the music history books and I understood almost nothing. The main teaching book of the Athens Conservatory, Karl Nef's outline History of (Western) Music described, in a simple way, the basic principles of the Greek Music but it was almost impossible to understand why and how the harmonies, the modes, the genuses, the systems and all this stuff could be heard. Along with my music career as a trumpet player, I started my personal research in order to understand, but the problem remained for many years. All these English, German, American, French, Italian books on ancient Greek music that I received by the post, were totally theoretic: translations of ancient Greek theorists, special studies for the instruments, analyses of the ancient Greek music theory etc. Very often, somebody from the audience of my lectures simply asked me: "Ok, we can or we cannot understand the theory, but please find the way to show us the sound". In 1970s the LP with the remnants of ancient Greek Music by Gregorio Panagua was a bright beacon. It was a fair suggestion. However, as a professional musician, I could not accept that the famous ancient professional lyrists or guitarists played just seven strings - seven notes with a plectrum or with the fingers.

The earliest music contests with a panhellenic character are to be found in Ionian and Aiolian areas. In the $8^{th}/7^{th}$ c. B.C. Delos seems to have been an important center of music contests, as is attested by Thucidides (III104, 2-5) in his description of the Delian festivities in honour of Apollo in 426/5 B.C.[1]

[1] AGON p.

The historical timeframe of the Pythian Games started in 586 BC and every four years, two years before and after the Olympic Games, presumably at the end of August, the most famous musical contests were held in the navel of the earth. There were also many other music contests in all over Greece, in Messene, Paros, Arcadia, Sparta, Athens and many other cities.

When nowadays we talk about music competitions, we imagine young talented musicians competing each other with great expectations for future career. At that time it was not the same as today. The greatest, the most famous musicians placed their professional fame in question for just a wreath of a bay laurel. Could you imagine that every four years these great performers came to play just few notes? It is more than obvious that the professionalism leads to increasingly growing requirements of technique.

In 2012, at the annual Conference of MOISA in Salerno, I noticed the following thoughts:

In order to understand the possibilities of a musical instrument, the following requirements must be met:

A. A musician must have worked, agonized and sweated blood for many hours with this particular instrument.

B. The techniques proposed by the musician must be consistent with musical practice.

C. Musical theory must proceed in constant interaction with musical practice.

D. The period that concerns us (6^{th} century B.C. to 4^{th} century A.D.) offers enough evidence to support some conclusions as to how instruments were played.

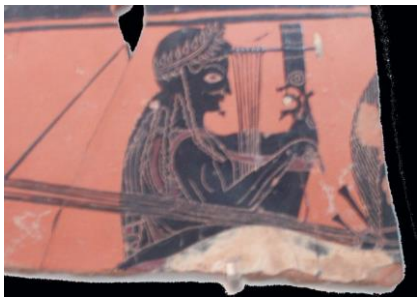
In that presentation I spoke about the techniques that I studied in order to start playing the lyre and the ancient salpinx. At that time, the amount of effort that I had put into my work as a professional trumpet player was not comparable to the work I had done on the lyre.

The reflections that I will present to you come strictly from the perspective of a musical performer and not a classical philologist. After dedicating five years of long and daily study, I have built a stable technique on the lyre which permitted me to participate in high level musical events. The restrictions of the instrument (don't forget that every instrument has its own restrictions) are not enough to confine the imagination of the composer. The opposite: the diatonic tuning of the lyre obliges the composer to create melodies and chords in the frame of the seven modes (not only major and minor), and this is a different aspect of liberty.

Firstly let's see the instrument. The lyre is a very simple construction. *It was the herdsman's god, Hermes, who was supposed to have invented the lyra. The fourth Homeric Hymn describes how he constructed it from materials that lay naturally to hand in his rural environment. He scraped out a tortoise's shell, drilled holes in it, and fitted some lengths of cane into them. He stretched a piece of hide across the open side. Then he attached arms and a crossbar, and strung the frame with seven strings of sheep-gut*[2].

The Greek lyres are of several distinct types, which may be classified as follows:

A. Box lyres(phorminx, cradle kithara, concert kithara, Thracian kithara, italiote kithara



B. Bowl lyres (lyra, chelys, barbitos)

[2] West, p. 56

Independently of the type, we can discern the main features of the instrument: there is a sound box, two arms, a crossbar and seven strings. The simplicity of construction and the potentialities of musical expression made it the "national" instrument of Greece

Before I present my conclusions I would like to mention the main ideas of the musicologists about the lyre playing techniques.

First of all, we must say something about the number of the strings. The standard number from the seventh century onward, as in the Minoan and Mycenaean era, was seven, but there is fairly abundant evidence with less and more than seven. Even if we can suggest some playing techniques with 3 or 4 strings, this is not the goal of our discussion. Literary evidence confirms that from the middle of the 5th century certain citharodes added extra strings to their 7 string instruments, but *it is clear that this was something limited to exceptional virtuosi: it is not surprising that comparatively few vase-paintings reflect it*[3]. From the 101 exhibits with lyres and kitharas in the National Archaeological Museum, in Athens, only one has 8 strings. All the others have seven .

The description of M.L. West about the holding of the lyre is clear and precise.

Lyres may be played while sitting, standing, walking or dancing. The player held the instrument against the left side of his body, with his left hand coming at the strings from one side through the frame and his right hand from the other…. The hand' business is depicted in a very consistent fashion, again from the Minoan times on. The fingers of the left hand pressed or plucked individual string; the right hand swept across all the strings with a plectrum. The same technique was employed in the West Semitic area and Egypt, and it is still in use among the lyre-playing peoples of East Africa. The plectrum was attached by a cord to the base of the lyre, had a comfortable handle and a short, pointed blade of ivory, horn, bone or wood[4].

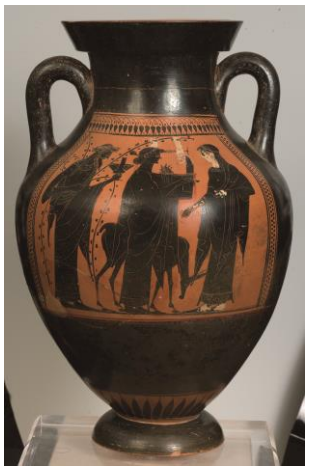
Talking about the role of the fingers of both hands on the strings, the article "Singing to the Lyra or the Auloi" by Alexandra Goulaki-Voutyra provides us with abundant information, based on vase paintings. Though it is always a question of how much realism exists at the vase depictions, Voutyra answers satisfactorily enough: *It is often stressed that Greek vase paintings are not photographic documents. They follow pictorial conventions and the general stylistic development of Greek art. Poses and gestures of musicians, conventional or not, reflect, however, aspects from a real*

[3] West p. 64
[4] Op.cit p.65

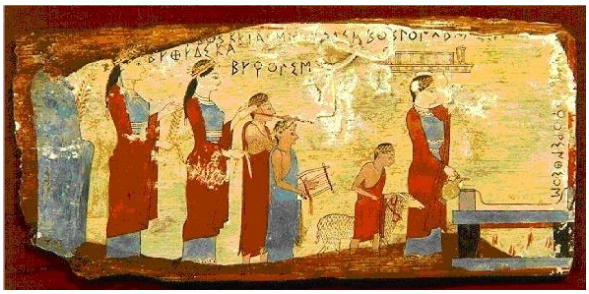
practice which we have to decode, building very carefully on the painter's effort to present a technical detail[5]. Except for the vase paintings there are also the sculptures and the reliefs of lyricists and guitarists. However, we could maintain with more certainty that the statues could afford us with more vivid and detailed description of the hands.

