Chapter Four

1. Harmonics is an obscure and difficult branch of musical science, especially for those who do not know Greek. If we desire to treat of it, we must use Greek words, because some of them have no Latin equivalents. Hence, I will explain it as clearly as I can from the writings of Aristoxenus, append his scheme, and define the boundaries of the notes, so that with somewhat careful attention anybody may be able to understand it pretty easily.

2. The voice, in its changes of position when shifting pitch, becomes sometimes high, sometimes low, and its movements are of two kinds, in one of which its progress is continuous, in the other by intervals. The continuous voice does not become stationary at the boundaries or at any definite place, and so the extremities of its progress are not apparent, but the fact that there are differences of pitch is apparent, as in our ordinary speech in sol, lux, flos, voś for in these cases we cannot tell at what pitch the voice begins, nor at what pitch it leaves off, but the fact that it becomes low from high and high from low is apparent to the ear. In its progress by intervals the opposite is the case. For here, when the pitch shifts, the voice, by change of position, stations itself on onepitch, then on another, and, as it frequently repeats this alternating process, it appears to the senses to become stationary, as happens in singing when we produce a variation of the mode by changing the pitch of the voice. And so, since it moves by intervals, the points at which it begins and where it leaves off are obviously apparent in the boundaries of the notes, but the intermediate points escape notice and are obscure, owing to the intervals.

"Architecture depends on Order, Arrangement, Eurythmy, Symmetry, Propriety, and Economy."

3.There are three classes of modeś first, that which the Greeks term the enharmonić second, the chromatić third, the diatonic. The enharmonic mode is an artistic conception, and therefore execution in it has a specially severe dignity and distinction. The chromatic,
with its delicate subtlety and with the crowding of its notes, gives a sweeter kind of pleasure. In the diatonic, the distance between the intervals is easier to understand, because it is natural. These three classes differ in their arrangement of the tetrachord. In the enharmonic, the tetrachord consists of two tones and two dieses. A diesis is a quarter toné hence in a semitone there are included two dieses. In the chromatic there are two semitones arranged in succession, and the third interval is a tone and a half. In the diatonic, there are two consecutive tones, and the third interval of a semitone completes the tetrachord. Hence, in the three classes, the tetrachords are equally composed of two tones and a

4.Now then, these intervals of tones and semitones of the tetrachord are a division introduced by nature in the case of the voice, and she has defined their limits by measures according to the magnitude of the intervals, and determined their characteristics in certain different ways. These natural laws are followed by the skilled workmen who fashion musical instruments, in bringing them to the perfection

5.In each class there are eighteen notes, of which eight in all the three classes are constant and fixed, while the other ten, not being tuned to the same pitch, are variable. The fixed notes are those which, being placed between the moveable,
make up the unity of the tetrachord, and remain unaltered in their boundaries according to the different classes. Their names are proslambanomenos, hypate hypaton, hypate meson, mese, nete synhemmenon, paramese, nete diezeugmenon, nete hyperbolaeon.