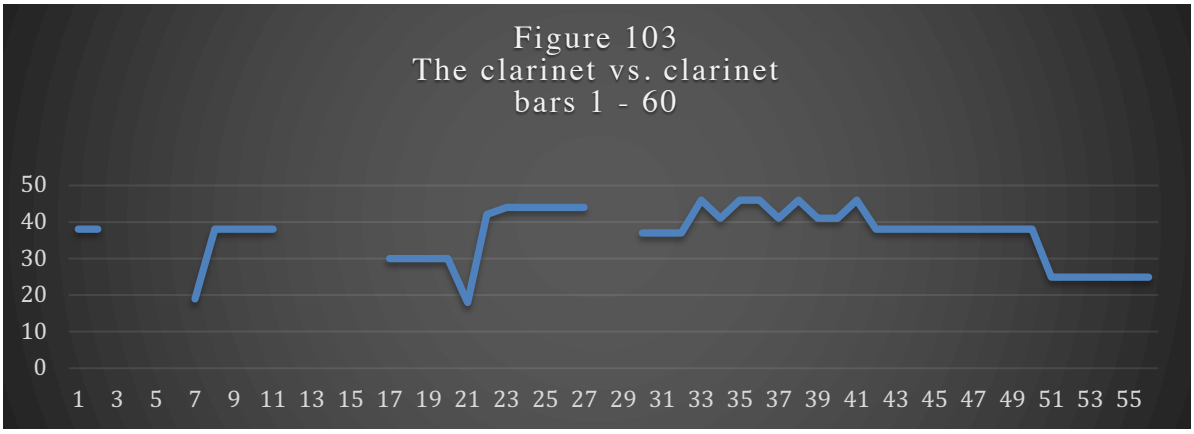
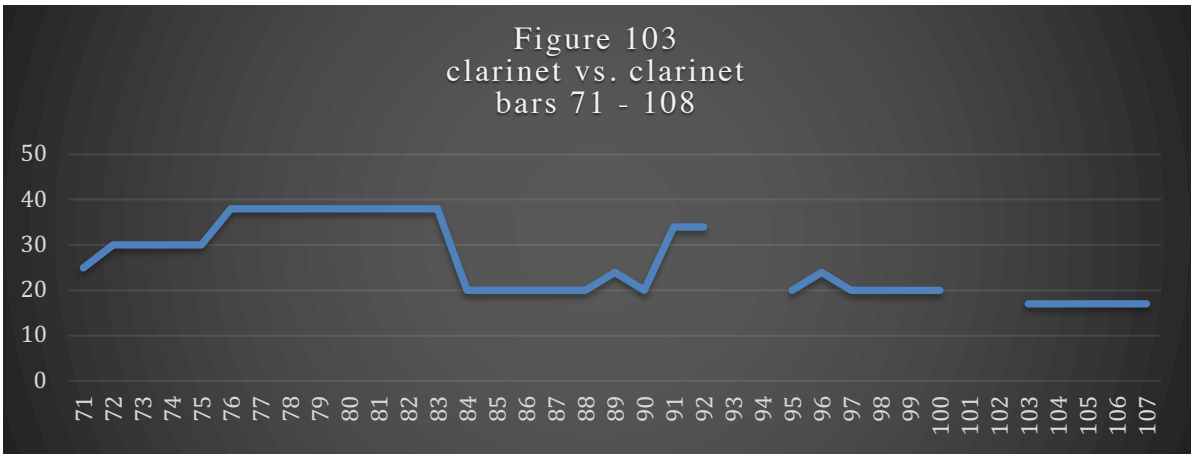
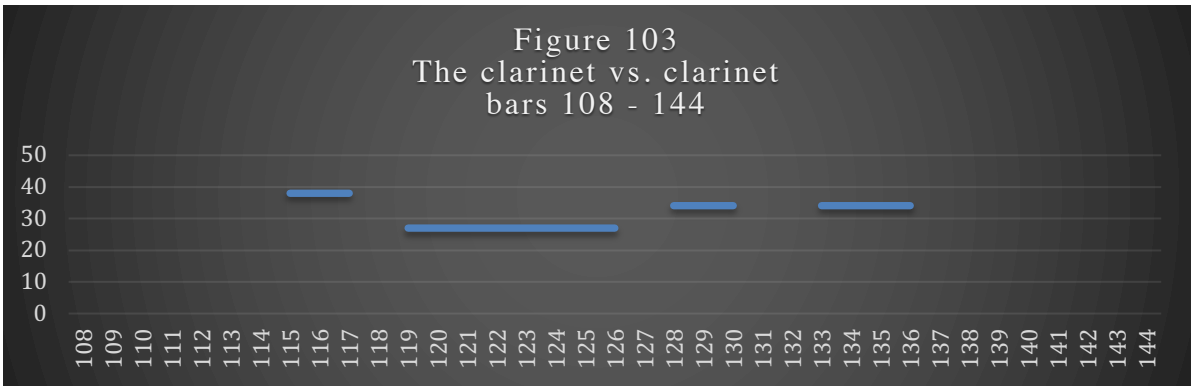
