Chapter 5: Transparent in the Flux of Time

Moving forward, I will make comparisons between different combinations of the elements contributing to the quality of sound, such as the number of partials, the thinness and thickness of sound, the range of partials, the irregularity of sound, and the amount of noise in the violin.

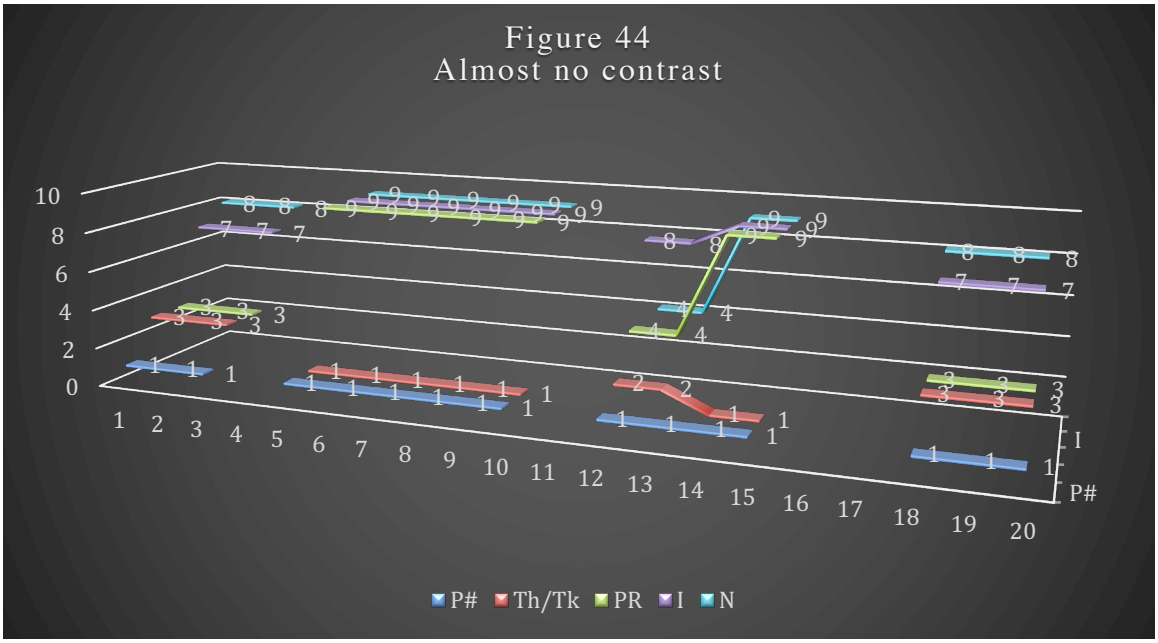
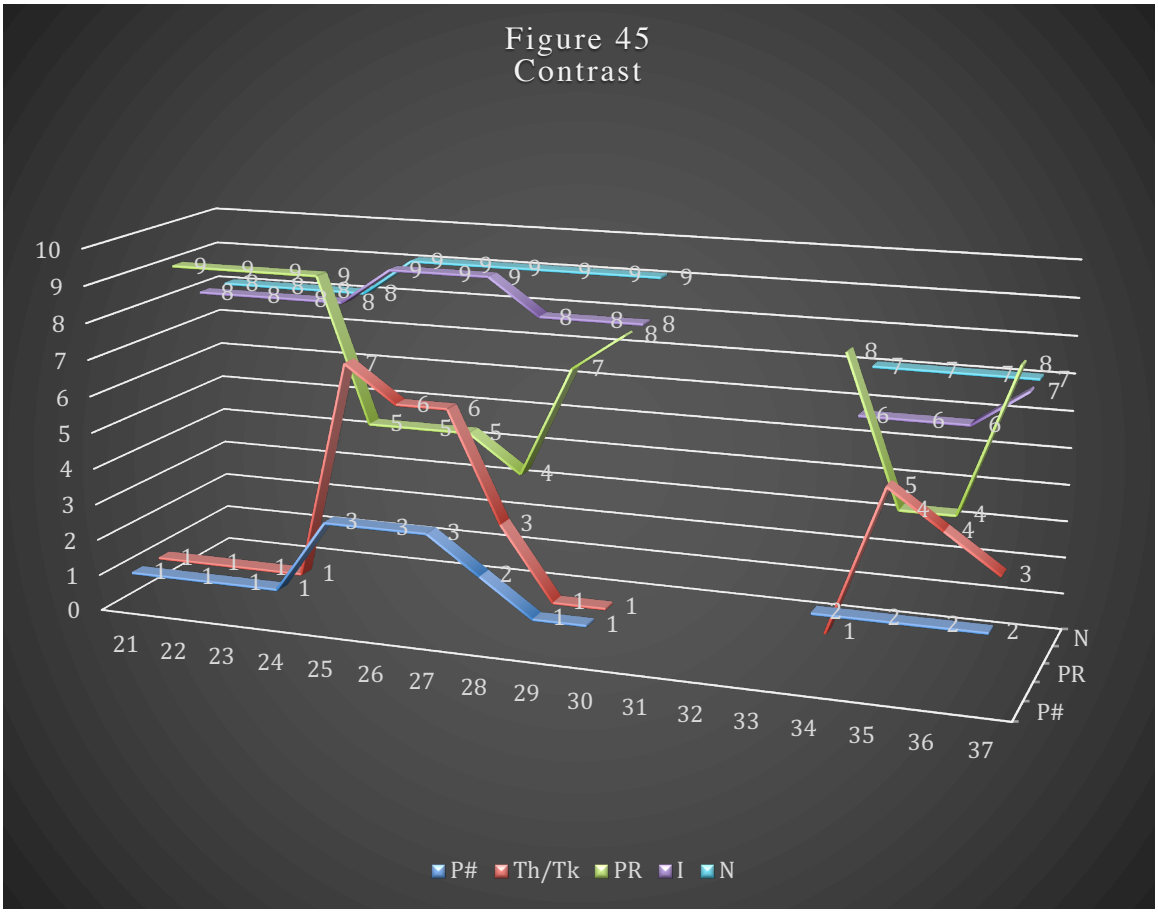