Voutyra discerns the following types of fingers' positioning:

1. Left palm fingers even: dumping position
2. Left palm even, thumb bent inside
3. Left hand fingers bent (crooked) – no playing action
4. Left hand fingers pull (pluck?) some strings – without singing
5. Left hand fingers pull strings + singing
6. Left hand fingers pull strings + right with plectrum strikes strings + singing
7. Both hand active on the strings without singing
8. Both hands active on the strings without plectrum
9. Left thumb and index pull a string – without playing
10. Left thumb and index pull a string – education scenes

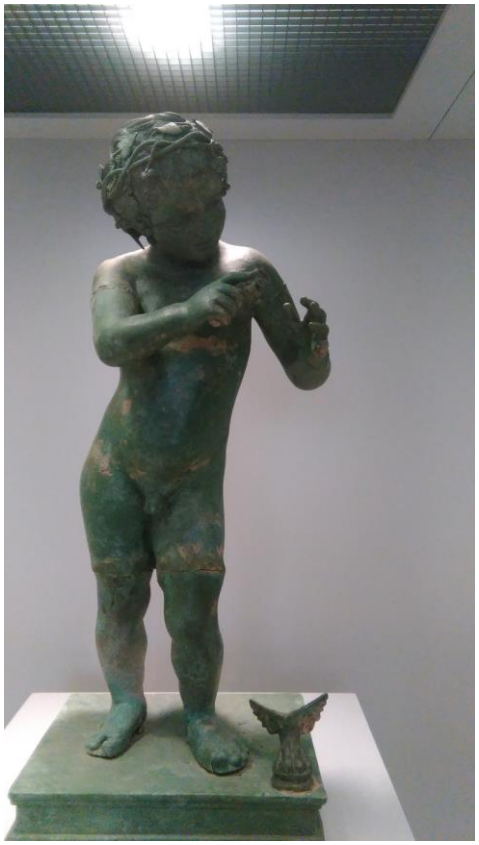


[5] Tra lyra e aulos p.357

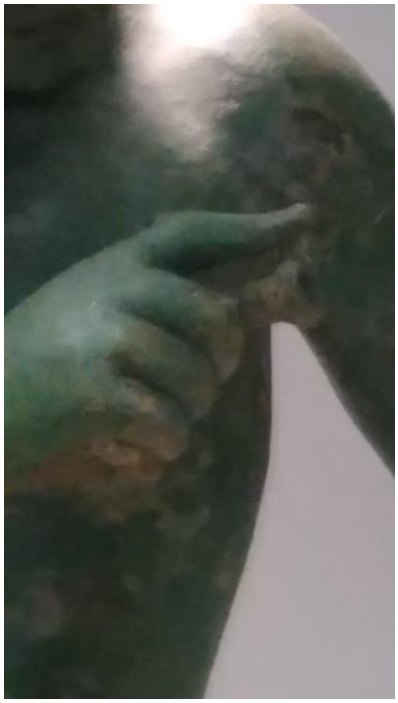


The profound study of the vase depictions by Voutyra is really impressive and I strongly believed that the practical approach on a reconstructing instrument could offer the possibility to transform all these fingerings into sound. And that's what I have done. Something analogous happened with the reconstruction of the trireme *Olympias* some 30 years ago. *Olympias* is a reconstruction of the emblematic ancient Athenian battle ship and an important example of experimental archaeology. After the reconstruction and the trials underwent from 1987 on, the deduced conclusions were much safer than before.

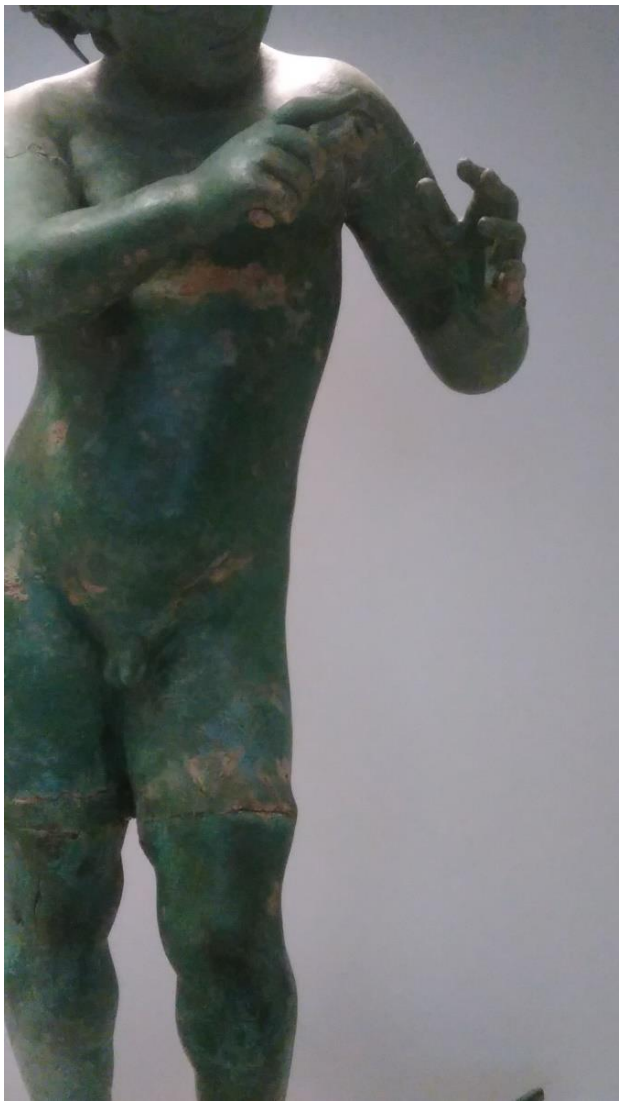
Now it's time to use the exhibits from the National Archaeological Museum in Athens, so we could complete the puzzle as much as we can. Let's start from a simple chord. It is obvious that a sculptor tries to create a very realistic rendering in order to show his craftsmanship.



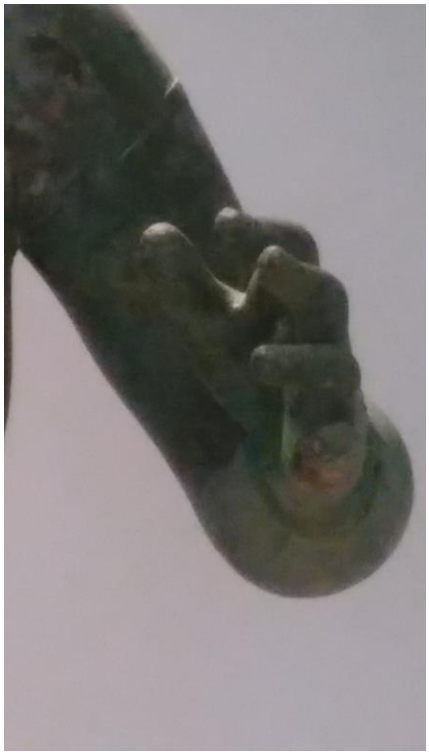
The statuette number 16771 of an infant Eros from the NAM collection wears an ivy wreath on the head and possibly holds a tuning hammer or plectrum in the right hand.



It is a work of the 1st c. BC – 1st c. AD, influenced by a creation of the 3d – 2nd c. BC. From the posture of his body and the hand position we can easily understand that he plays a lyre.



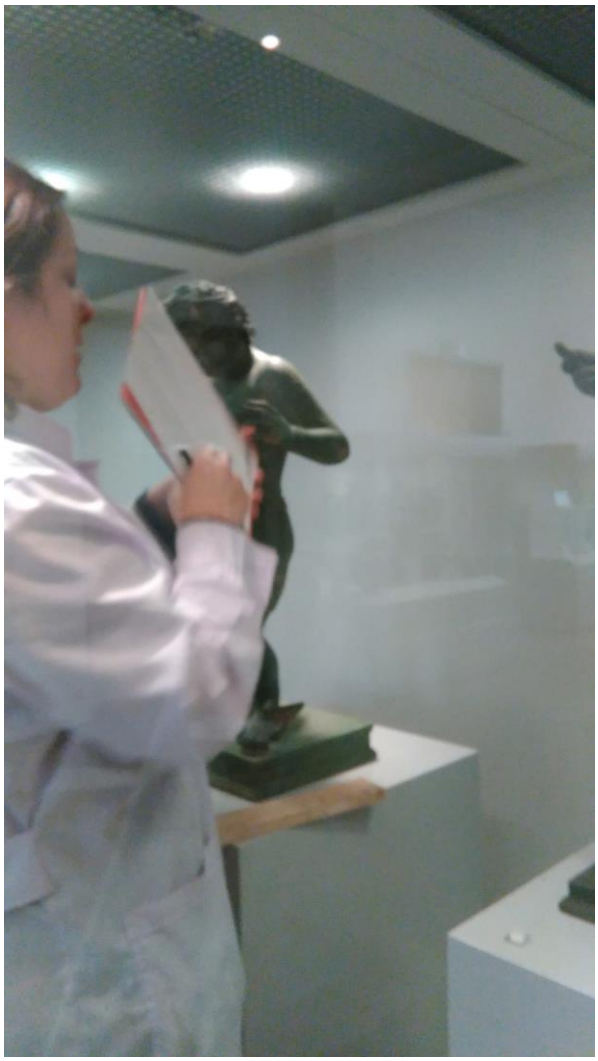
His left hand has the very well-known position depicted mostly on representation of lyres,