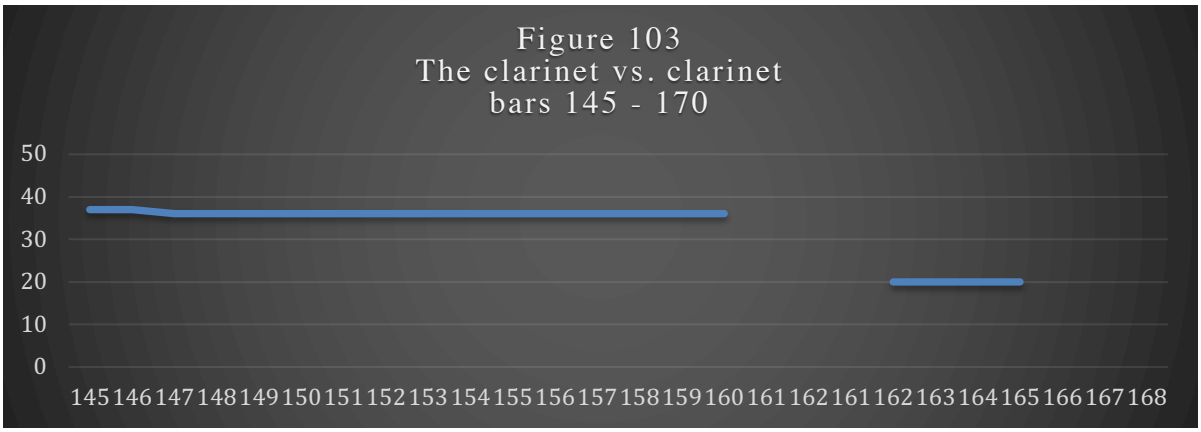
Chapter 11: Clarinet Compared to other Instruments:

The Diappearance of Zero









As a reminder, the Y-axis indicates the absolute timbral value difference between different instruments in different bars. The X-axis shows the range of bar numbers in the comparison.

Figure 103 exhibits the timbral progression when the absolute timbral value of the clarinet is compared to measure 1 of itself. The minimum and maximum values fluctuate between seventeen and forty-six. Zero does not appear in Figure 103, which is a contrast to the progression of timbre in Figure 96, as zero appears in bars 1 and 109. The first appearance of zero in clarinet is in bar 5. Unlike the flute, there are other appearances of zero, in bars 12 – 15, 46 – 54, and 115 – 117.

The timbral value of zero does not appear when bar 5 of the clarinet is compared to itself and all the other bars in the clarinet. The disappearance of zero in the clarinet might reject the idea of timbral recapitulation. The answer to this quandary will be revealed as this case study moves forward.

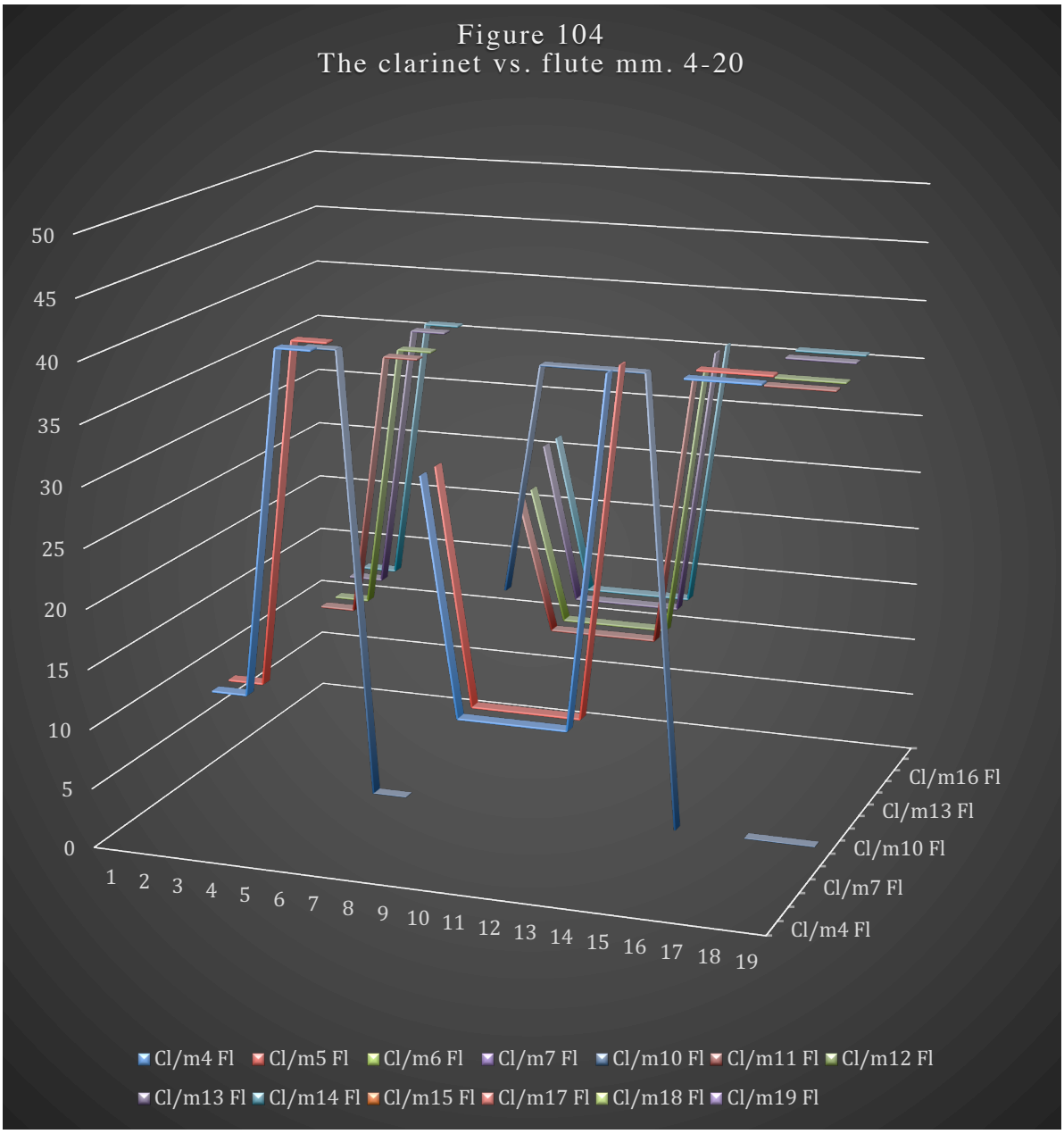


Figure 104 compares bars 4 – 20 of the clarinet to the flute. The minimum and maximum values are zero and forty-two. There are many more instances of parallelism than contrast in Figure 54. The minimal appearance of contrast might relate to the introductory characteristic of this section. The unbalanced appearance of parallelism indicates the timbral similarity between clarinet and flute. Therefore, timbral parallelism and contrast between these two instruments contribute to the construction of timbre between the clarinet and flute in Figure 104.

