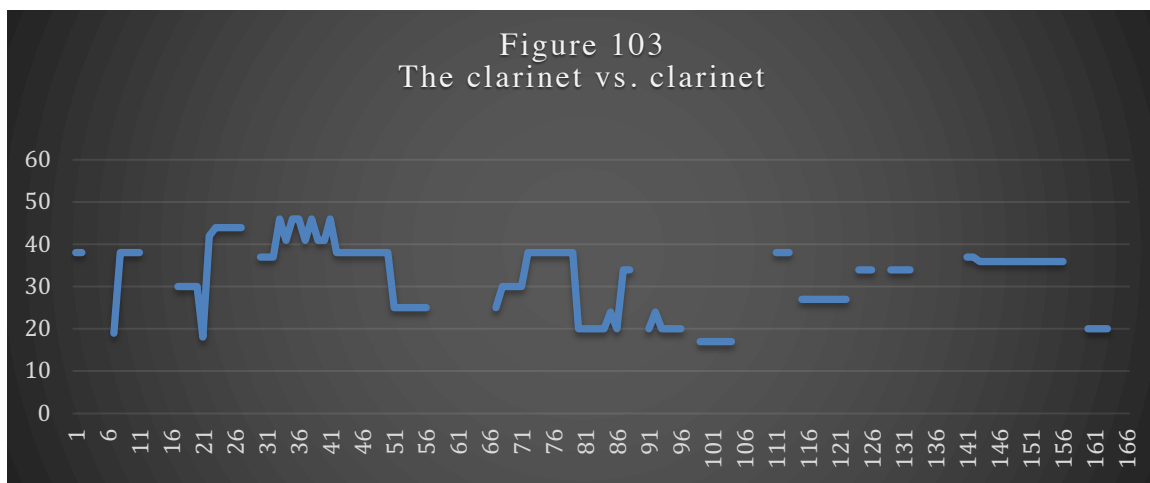
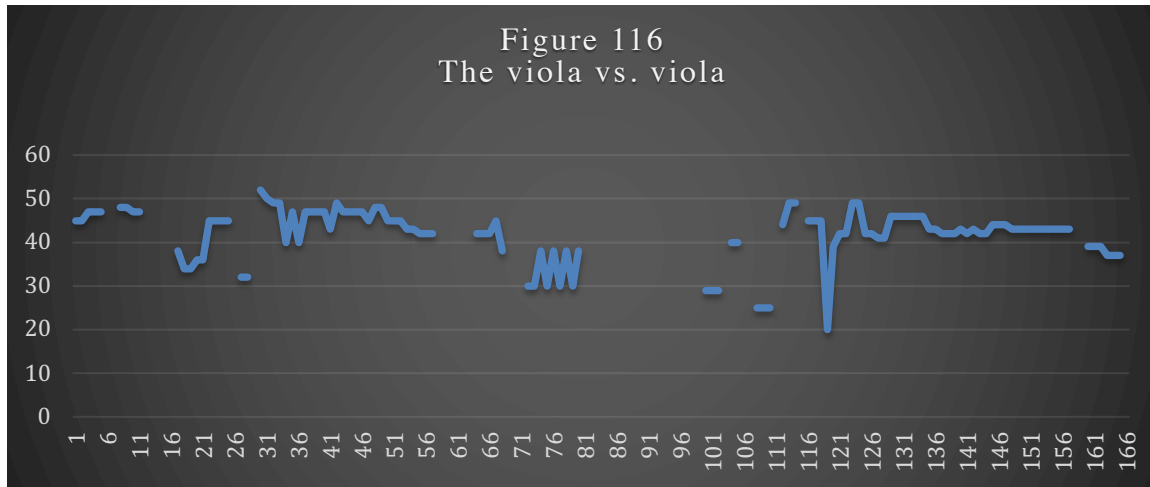