Figure 44 demonstrates a large amount of parallelism between different contributing elements to the quality of sound. The amount of noise increases, bar 13, as the sound becomes thinner in the same bar. The number of partials category drops to two or one, as compared to Figure 35, bars 1 – 20 of the clarinet, while the amount of noise suggests alignment with Figure 35. Similar to Figure 35, Figure 44 does not show any contrast, and thus, as an opening section, it does not have a definite form.

Repetition is the primary tool of this section. The opening section of a sound-based composition can be formed by repeating the same timbres without leading to any contrast. Hence, repetition

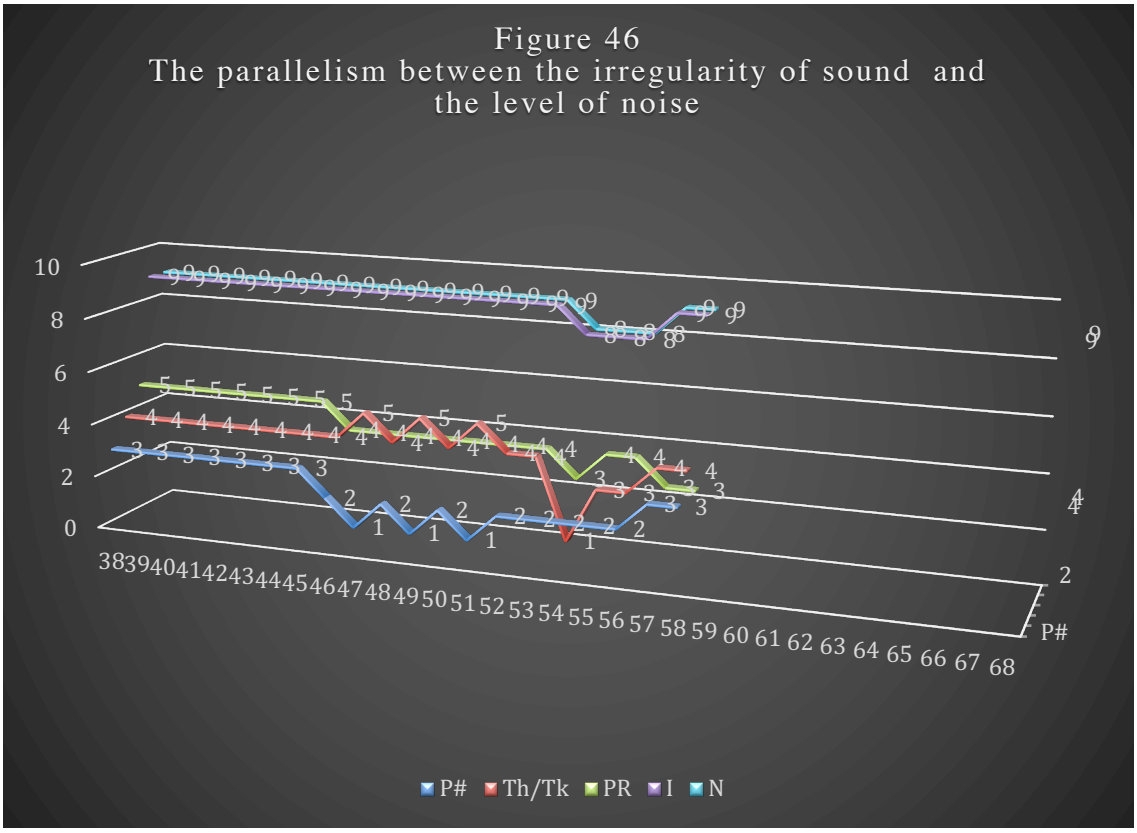
with no sense of contrast, are the ingredients of the introduction section of a sound-based composition.



The sound becomes dramatically thicker in bars 24 – 25 while the amount of noise, does not change significantly. The dramatic increase is due to the change of technique from left-hand gliss, a thinner sound, to the "slow-bow sound,"[29] beat 4, in the violin. The slow-bow sound is a thick sound. This means there is a direct relationship between the level of noise and the thickness of sound in bar 24. As the amount of noise increase, sound is thicker. The level of contrast

[29] "SLOW BOW SOUND (Slash notehead): The left-hand fingers should touch the strings but should not hold them down firmly (like natural harmonic). It is necessary to bow at slower speed than normal at sul tasto area with light bow pressure. The sound produced is dark, muffled with noisy qualities without very clear pitch intonation. ATTENTION: the written note does not always correspond to the one that is sounded. In this case the performer should follow the written note regardless of the sounding result." Page 3 of the preface.

contributes to the complexity of timbre, and the interactive relationship between different elements contributes to the overall construction of sound in bar 24.



Notice the parallelism between the irregularity of sound category and the amount of noise in Figure 46. Notice also the contrast motion in bars 45 – 54, between the number of partials, and the thinness or thickness of sound. Also significant is the return of parallelism between all of the above elements in bars 55 – 59.

Parallelism and contrast can divide Figure 46 into three sections: 1) bars 38 – 45, showing parallelism between all the contributing elements of sound, 2) bars 46 – 54, showing the contrast between the number of partials and the thickness of sound, and 3) bars 55 – 59, showing the return of parallelism between all the elements. In comparison with Figure 44, Figure 46 demonstrates a much more clear shape in terms of the ratio between contrast and parallelism and

their correspondence to the overall shape of Crama. One can observe the evolution in form as Crama moves forward in the flux of time.