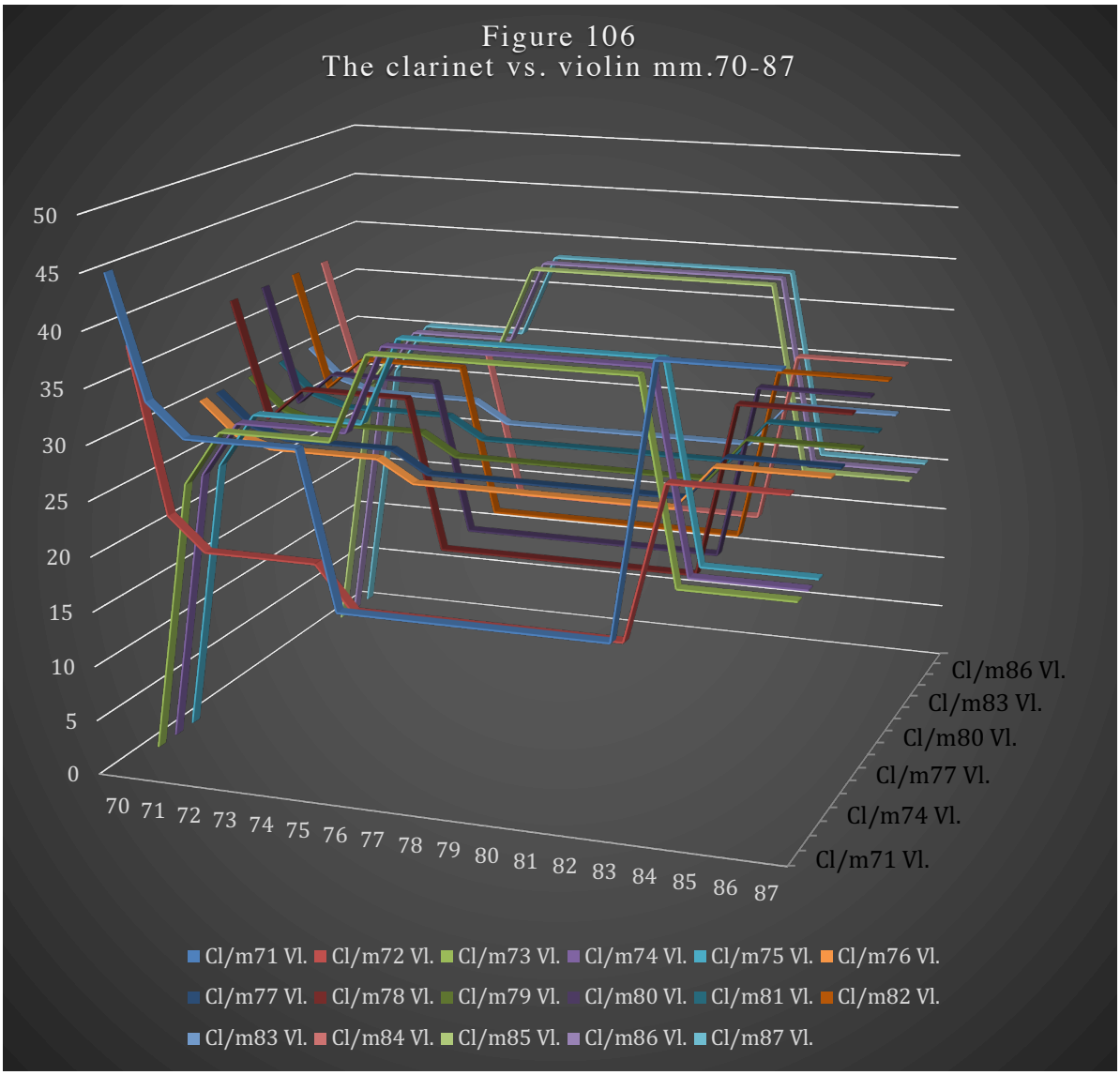


Figure 106 demonstrates the progression of timbres between clarinet and violin. There is an ABA' structure to this section, with the following subsections: A) bars 70 – 76, B) bars 76 – 84, A') bars 84 – 87.