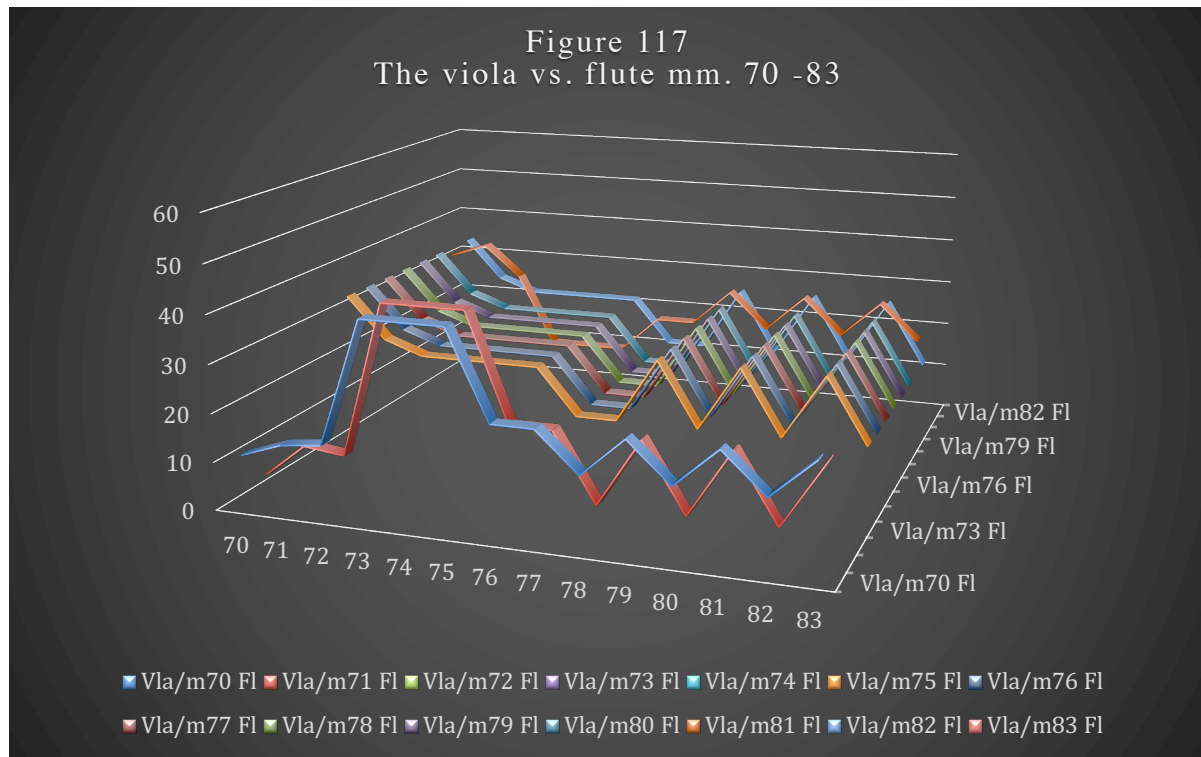
## Chapter 13: Viola Compared to Other Instruments:

### Extreme Parallelism and Vague Form



Figures 81 and 93 exhibit the timbral progressions of the flute and the clarinet when the absolute timbral value of each instrument is compared to themselves and all the other bars. The absolute value difference between bar 1 of the viola and all other bars generates a minimum value of twenty and a maximum value of fifty-two. Notice that zero does not appear in Figure 116, which contrasts with the flute and violin, in which zero returns in bars 108 and 109. With this in mind,