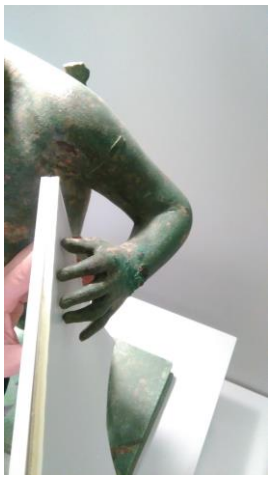
the fingers of the left hand are held against the strings, probably muting certain of them. Many depictions from the 7th c. BC represent corresponding gestures.

This is the most eloquent visualization of Greek music: the depiction of the citharode in archaic and classical vase paintings, as a reflection of Apollo, the god of music[6].

[6] Voutyra p. 355

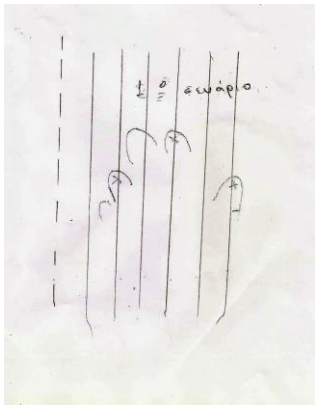
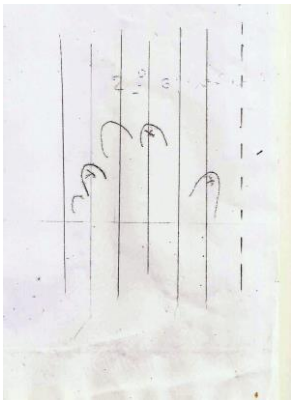
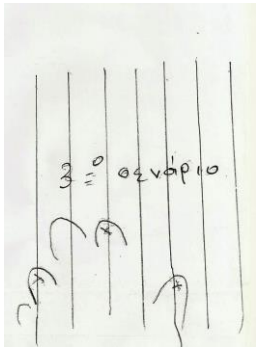


This photo imprints the moment when the conservator measures the fingers of the left hand. Here I present you the measurement of the fingers and the possibility of placing the fingers on seven parallel strings that presumably exist.



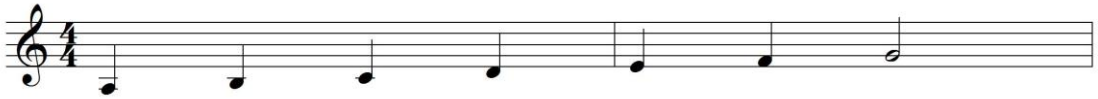


If we suppose that the seven strings are tuned in a diatonic mode (harmony is a better term but I prefer the word mode because every musician conceives immediately what it means), then we have the following possibilities. Let's say that the lyre is tuned on the Lydian tonos and the first note is A. Consequently, we have three versions of accords that could be sounded Am7 or Dm6 or G7.

The three versions in music

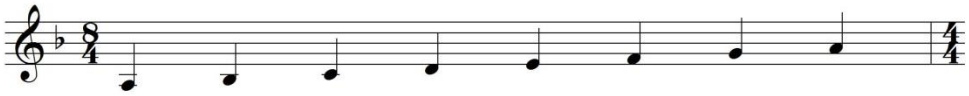
If we have tuned the lyre in a natural a minor



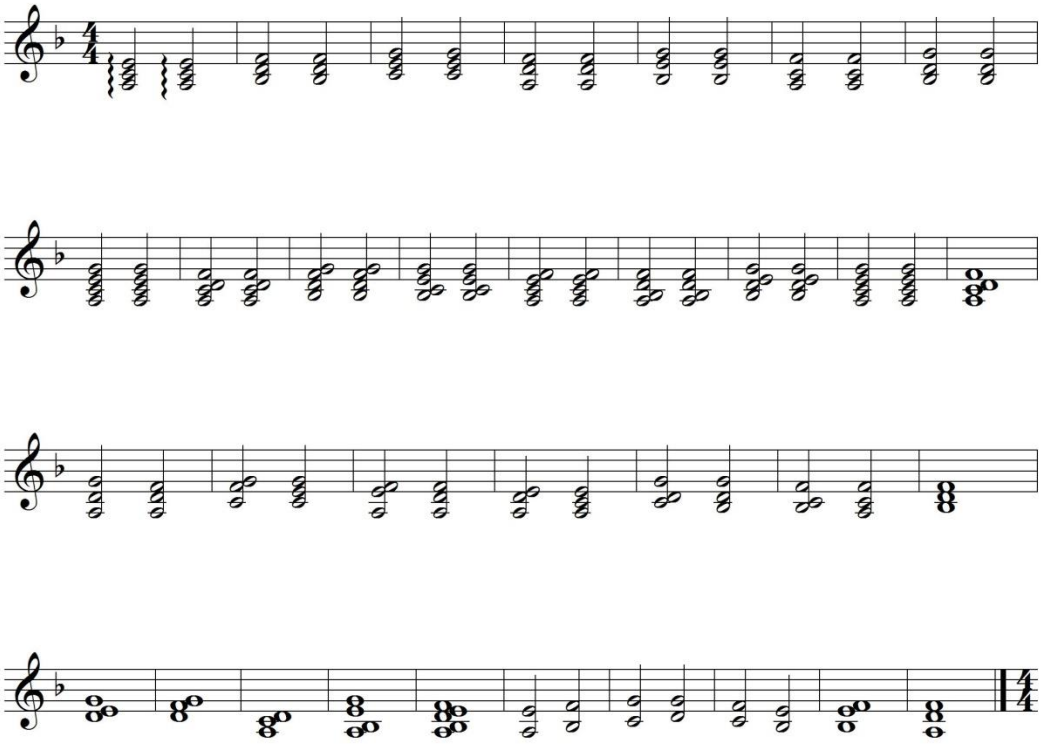
Then we have the following possibilities

Let’s further now the combinations of the fingerings to produce all the possibilities of accords that the lyre can play.

Basic Tuning



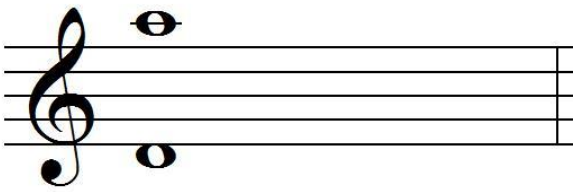
Chords and Various Harmonies



The next picture depicts a guitarist who touches the string in a very eloquent way.