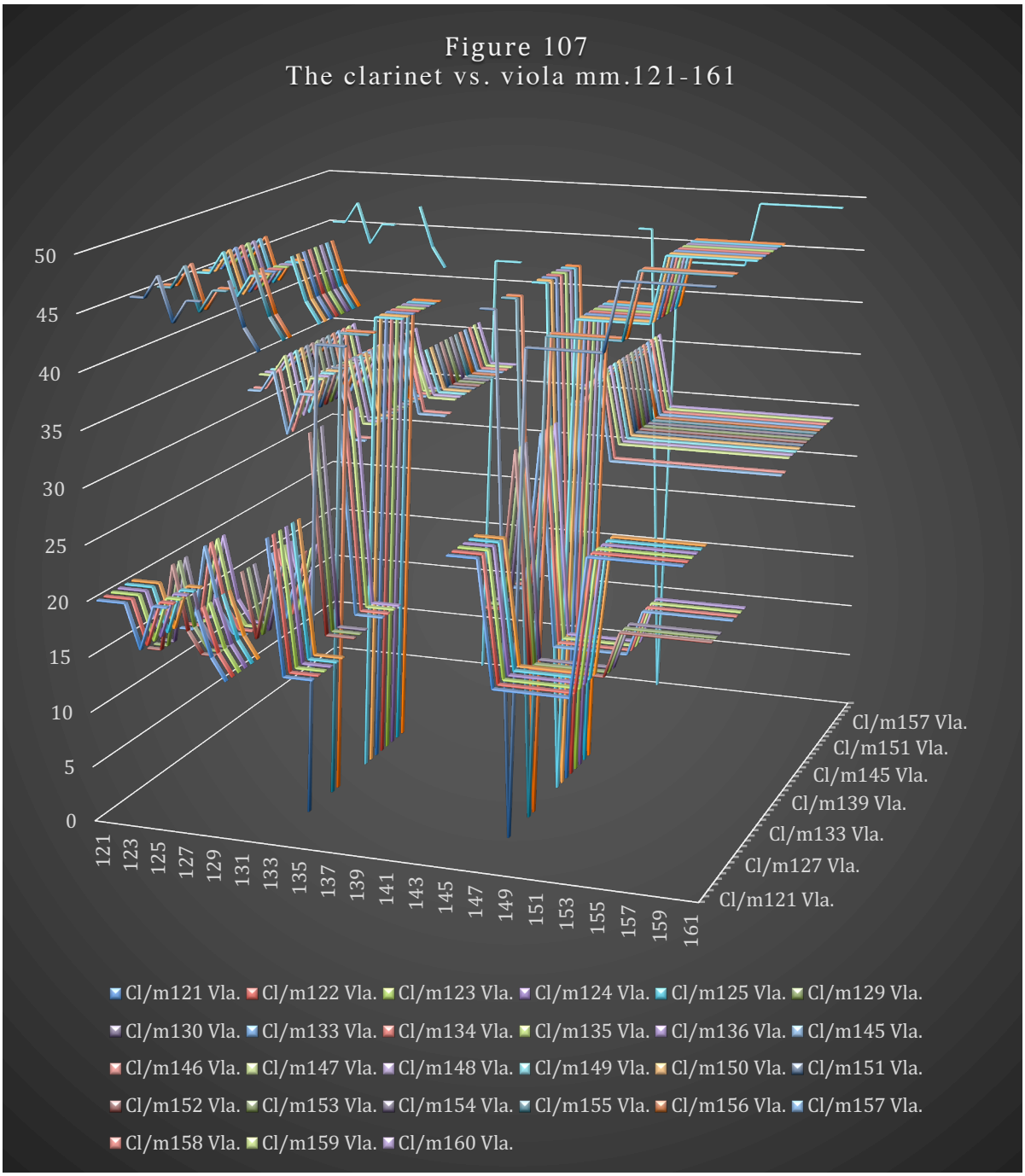
The repetition of identical timbral values creates continuity in Figure 106. For example, the stagnant and imitative parallelism motion in subsection B is formed by the repetition of the identical timbral values. In addition, the change in the timbral values, and their sequences are

expressed via imitative parallel motion. Hence, repetition and sequence are the main contributing elements to the imitative and parallel motion in Figure 106.