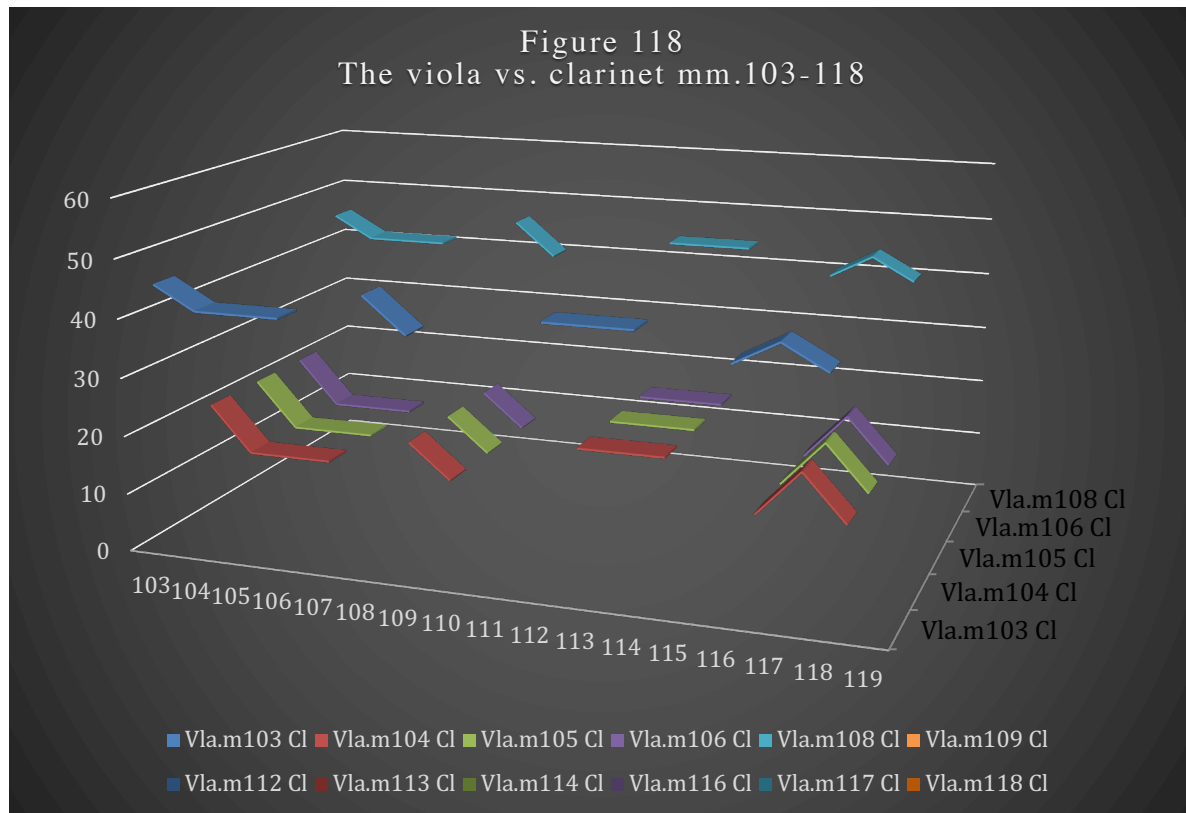
do the flute, and the violin contribute to the timbral recapitulation in Crama? The answer will be revealed in the course of this case study.



The maximum and minimum values are one and forty-two. Figure 117 can be divided into two sub-sections: A) bars 70 – 77, which occupies minimum and maximum values of one and forty-two, and B) 77 – 83, which occupies minimum and maximum values of six and twenty-five. Note how the minimum and maximum values of the B section do not appear in the A section, and vice versa. It seems sub-section A transforms to sub-section B via a sequence in bars 75 – 76. Also, note the appearance of timbral space of forty-two in sub-section A, which is larger than the timbral space of seventeen in sub-section B.

The minimum and maximum values contribute to the creation of shapes in each section. The repetition of the identical timbral values also supports the continuity of each section. Therefore,

the minimum and maximum values, along with the timbral space, contribute to the organization of each section. Repetition also supports the growth of each section in Figure 117.



Thus far, the progression of timbre within bars 103 – 120 has not been examined. What are the contributions of this section to the form in Crama?

The maximum and minimum values fluctuate between ten and forty-six in Figure 118.

Parallelism, in bars 104 – 106 and 112 – 114, and imitative parallelism, in bars 103 – 104, 108 – 109, and 116 – 118, are the main components of growth. Notice the parallelism in the absence of contrast, which we observed in Figures 109, 114, and 115. Also, note the lack of clear form ABA or ABA' in Figure 118. All the comparisons can be related to others. For example, bars 108 and

109 are repetitions of bars 103 – 104. It seems parallelism, imitative parallelism, and unclear ABA or ABA' structure are the structural components of Figure 118.