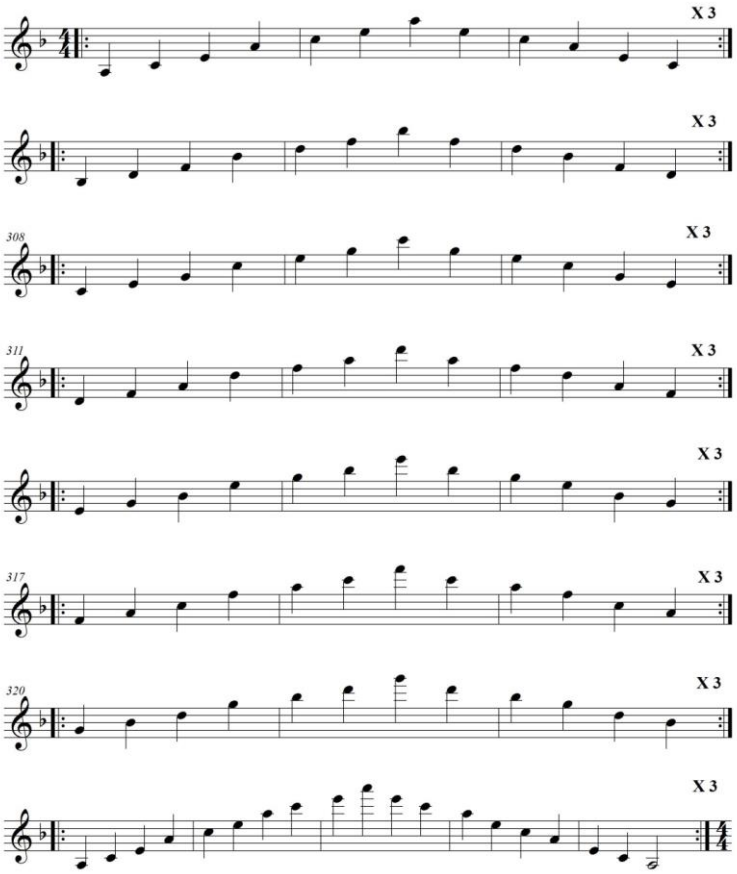
Painter of Kleofrades: Epictetus

The shard number 2012740 is a fragment of a probably closed red figure vessel where a guitarist with a tunic (cheton) holds a very well-constructed guitar. The index of his left hand is getting ready to play or has already played a harmonic tone on the fourth string. With this fingering it is obvious that he cannot pluck the string but only to touch it in a certain point. The performer reckons very carefully or we could better say tries to feel the right point of the chord in order to vibrate it, and so, a rich harmonic sound can be produced. The fourth string is the mese of a seven chord lyre or guitar and the central tone of the seven note systema. In the harmony of spheres the mese is the note of the sun. The index of the left hand touches the chord approximately at 2/3, counting from the middle point of the string. This exact point produces the second harmonic tone (octave + 5th). Let's suppose the same tuning of the guitar (or the lyre) as before. Consequently we have the a3.

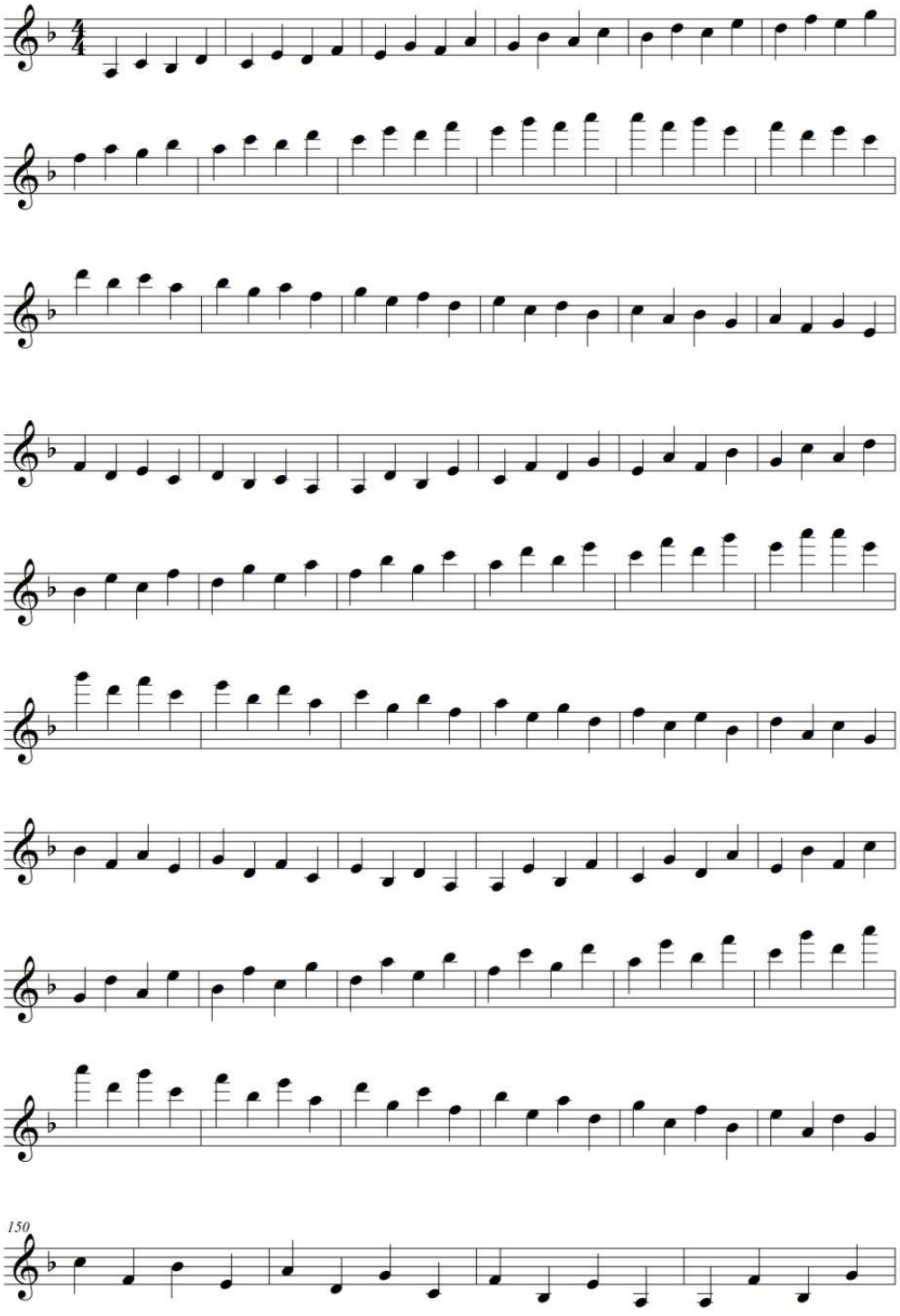


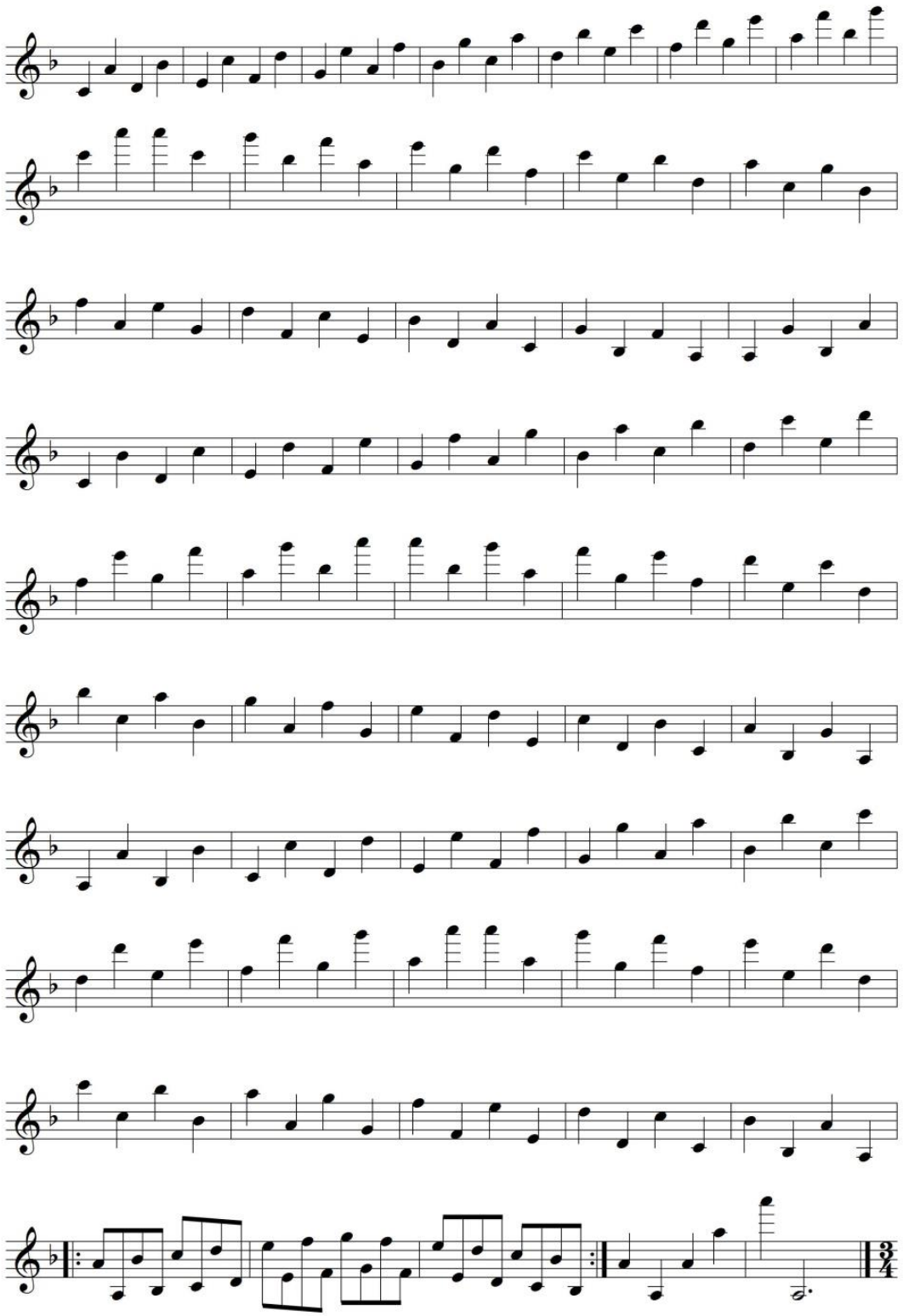
On the face of the guitarist is depicted the inspiration of the great artist who doesn't see, doesn't communicate with his environment but he meditates and feels the beauty of the sound.