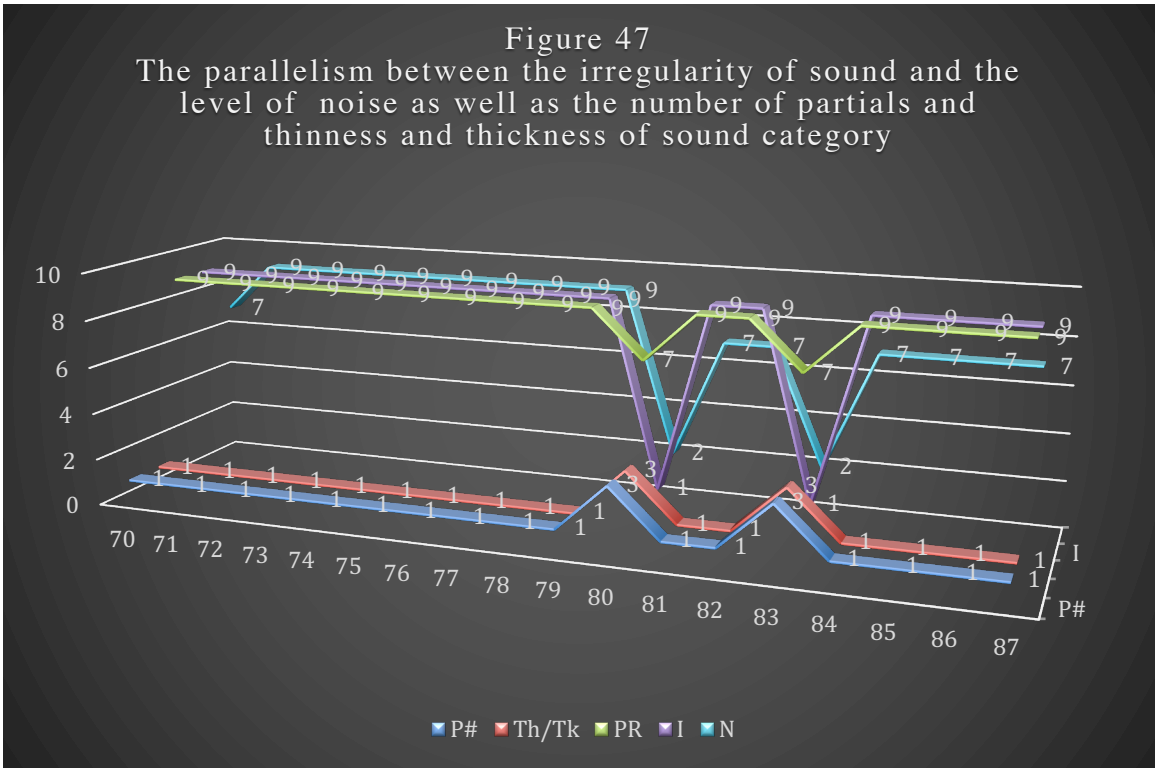