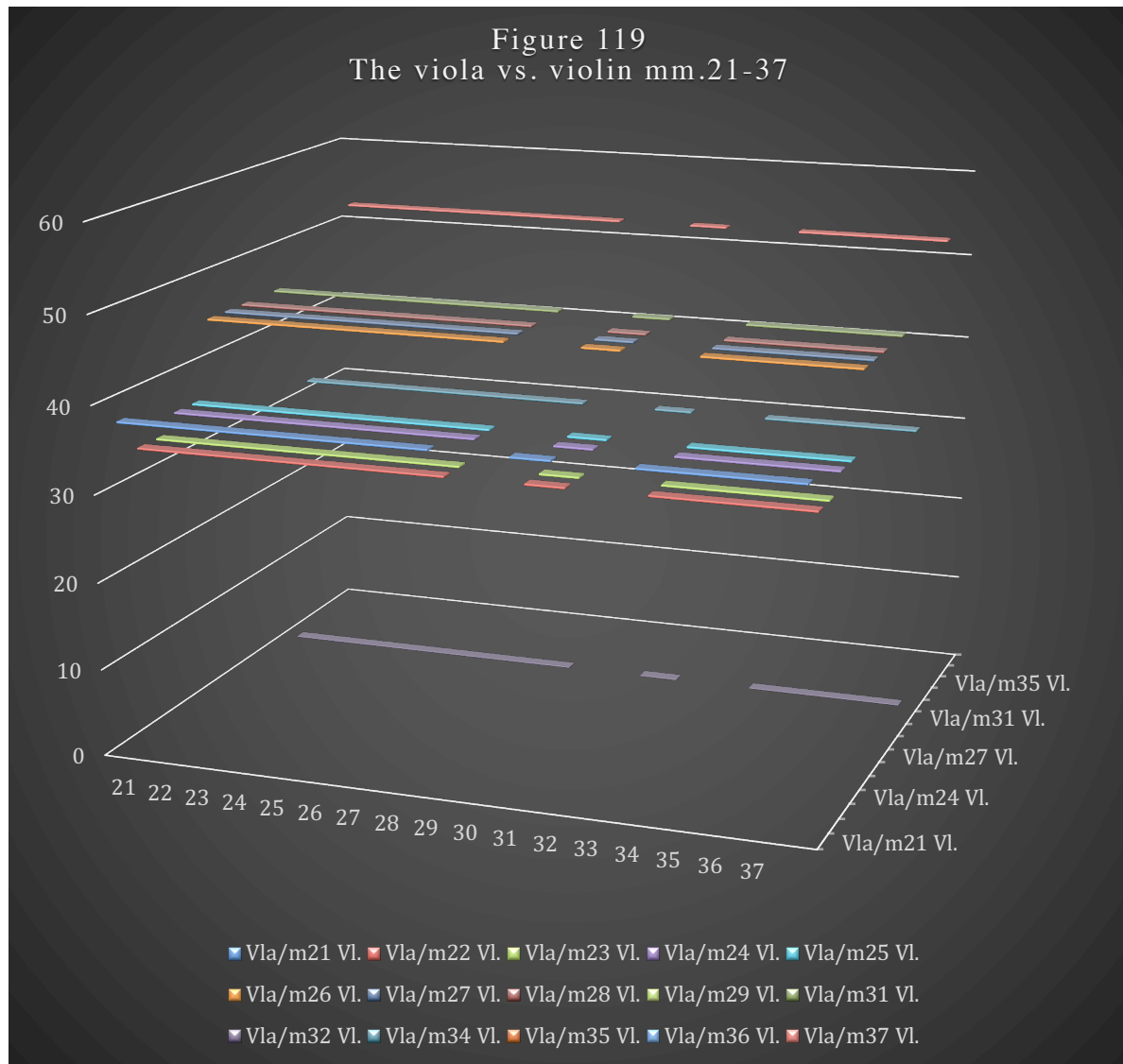


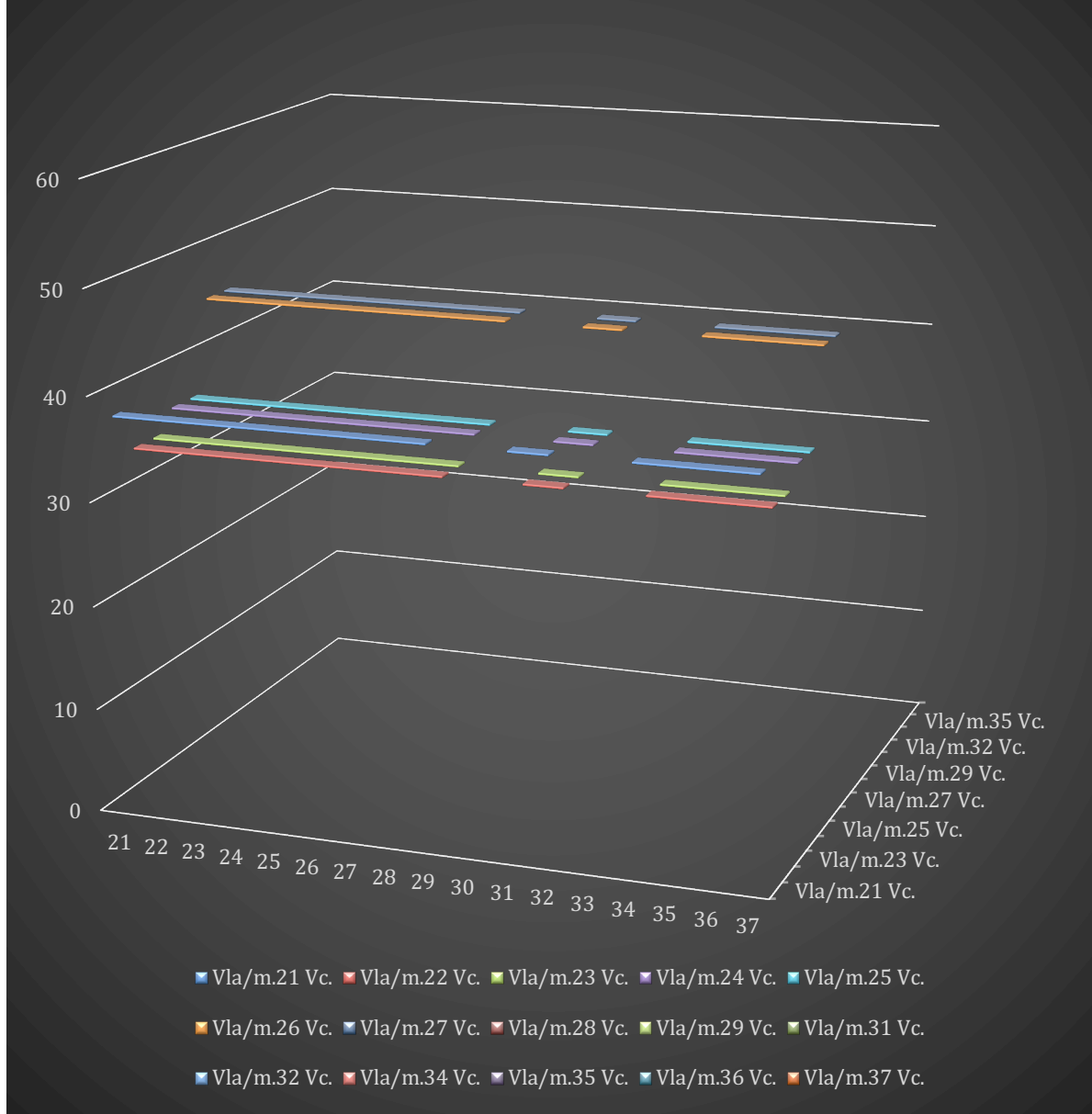
Figure 119 demonstrates the progression of timbre deriving from the comparison of the viola to the violin. The minimum and maximum values are zero and fifty-two. This Figure also exhibits an extreme parallel motion, between zero and all other values, which is not presented between viola and other instruments up to this point. Notice the lack of shape, arc, or any clear form,

which is further evidence of contrast between Figure 119 and all other comparisons in the viola category.