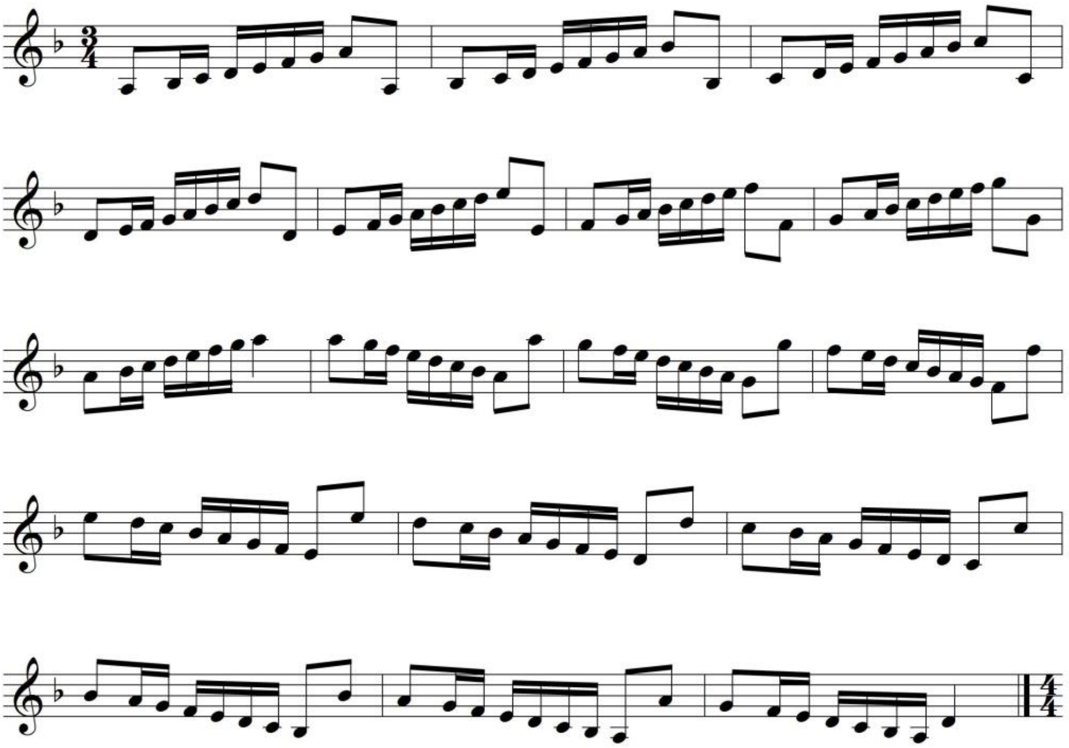
Now it's time to pass into practice. We have seven strings, a plectrum in the right hand and five free fingers at the left hand. We have the possibility of playing three octaves and more, using the harmonics which are well known from the time of Pythagoras and maybe earlier since in art, the practice precedes the theory. The harmonics can be played both with the plectrum and with bare fingers but it produces different quality of sound. The harmonics are very weak in the beginning. The same happens with the brass instruments. You reach the high notes only after years of practicing. So, in the lyre also, it takes a long time to enhance the sound of the higher harmonics. You have to work with patience for years to grasp the technique of secure playing of the harmonics.