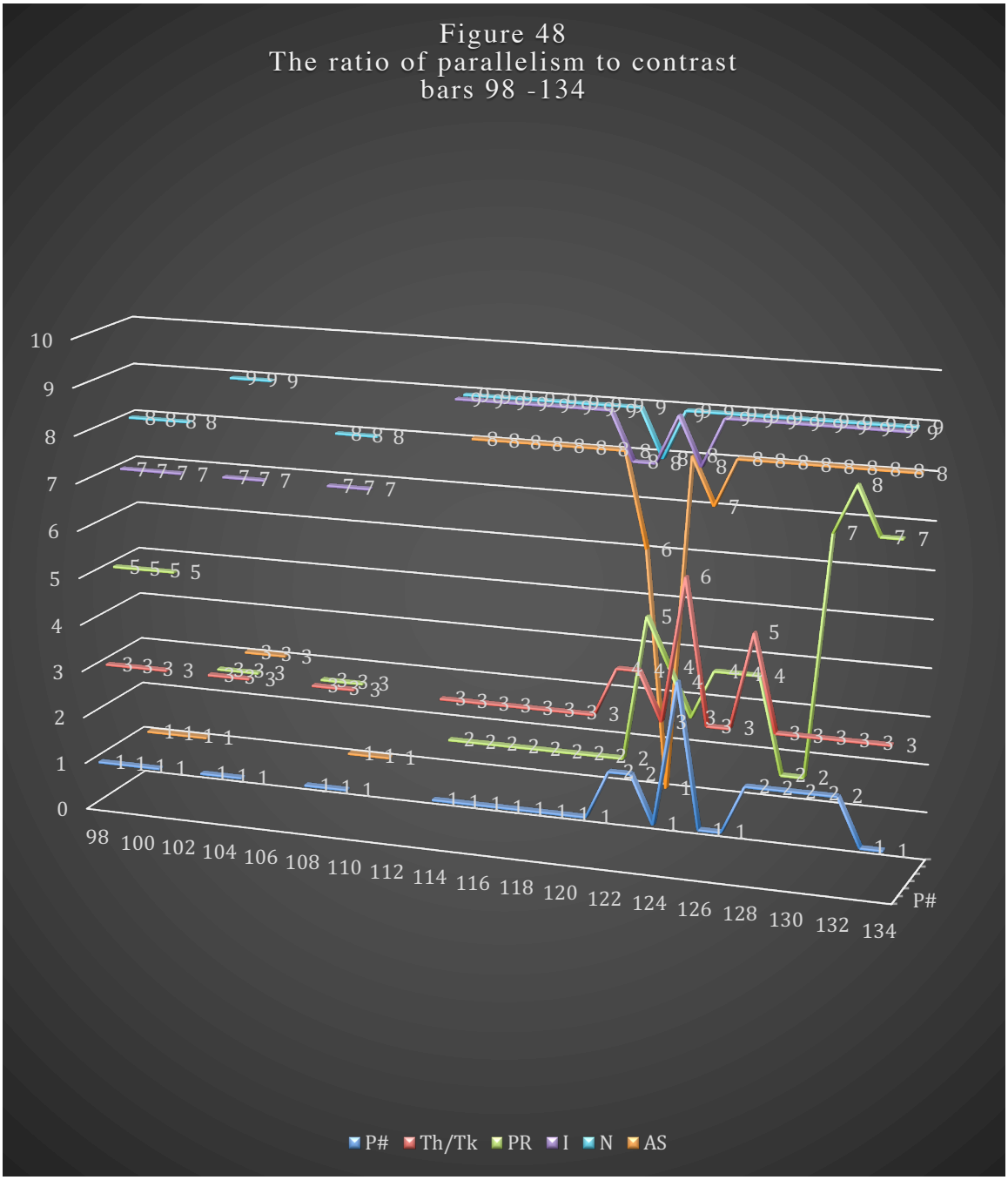