The appearance of dramatic spikes in the timbral space relates to the appearance of sounds that stand out and do not blend with the timbre of other instruments. Notice the large timbral space of fifty-two, in Figure 119, between these two instruments from the same family. One might assume, since the violin and viola are from the same family, that they should occupy a smaller timbral space. However, this is not always correct. Although there is a large timbral space between these two instruments, no timbre sticks out, and there is never a dramatic change in the timbral space. Therefore, the large timbral space values do not express only the timbral differences, but also the appearance of non-blending timbres in instruments from similar or different families.

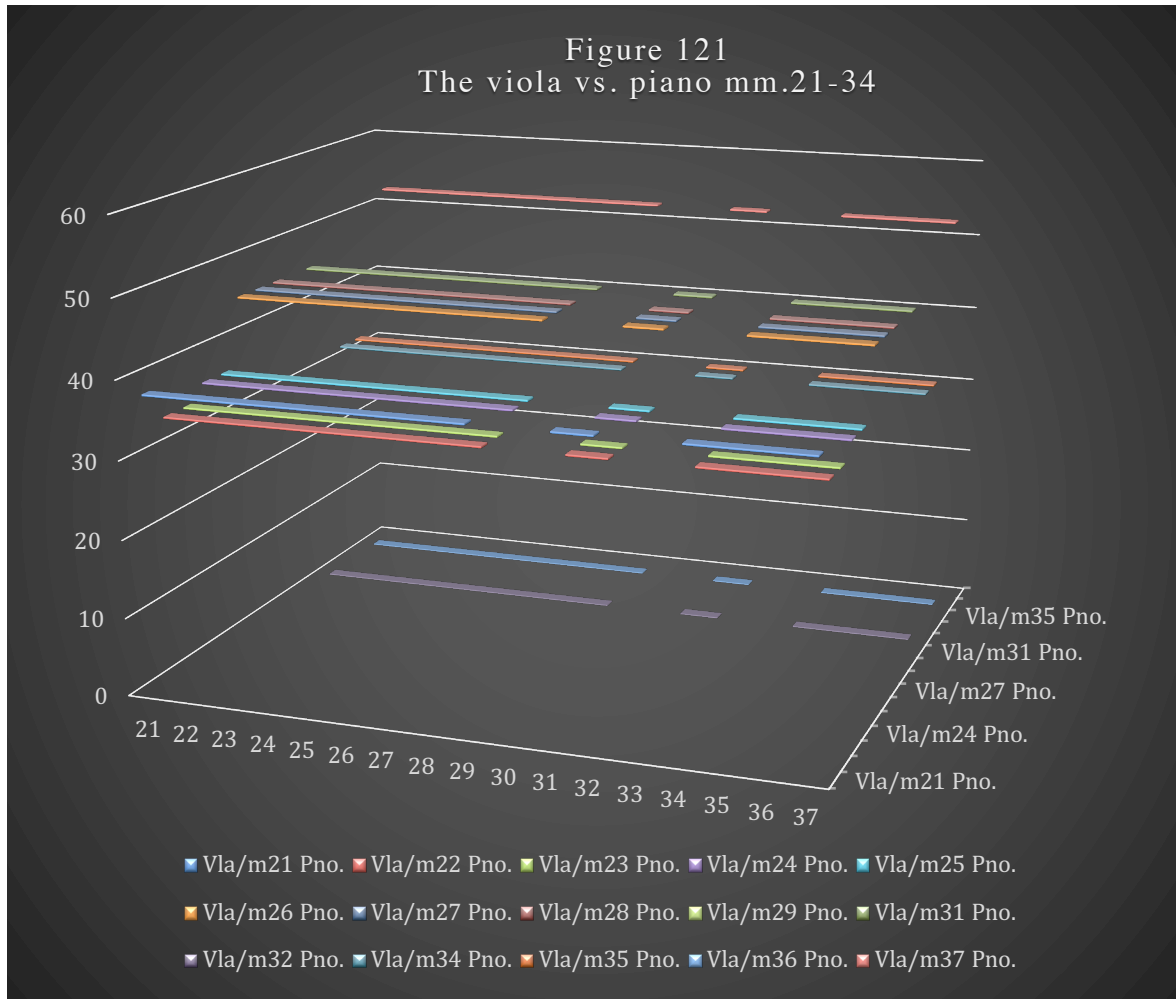
There is a direct relationship in comparisons between contrasting motion and timbral space when two lines deviate from each other. In other words, a dramatic appearance of timbral space, when compared to the rest of the passage, usually occurs when there is a contrasting motion between two lines, which derives from the comparison of any two instruments. As a result, timbral space usually contributes to the existence of contrast and vice versa.