Note the dramatic contrast between the single appearance of the minimum value of zero and the maximum value of forty-five in bar 71 of Figure 106. The timbral space between clarinet and violin is forty-five in bar 71, which is very significant. A closer listen to bar 71 of Crama reveals that the appearance of "whish sound,"[40] of the violin and "natural multiphonic sound,"[41] of the clarinet in bar 71 contributes to the large timbral space of forty-five. The squeaky noise of the violin, which does not blend with the preferably non-squeaky and somewhat warmer sound of the clarinet, contributes to the larger timbral space between clarinet and violin in bar 71. Therefore, the appearance of extremely dissimilar timbres between two instruments can contribute to the creation of more significant timbral space.

[40] "TRIANGLE NOTEHEAD (Whish Sound): Play the bow at xSP area and the Left Hand should move within the area from the xST to xSP. The limits of glissando are indicated by the parenthesized (xSP), (ST) and the direction by the line labeled 'LH gliss'. The effect is a very high, scream-like sound. [b.5]" From page 5 of the preface in Crama.

[41] "NATURAL MULTIPHONIC SOUND: 1st Type harmonics. Play the harmonics of the fundamental as blocks. The sound is produced by greater pressure of the lips. This type of multiphonic is more effective and rich in tones in the lowest register of the instrument. It can also be effective when it is combined with trills." From page 3 of the preface in Crama.



The minimum and maximum values are between zero and forty-nine in Figure 107. In contrast to Figure 106, zero does not appear in the beginning, but rather in bars 133 and 147. There are many reappearances of the higher timbral values, which contribute to the construction of timbre

in Figure 107, while the consistent appearance of higher values creates a contrast between Figures 106 and 107.

The structure of Figure 107 is not as clear as the ABA' structure of Figure 106. Every shape seems to be a variation or repetition of shapes from the previous section. Therefore, the majority of the development and continuity of Figure 107 derives from variations and repetitions, rather than shaping arcs and phrases**.**

The appearances of dramatic spikes in bars 133 and 147 are due to the display of "angled bowing sound,"[42] in viola and "natural multiphonic sound,"[43] in clarinet. The viola in bar 133 produces middle- and low-pitched squeaky noises, with the absolute timbral value of 46, that sticks out compared to the low-pitch warm sound of clarinet, with the absolute timbral value of 34. Note how the low-pitched squeaky noise in the viola is doubled with the same sound in violin in bars 133 and 147, which supports the dramatic appearance of spikes in bars 133 and 147 of Crama.

[42] "ANGLED BOWING SOUND: (triangle notehead) The bow moves horizontal to the strings and the same time with a slightly vertical (ordinary) motion. It should be played close to the frog area and in between extreme sul pont [xSP] to sul tasto [xST]. Some extra pressure in order to maintain the strong and rough sound might be required. [b.25] The line on top of the staff labeled 'bow gliss' shows approximately the horizontal movement of the bow in time from xSP to xST position. The Left Hand, with the fingers muffling the resonating strings, occasionally moves up and down across the fingerboard. The sound produced is a rich granular texture." From page 6 of the preface in Crama.

[43] "NATURAL MULTIPHONIC SOUND: 1st Type harmonics. Play the harmonics of the fundamental as blocks. The sound is produced by greater pressure of the lips. This type of multiphonic is more effective and rich in tones in the lowest register of the instrument. It can also be effective when it is combined with trills." From page 3 of the preface in Crama.

