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[-61-] Appendix or Confutation of two principal parts of the Music of the Ancients

Having illustrated exhaustively the doctrines of the Music of the ancients, I believe that I have to say a few words on the two main issues relating to the Music of the Ancients, as I promised at page 22, namely, the Doctrine of the Genera and the Doctrine of the Tones, in order to put forward those Reasons that prompt me to state that the ancient genera, that I illustrated with all their divisions, they are otherwise not true and real divisions through which Ancient Musicians produced the sounds that they used in singing and playing, but mere constructions of fantasy produced by Speculative Philosophers devised with no other scope but to demonstrate in which ways the Sesquiterza, which they considered the first consonant proportion, can be constituted by three intervals.

Firstly, therefore, one must consider whether the ancient Singers and players of Tibiae and Citharae employed all the Colours that had been described when they used said three Genera or a single colour for each Genus. If they used a single one, which one was it, among so many Diatonic and Chromatic ones? From the demonstration of so many Colours, one may deduce nothing but, that as to the Ancients, even at the time of Bryennius, whose chronology is uncertain, although it is certain that he lived a few centuries after Ptolemy, one cannot distinguish the disposition of the sounds that they used in their Compositions. But, even if the dispositions of the sound was not known, as it was not, this is certain, that in the Diatonic genus there was not, nor there could be, the one not only of the equal Diatonic, but also of the Toniaeus, which is the same as those by Architas. And even Ptolemy, who wrote about music with more masculine intelligence than all the others, not only demonstrates such divisions, but describes them as very suitable for the Compositions. Therefore, what weight should one give his words? If then they used all the Colours that they described together with their mixture in the Compositions themselves, as the writers state and as I hinted at in the treatise on the mutation, whatever most excellent [-62-] Singer and of such refined and secure ear could distinguish with the voice the imperceptible variety of so many sounds?

Let one allow them as an advantage that the interval of the Enharmonic Diesis is the first interval that can be sung, which means the first one that can be distinguished, as all the Ancient Writers on Music maintain, and that for this reason the use of the two different Lichanos of the two Diatonic Colours of Aristoxenus at the distance of such a Diesis one from the other may be allowed, how could the use of the different Lichanos and Parhypate of the other Diatonic Colours, that employ in ascending and descending now a tone of Sesquiotava, now of Sesquissettima, now di Sesquissettima proportion, and also the semitone of sesquiventisettesma, of sesquiventecima, of sesquiquindecima, of sesquiundecima and now in this proportion, 256.243, the largest of whose differences are of an interval much smaller than the one of the above mentioned Diesis, be allowed? In fact, in order to realise what a folly the doctrine of the Greeks regarding these genera is, it is sufficient to tune the natural Keys of one of our Harpsichords according to these divisions and to play them up and down in order

to hear, I will not say the strange melody, but the ugly and mangled tuning that said disposition produce both by step and by leap. However, to show you an example by considering the Chromatic Colours of Aristoxenus, since he was called the Prince of Music, let me repeat and say that if the Enharmonic Diesis, which he constituted of three twelfths of Tone, is the smallest interval that can be sung and heard, and in practice the interval, as he says, “smaller than which no interval can be sung,” what audible difference will have been the one of the Semitone from the Chromatic Tone to the one of the Hemiolic, since the latter is smaller than the former by half of an Enharmonic Diesis?

Moreover, what audible difference will have been the one from the Semitone of the Hemiolic to the Diesis of the Soft Chromatic, since there is no other distance between them than half of a twelfth, or a sixth of an Enharmonic Diesis? Also, what instruments could produce distinctly the difference between these Sounds? If one could allow that they had so many different Tibiae whose holes were suited to so many different variations, one should also believe that the Players of those Tibiae carried always around a bundle of them in order to change them at any mutation of the Melody, but, even if it were so, with what [-63-] Ears the Players and the Listeners were able to discern these variations? Moreover, how could the Players of the cithara change appropriately the tunings of their Strings by such imperceptible differences? When and in which century lived the musicians who employed the Enharmonic and Chromatic genus? Aristoxenus states [Book 1, page 2 in marg.]: “It has to be believed that those who lived before us wanted to practise only the Enharmonic, since they only played in the Enharmonic,” namely, “in the Enharmonic genus.” Therefore, this genus was highly regarded and only this one was employed in the times before Aristoxenus, as some writers of our time have believed, and particular the most accurate Meibomius.