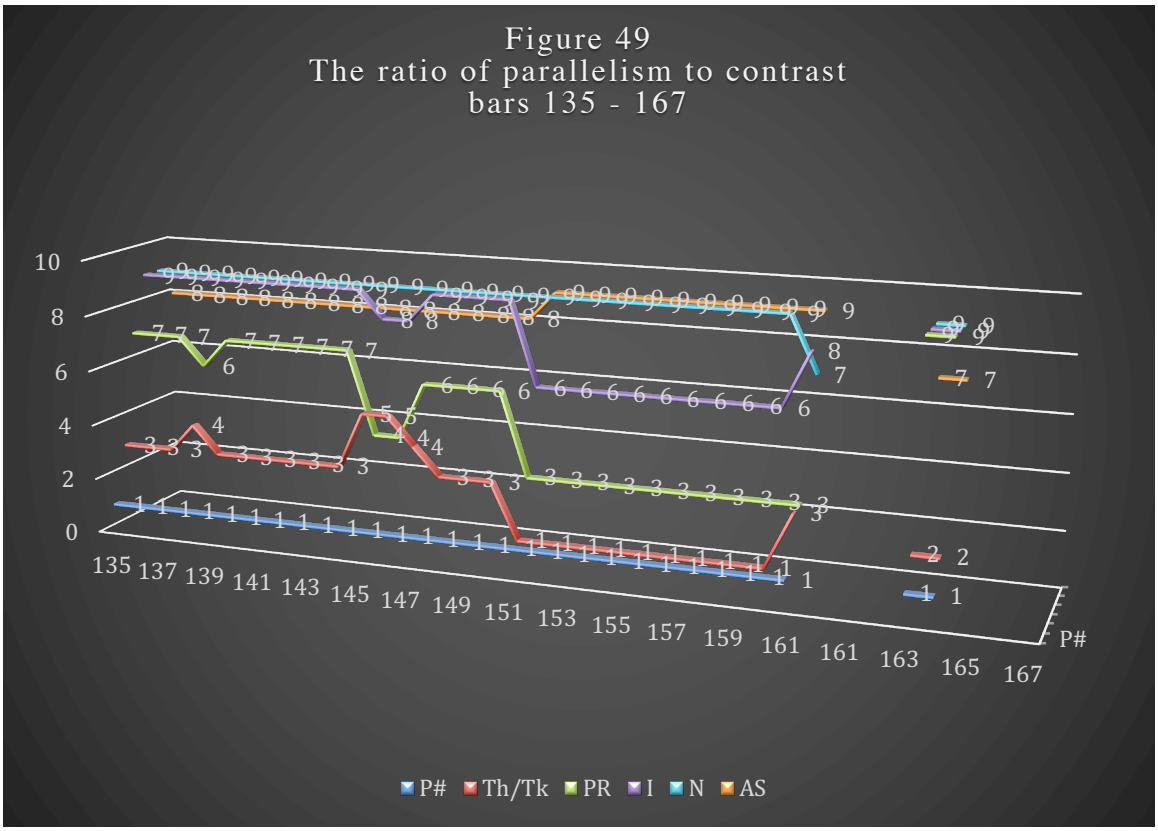
Figure 47 demonstrates two essential moments of parallelism, which do not exist in any other Figures: 1) There is parallelism between the number of partials, and the thinness and thickness of sound from bars 71 – 87, almost the entire section. 2) The parallelism between the irregularity of sound category and the amount of noise, between bars 70 – 81, also for almost the entire section.