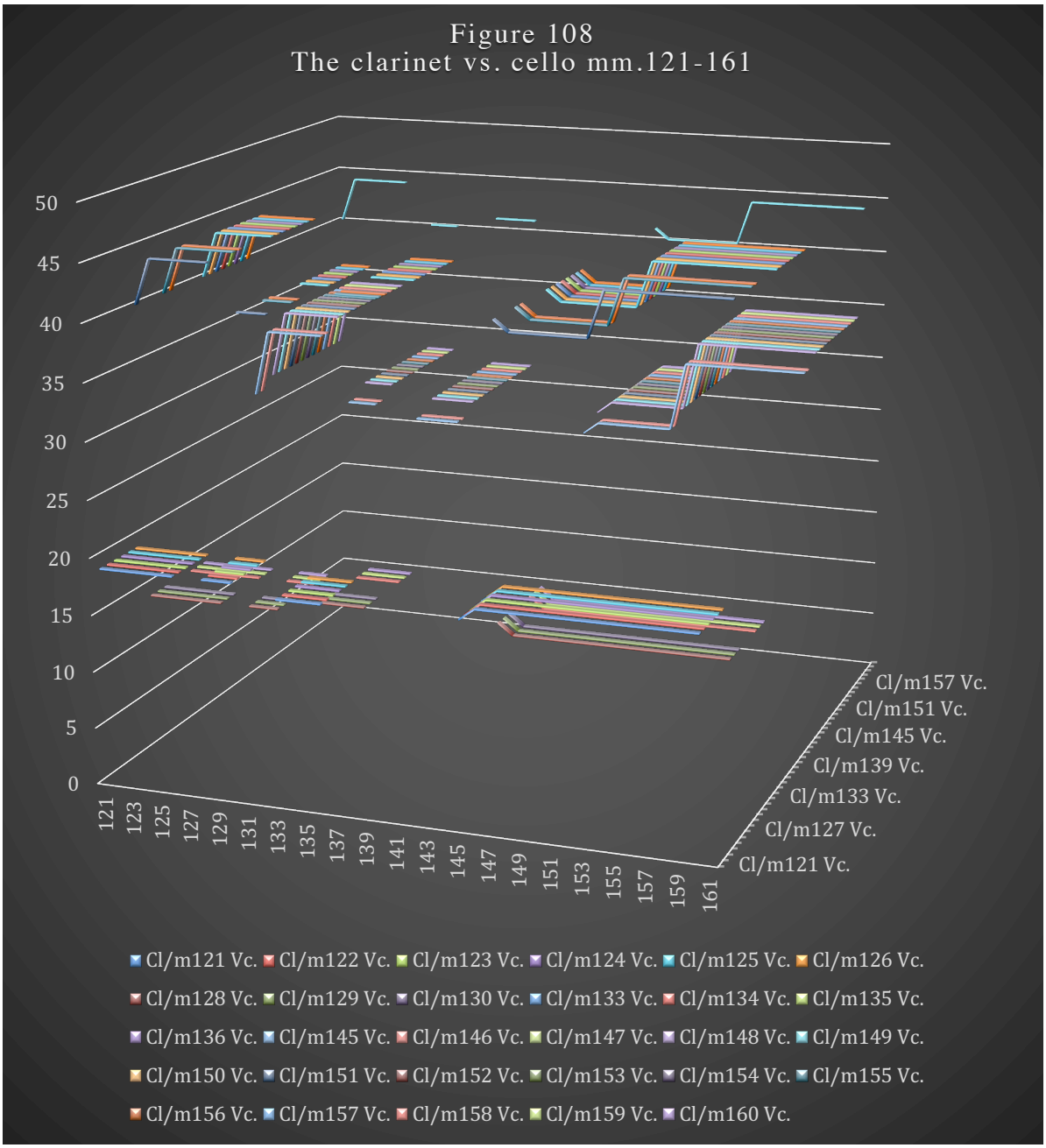


Figure 108 shows similarities to Figure 106. Both sections use the repetitions of identical timbral values as the primary tool to create form. In Figure 108, the ratio of stagnant parallelism to imitative parallelism is slightly higher when compared to Figure 106. The minimum and maximum values in Figures 107, 106 fluctuates between zero and 49. Also, it seems the continuity of sound is the result of the repetition of similar timbral values in Figure 107.

Therefore, not only do Figures 106 and 108 complement each other but also, they complement Figure 107.