Up to the time of Pythagoras, who lived a little more than two hundred years before Aristoxenus, only seven Notes - ordered in two conjoined Tetrachords by Terpander - were used in Music, as one can gather from very serious Authors. Pythagoras added the eighth Note and “perfected Music after the observation of the sound of the hammers.” And many years after Pythagoras Music was not, so to speak, still in its Infancy. Moreover Pythagoras and his follower Philolaus call Diesis the residue of the Tetrachord after the two sesquiottavi tones had been subtracted, which is what Plato called Limma, as I said at the beginning of the Exposition. This residue is a little smaller than one half of a Tone, which we would call minor semitone. Hence, this is my argument. If the Diesis, as everyone certifies, is the smallest interval that can be distinguished by the voice, and this was the minor semitone in those times, therefore at the time of Pythagoras no other genus was used but the Diatonic. Similarly, the smallest interval that is employed in music nowadays is the minor Semitone, hence our current Music is the same, with regard to its intervals, to the music of the time of Pythagoras. Plato himself, who lived about one hundred Years before Aristoxenus explains in his Timaeus the proportions of the musical sounds only in the Diatonic genus. Therefore, if it is true what [page 19 in marg.] Aristoxenus states, namely: “Any Melody which is formed by those sounds that are based on the musical sequence is Diatonic, Chromatic or Enharmonic. First has to be placed the Diatonic as the most ancient because human nature discovered it first. The second was the Chromatic and the third and last was the Enharmonic. In fact, the senses struggle to adapt to this last one [-64-] even with great effort,” but more clearly Aristides states [Page 19 in marg.]: “Of these the Diatonic is the most natural because it can be sung even by those who are not trained at all. The Chromatic is very artificial, as only the

trained can sing and play it. The Enharmonic is the one that requires the greatest accuracy. It has been embraced only by the most expert Musicians, but many find it impossible to use.” Plutarch also, whose works have come to my hands in the last few days, says of the Enharmonic [In the de Musica in marg.]: “The most beautiful of all and graceful of all, that the ancients cultivated because of its majesty and gravity,” therefore, since the Enharmonic was the most sublime, perfect, beautiful and majestic genus that was used only by the most expert musicians, it is necessary to admit that Music achieved such excellence in much less than two hundred years, which is a much shorter time than the years between Pythagoras and Aristoxenus, that this excellence was quickly lost and that Music never returned to that sublime state, because, apart from what the ancient Philosopher Gaudentius says about the Diatonic: “In fact this is the only one of the three genera that, being the most frequently sung, has almost extinguished the use of the other two,” Plutarch himself, in the same passage, referring to the Musicians of his time adds to the words quoted above that “they abandoned that genus so completely, that most did not have the slightest ability to perceive or any interest in the Enharmonic intervals.” It is worthy of note that Plutarch lived quite a few years before Ptolemy, as he lived under Trajan, but (and this is very considerable) he adds the following words talking about the Musicians of that time: “So much laziness and sloth possessed them that they did not think that the Enharmonic Diesis represents anything that can be perceived by the ear, and they banned it from their Songs and compositions, while they believed those who held it in some consideration to be mad, and those who had used it were ashamed to admit it.” A little further on, where he speaks about said Diesis he states: “They deny that size of interval, like the Semitone and the tone and the remaining intervals of this kind may be received within the consonance.” When did the Arts have more florid Centuries than the one before the first century anno Domini and the first century anno Domini itself, when the glory and the power of the Romans reached its highest point? Especially Music that in those times was held in such great esteem that its good Professors received such prizes that became rich, as one can gather from Macrobius’ Saturnalia [-65-] and from Suetonius [in the Life of Vespasian in marg.]. Now if in times so glorious and favourable the Enharmonic genus was considered a trifle by the Professors of Music, why Ptolemy and Bryennius, who lived much after those time, put so much effort into describing its practice and in illustrating its varied and different divisions? How can the ideas of Aristoxenus and other Greek writers, and particularly of Plutarch, be reconciled when they call it “The most beautiful and most ornate genus that the ancient venerated for its majesty and gravitas” with Ptolemy’s opinion, who states [Book one, chapter 15 in marg.]: “since the Enharmonic genus is the most enervate,” and, in the following Chapter, “But from the genera already explained, everything in the Diatonic genus is suited and natural to the ear, but the same does not occur in the Enharmonic or in the Chromatic, because they do not please as much in their very relaxed way?”