Figure 120  
The viola vs. cello mm.21-34



The minimum and maximum values in Figure 120 are thirty-four and fifty-two. The maximum is identical to Figure 119. Figures 119 and 120 are incredibly similar. Note the lack of shape, arc, or a definite form in both Figures. Also, all the upper portion values in both instruments are between thirty and fifty-two. The disappearance of zero in Figure 120 is the main point of

contrast between Figures 119 and 120, which contribute to the timbral space and timbral variety among violin, viola, and cello between bars 21 – 37 of Crama.



The minimum value in Figure 121 is zero, which is the same as that in Figure 119. The maximum value is fifty-two, which matches Figures 119 and 120. Figures 119, 120, and 121 show many similarities in terms of minimum, maximum, and other values that contribute to the construction of timbre among the viola, cello, and the piano between bars 21 – 37 of Crama.

Notice the lack of arc, shape, or form in Figures 119, 120, and 121. The extreme parallelism across comparisons indicates the repetition of the identical timbral values to be the main

component in structuring Figures 119, 120, and 121. Hence, repetitive timbral values contribute to the continuity of sound in any section of a sound-based composition such as Crama.

## Chapter 14: Cello Compared to Other Instruments:

### The Single Appearance of Zero

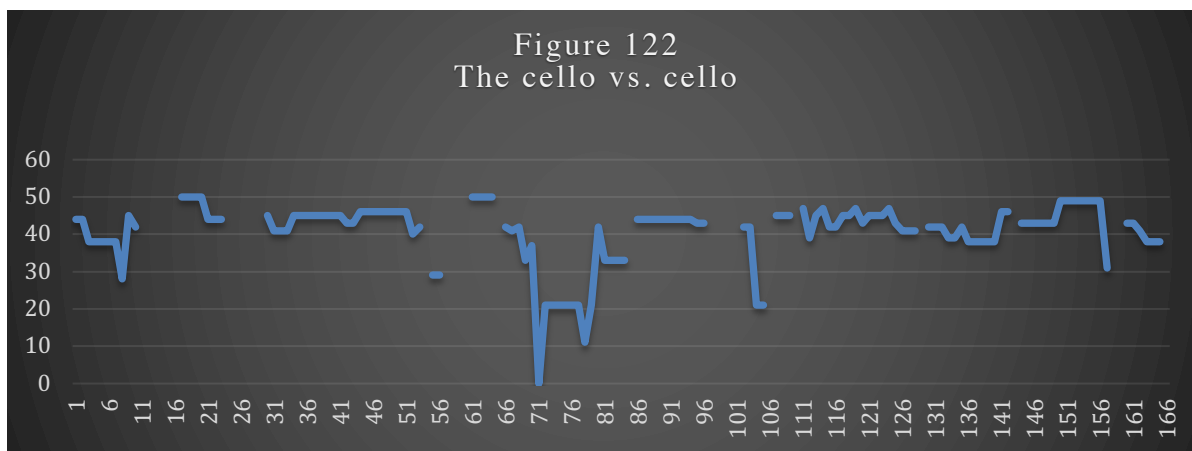


Figure 122 exhibits the timbral progression when the absolute timbral value of the cello is compared to measure one of itself. The minimum and maximum values are zero and fifty. Chart 1 exhibits the first and last appearance of zero when the progression of timbre was derived from the comparison between each instrument vs. measure one of themselves.

**Chart 1. The first and last appearance of zero**

Instrument	first and last appearance zero	appearances of zero
1. Flute vs. flute	mm.1 & 106	mm.1 & 106
2. Clarinet vs. clarinet	No zero	N/A
3. Violin vs. violin	mm.1 & 109	mm.1-3 & 18-19, 20, 108 - 110
4. Viola vs. viola	No zero	N/A
5. Cello vs. cello	mm.71	mm.71