Figure 47 reveals another moment that Figures 44, 45, and 46 do not display. Notice the drop in the irregularity of sound and noise, as the number of partials and density of partial spike in bars 79 – 81 and 82 – 84. The appearance of the open strings, as an ordinario, in bars 80, 81, and 83, is the main reason for this unusual change. The appearance of the ordinario in the violin is a unique moment, and it does not appear anywhere else in Crama. In a sound-based composition,

therefore, pitch can be employed as a secondary element when timbre is the primary element of form.

Similar to Figure 46, the overall shapes of line in this section can be divided into three different sections: 1) bars 70 – 80; 2) bars 81 – 85, its drop and spike contrasting with bars 70 – 80; and 3) bars 85 – 87, a variation of bars 70 – 80.





There are sixty-eight bars in Figures 48 and 49. Bars 98 – 122 exhibit stagnant parallelism, whereas bars 123 – 164 demonstrate a combination of stagnant and imitative parallelism. It seems bars 122 – 126 suggests a contrast between all the six contributing elements of sound. As a result, there is a large ratio of parallelism and imitation to contrast in Figure 48/49. A similar ratio appears between Figures 48 and 44 – 47. The unbalanced ratio between parallelism, imitation, and contrast, contributes to the construction of timbre in Crama.

The number of partials is always at its lowest when affecting the irregularity of sound and noise at their highest. The relationship between the number of partials and inharmonicity proves the importance of noise, as the result of the interaction between different contributing elements of sound in Crama.