I shall conclude that on the basis of reason that discerns, on the basis of experience that teaches, and of

the accounts of the Writers one proves that the Chromatic and Enharmonic genus are nothing, as I said above, a metaphysic Speculation of Mathematical Philosophers, rather than real divisions that Musicians realised in practice in singing and playing. Consequently, it follows that only the Diatonic genus is always practised in composition and that its distribution was always the same as ours, but that it was unknown to the Ancients because it could not be reduced under rational proportions, since they had no other aim but to reduce all the Musical sounds under numerical

proportions, most of which belonged to the multiplex and superparticular genera, as Ptolemy illustrates in the two last chapters of the first and in the first two of the second book of his Harmonics. Moreover, the proof that said division had been the same as ours consists in the fact that not only matches the natural proportion of the numbers of the Harmonic progression that produce our consonant intervals, but it is confirmed by this experimental fact. If one takes a Trumpet or that string instrument called Tromba marina, one will not be able to produce other complete sounds, when one plays them, than those expressed by the following Notes. In fact, if the Instruments are tuned in C sol fa ut, the sounds that they produce will be C, E, g, e, d, e, f, #f, gg, aa, while, if they are tuned in D sol re, they will play these sounds, namely, D, #F, a, d, e, #f, gg, #gg, aa, [sqb]. Since these intervals follow the distribution [-66-] of our Diatonic, provide a clear proof that nature itself does not produce any other musical sounds, called by the ancients Emmeles, than those that are expressed by our distribution. If nature has always been the same, there follows that the Intervals and sounds that are Emmeles were always the same one, and, if the ancients did not recognize this, it is necessary to admit that they had a less perfect knowledge of the matter than modern musicians had and still have. The Theory of the Tones, an particularly that of Aristoxenus, who established their number as thirteen, and of his followers, who counted fifteen of them, was a pure and fantastic chimaera no less than the Theory of the Genera, because, from what one gathers from the ancient demonstrations, except Ptolemy's ones, although some differed, all the Tones were placed in the same species of Diapason, as I demonstrated with regard to the Tones described by Boethius at Page 41. Therefore, what difference can produce the mere fact that the interval of a Tone is higher or lower? Moreover, what audible difference will the mere distance of a Semitone from one to the other, which is supposed by the followers of Aristoxenus, produce? It will be perhaps bearable in part that such trifles should be magnified by who did not have any knowledge of practical Music, although nobody should treat of those subjects of which is not fully informed in all of their parts, but that certain matters should be extolled and recounted as prodigious, so to speak, by who has known clearly what really are the Sounds and the Musical intervals, and of what quality and greatness is the power of human voice and of the musical instruments, as well as what the true art of composing means, so that modern writers may form a sublime idea of ancient music while they hold little consideration for the Modern one, it seems to me to be very premature. However, since it is not appropriate for me to investigate what was the intention of these writers, since I do not want to deal with a subject of which one can say that "the matter speaks for itself" to who is not unwilling to listen, and, after having explained my opinion, if not completely, at least sufficiently, according to what I proposed to do, here I put an end to discourse.