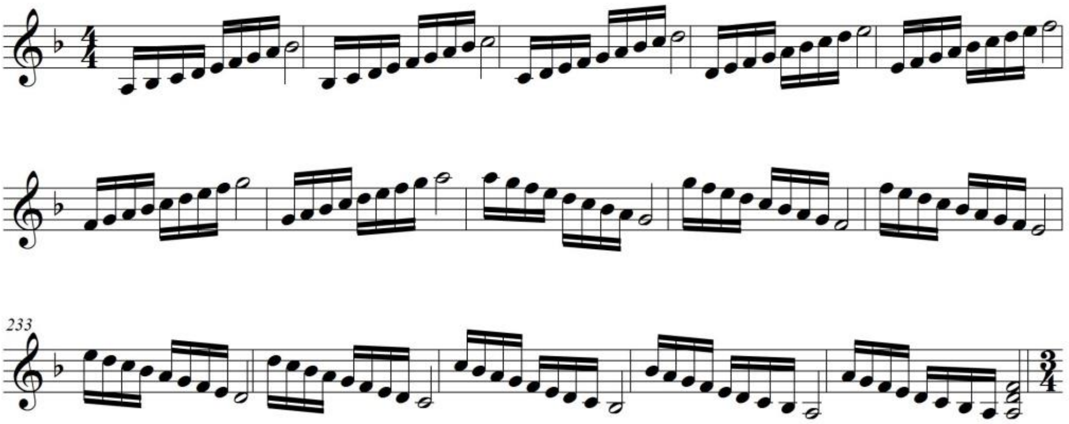


Intervals





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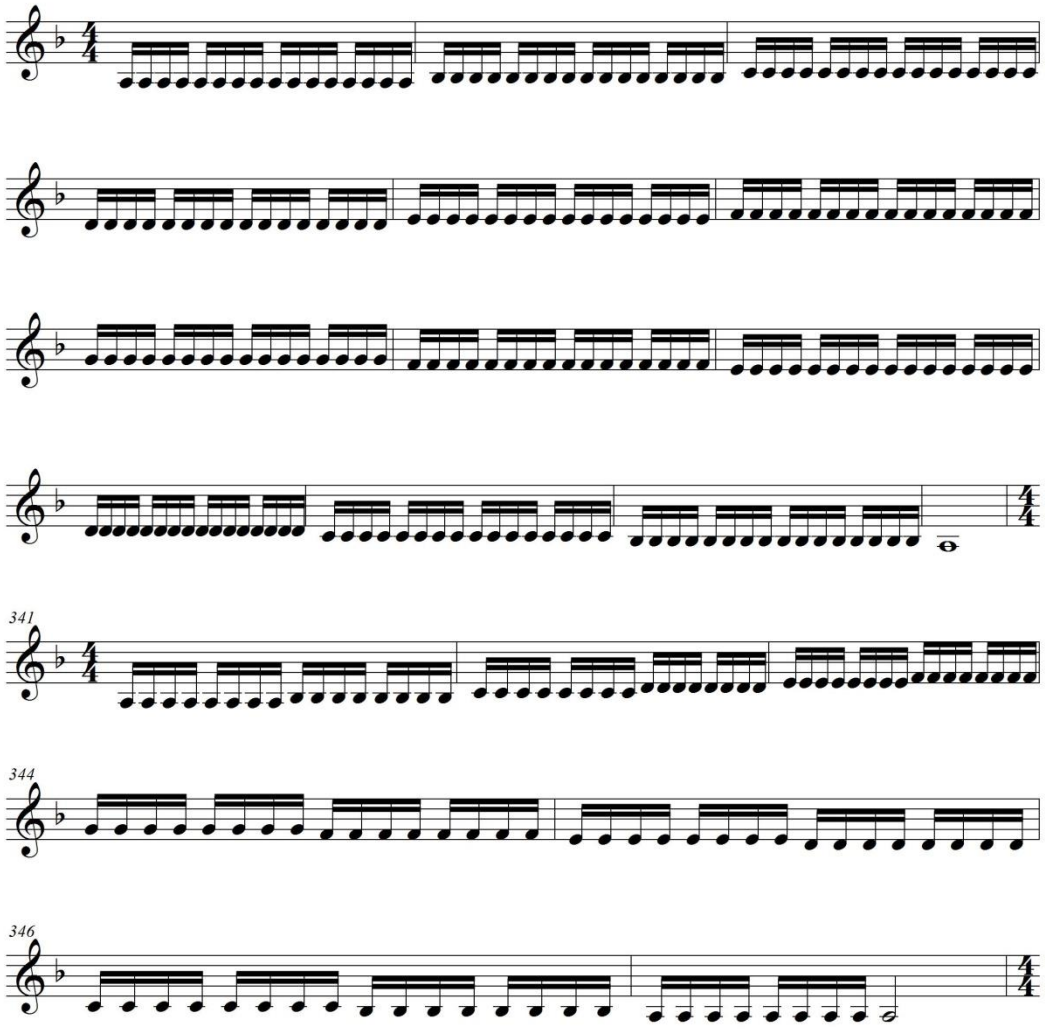
We can combine the alternative striking of plectrum and of fingers, a technique that gives the possibility of quick passages in double and triple staccato.



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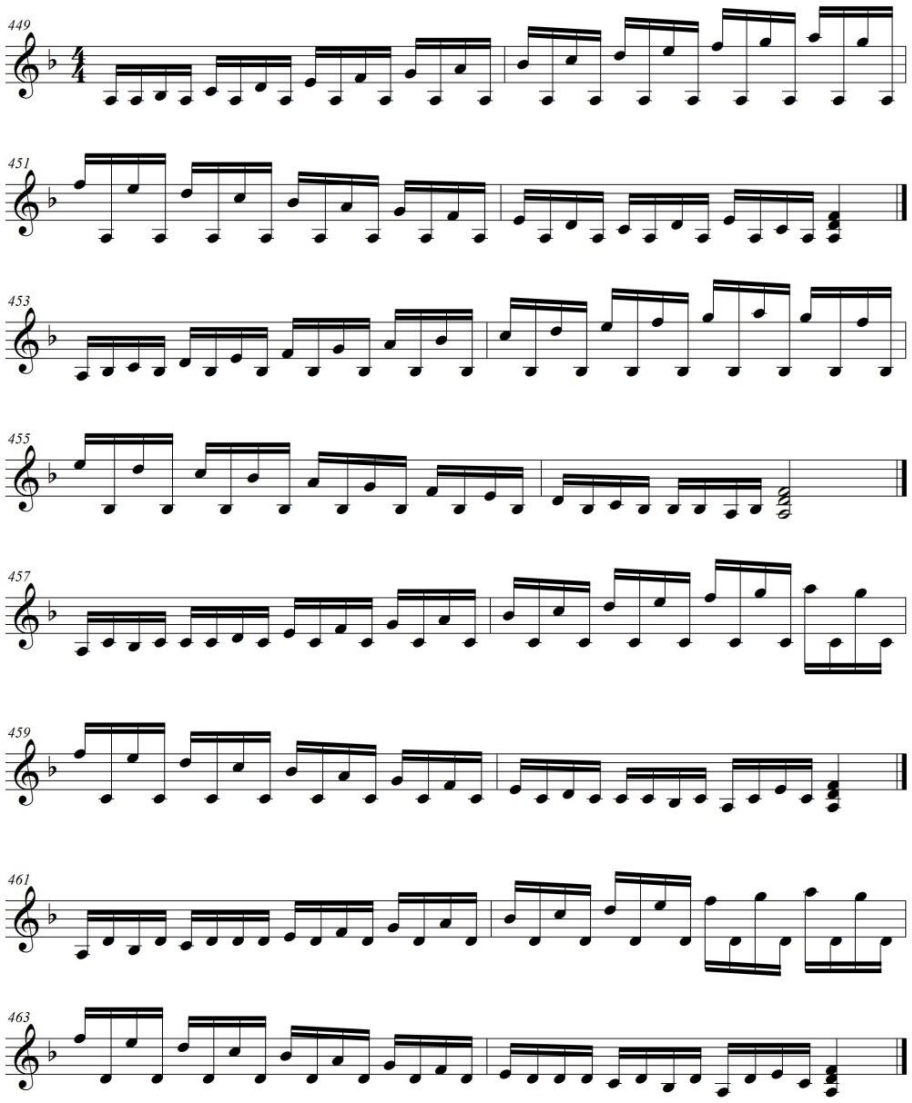
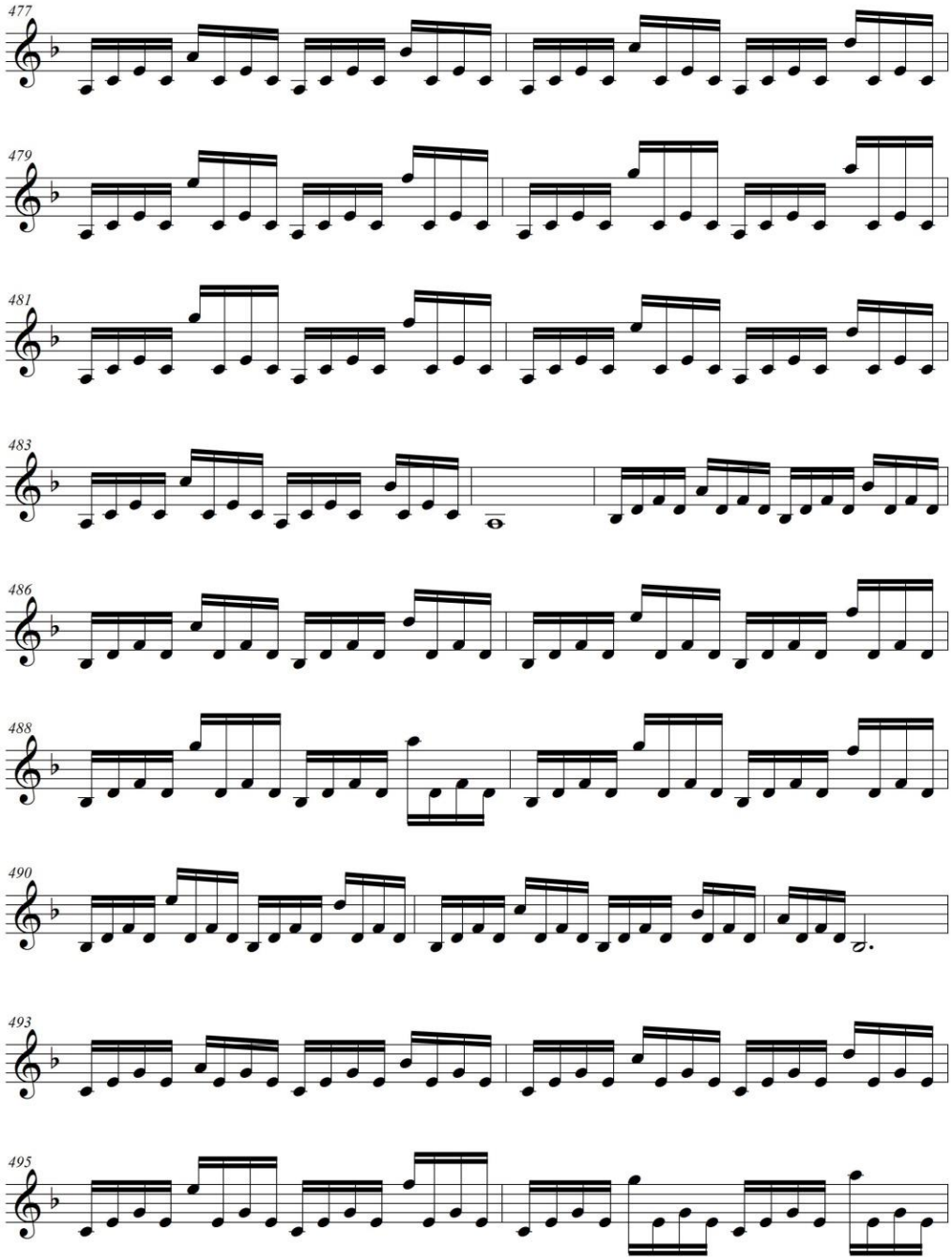
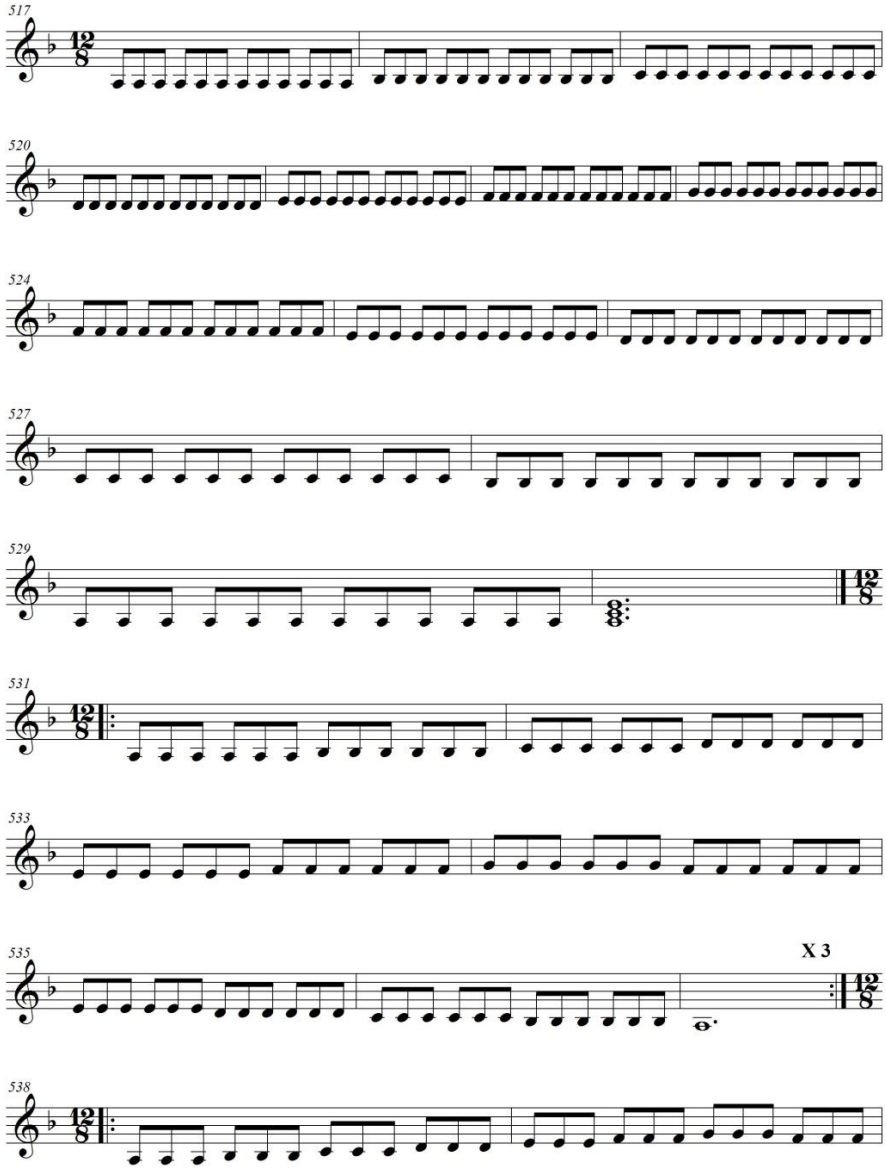
Combination of harmonics and open strings