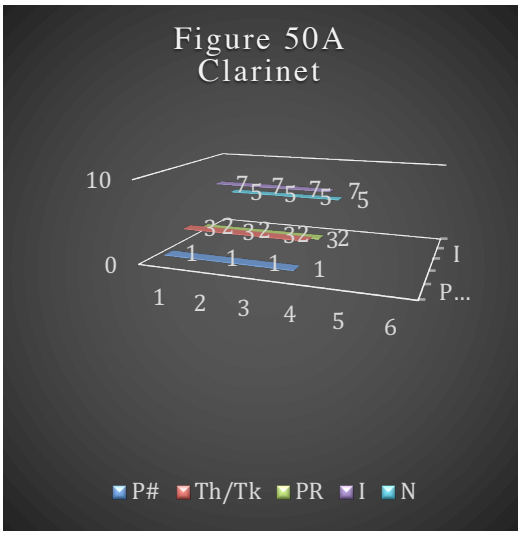


Figure 50A
Clarinet
10
0
1 2 3 4 5 6
I
P...
P# Th/Tk PR I N

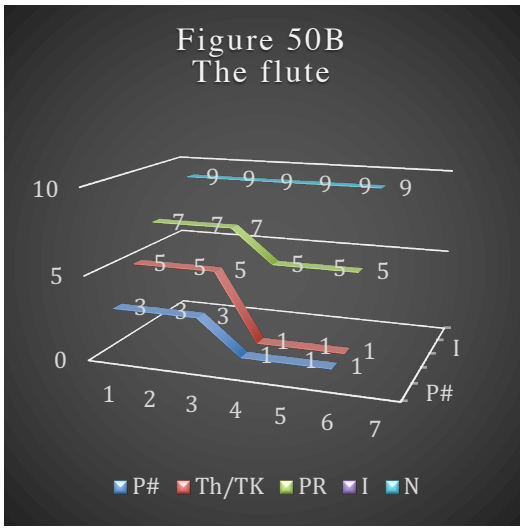


Figure 50B
The flute
10
5
0
1 2 3 4 5 6 7
I
P#
P# Th/TK PR I N

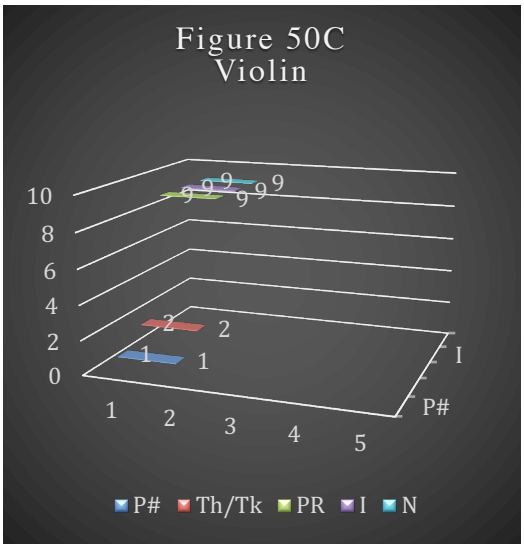


Figure 50C
Violin
10
8
6
4
2
0
1 2 3 4 5
I
P#
P# Th/Tk PR I N

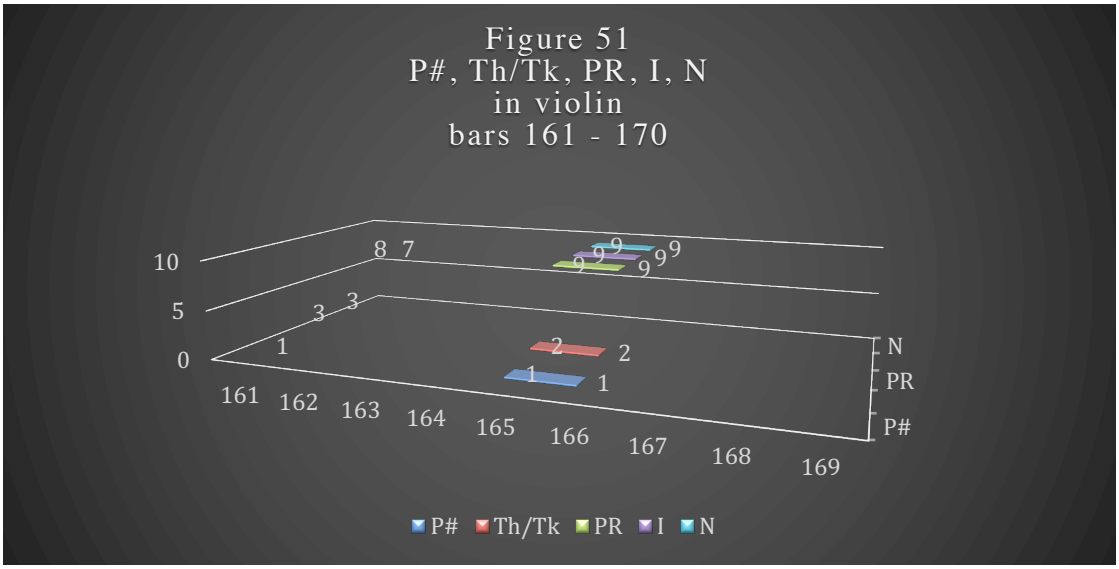


Figure 51
P#, Th/Tk, PR, I, N
in violin
bars 161 - 170
10
5
0
161 162 163 164 165 166 167 168 169
N
PR
P#
P# Th/Tk PR I N