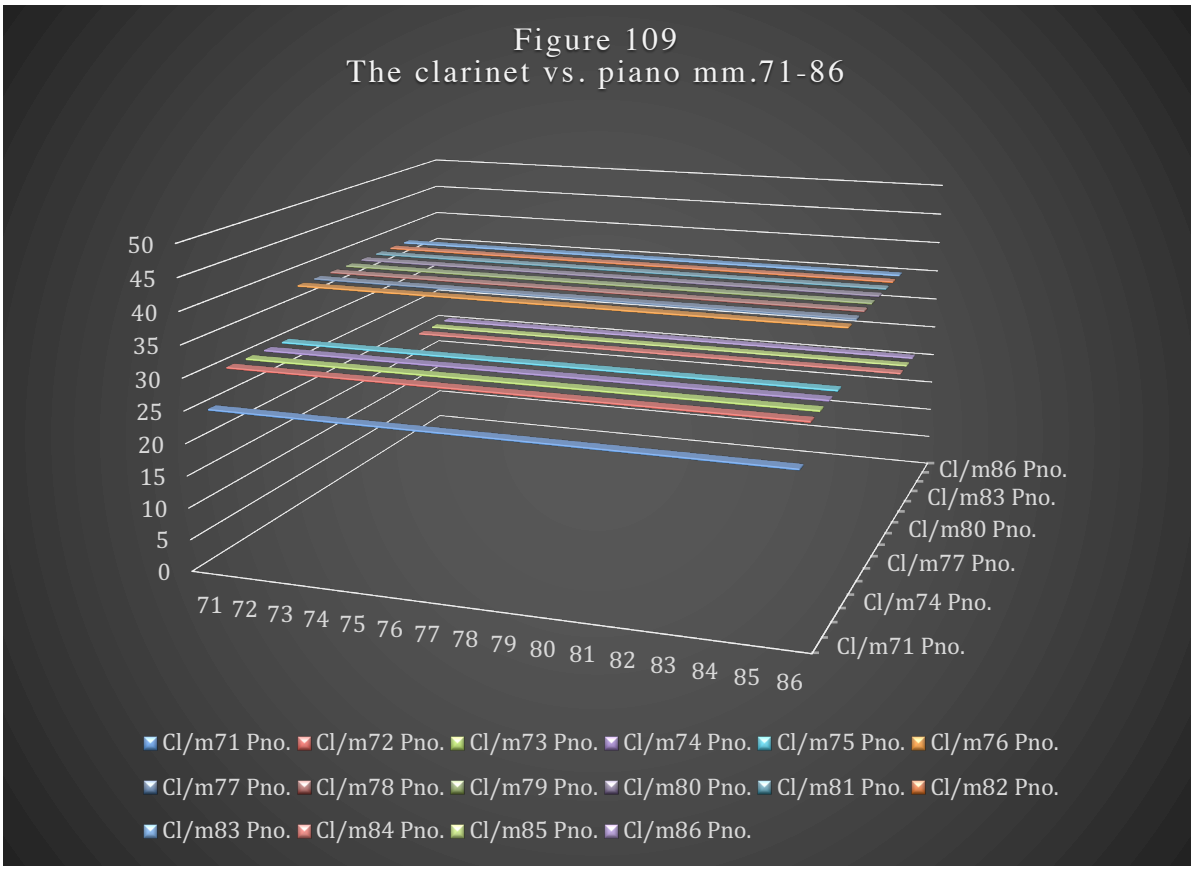


Figure 109 displays a comparison between the clarinet and piano. The minimum and maximum values fluctuate between twenty and thirty-eight. Notice the extreme parallelism in this section. Two factors create similarity and contrast between Figure 109 and 108. First, the absence of zero is similar to Figure 108. Second, extreme parallelism is unique to this Figure in comparison to Figures 108 and 107. These long parallel lines represent the repetition of identical timbral values in the clarinet and piano. Spikes, drops, and contrast cannot be created when identical timbral values are repeated. A closer listen to Figure 86 proves the repetition of similar timbres in this Figure.