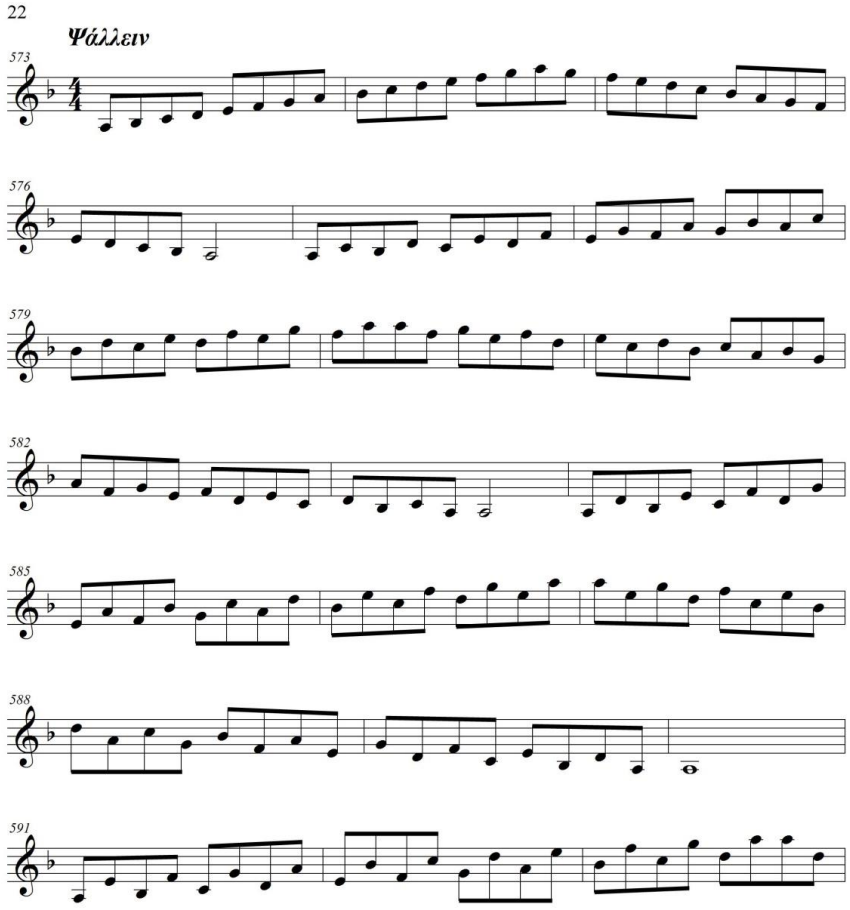
Arpeggios with combination of open strings and harmonics