The irregularity of sound and noise are parallel and equal in Figure 50C. There are similarities and differences between all the elements of sound in the flute, clarinet, and violin. All the elements of sound are stagnant in the violin. The interactive relationships between different elements of sound in each instrument, in addition to their interactions with other instruments, contribute to the overall complexity of sound in the ending section of Crama. The similarities between values of 1, 2, and 9, in the number of partials, thinness and thickness of sound, and the amount of noise in the introduction section in the violin, and the ending section proves the importance of timbre and its contribution to form in Crama.

Figure 52
Appearance of P#, Th/Tk, PR, N, in the Flute
in Crama

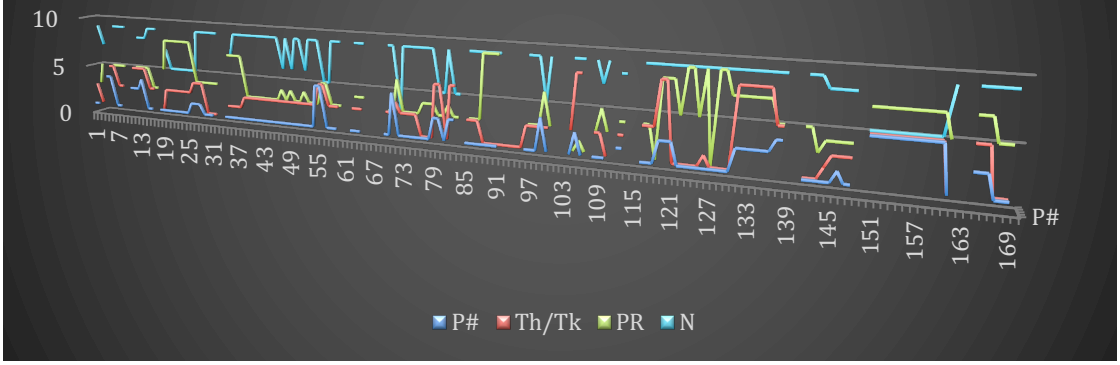


Figure 53
Appearance of P#, Th/Tk, PR, N, in the Clarinet
in Crama

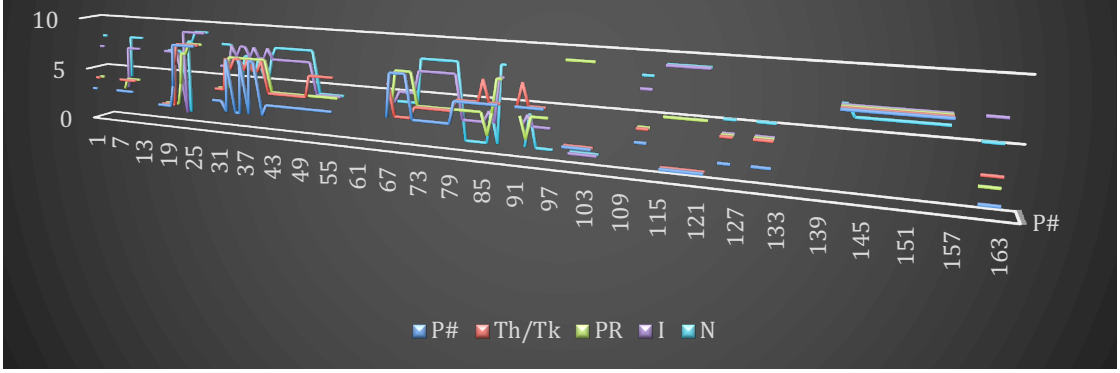


Figure 54
Appearance of P#, Th/Tk, PR, N, in the Violin
in Crama