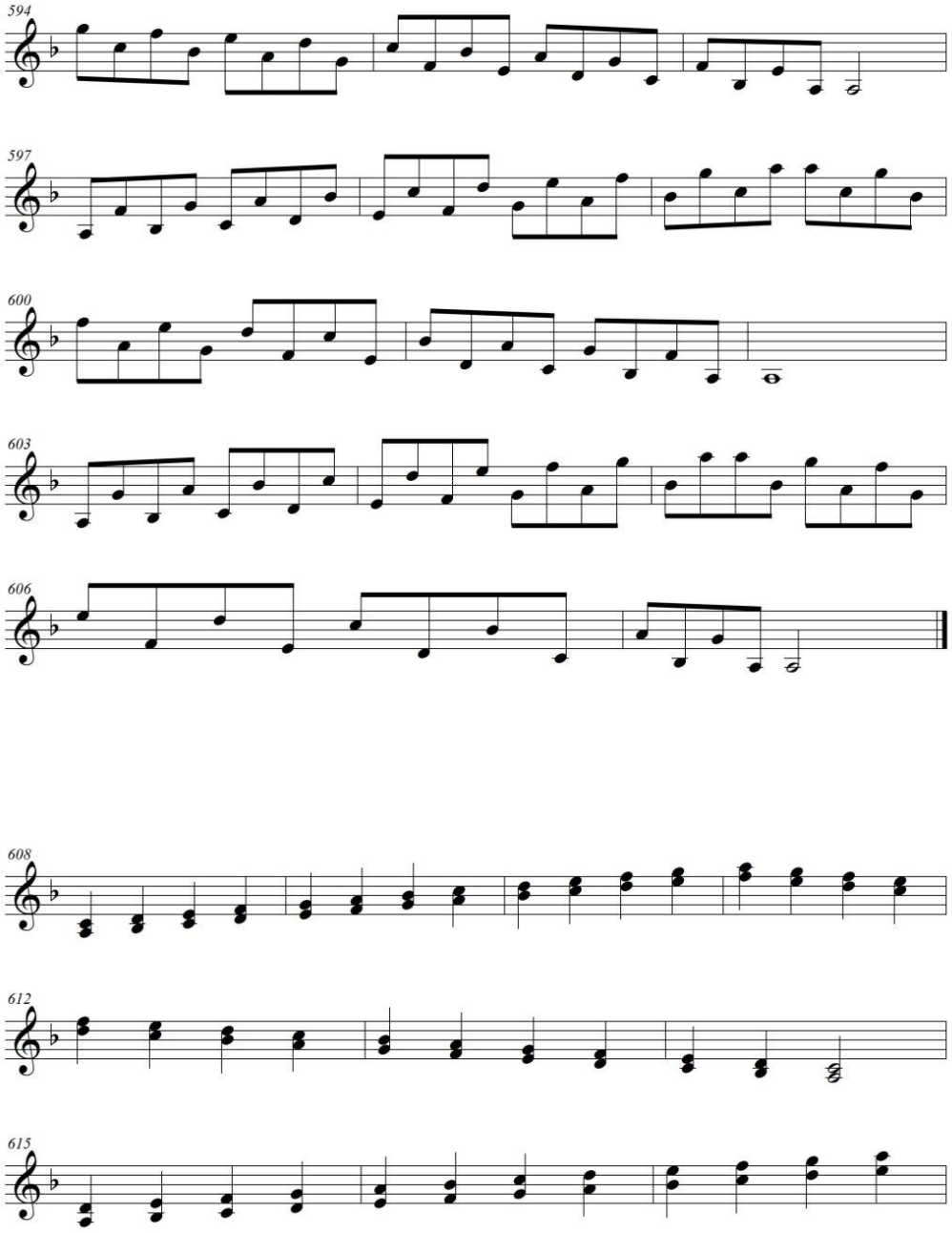


Triple Staccato



Only Fingers

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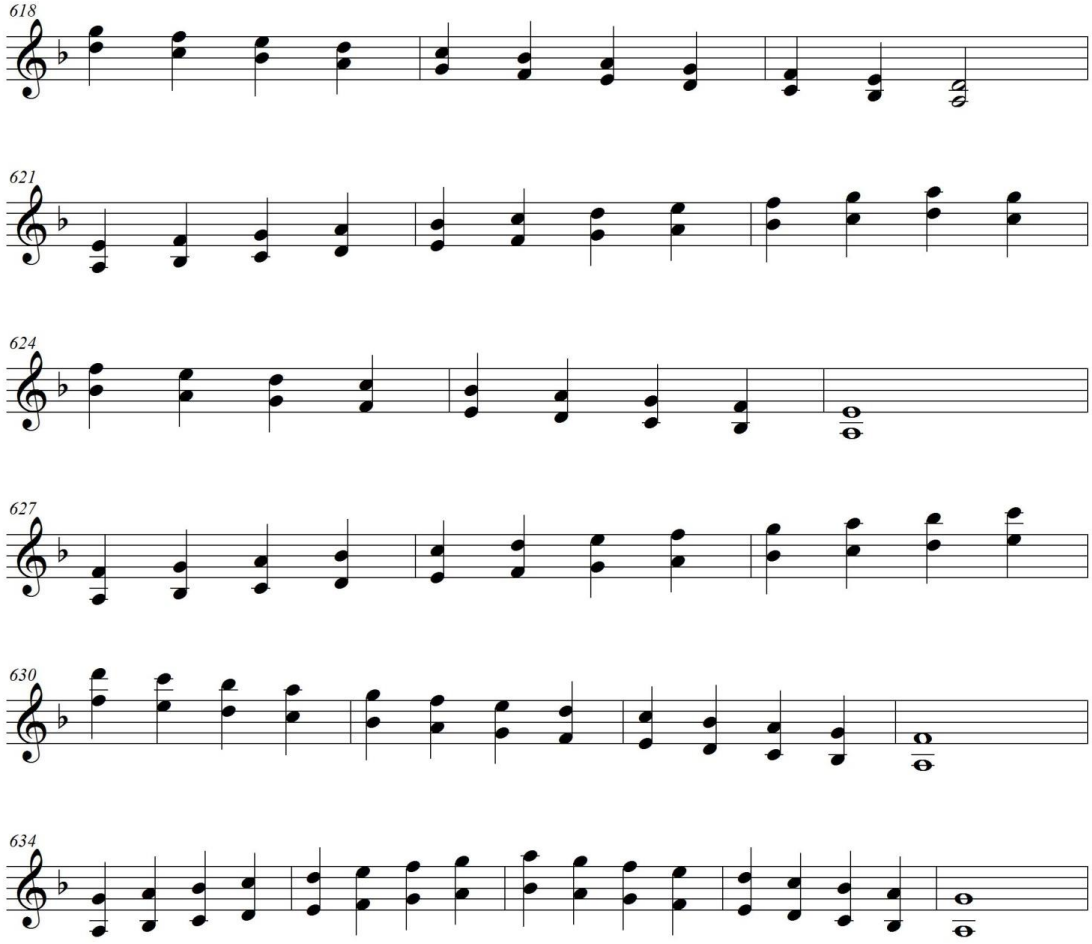
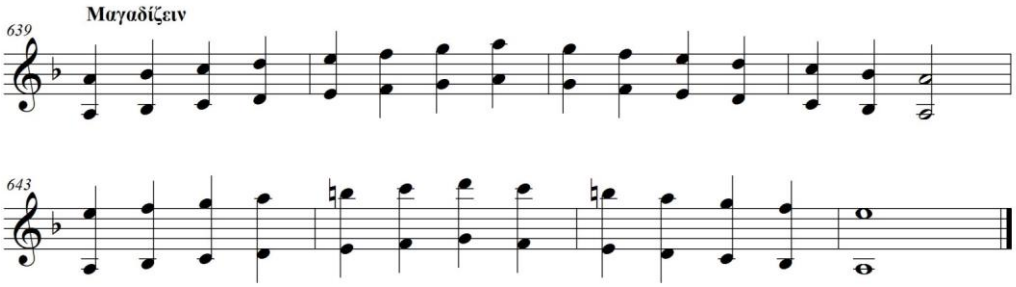


There is also the strange technical of magadizein , that means playing parallel octaves with one stroke.



The only problem is the stagnation of the tonalities. We have only one tuning that can be used, unless we have enough time to retune the instrument. However, this lack of modulation becomes an advantage. As a matter of fact, it is not a problem of modulation but the difficulty of shifting the given tonality. In a few words the tuning system cannot change tonality but it can change mode. Every string can be the first-note of a mode (harmonia in ancient terminology). So, the composer has the possibility to pass through the different ethos or morals of the modes giving to his audience a variety of sentimental changes.

The next tables pore over all the potentialities of the instrument that I have reached till now, through every day 3-4 hours practicing. But don't forget! The technique of an instrument is unlimited, the persistent practice of a talented musician for years, the passing of his knowledge to the next generation and the line of the consecutive generations leads to perfectionism. This is, I believe, what happened with the lyre and /or guitar in ancient times. It's not easy to rediscover a whole world. But even through this way of approaching the ancient Greek lyre, the fragmentary and spontaneous, problematic and arbitrary, I would like to assure you that the delight you can derive from this occupation is endless.