

The Critical Edition Process of the first Brazilian Concerto for Percussion and Orchestra

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Abstract

This article discusses the procedures adopted by the author on the first critical edition of *Variations on Two Rows for Percussion and Strings* written by Eleazar de Carvalho in 1968, which is considered the first Brazilian concerto for percussion. Conductor, composer and pedagogue, Carvalho (1912-1996) is considered one of the most important Brazilian conductors. A Koussevitzky protégé (like Leonard Bernstein), Carvalho was a professor of conducting at the Tanglewood Festival from 1947 to 1962, as well a professor at The Juilliard School and Yale University. Among the many conductors who studied under Carvalho are Seiji Ozawa, Claudio Abbado and Zubin Mehta. Eleazar did not achieve the same success as composer along his career, and after a 20 years hiatus without composing, he writes a concerto for percussion utilizing graphic and proportional notation, similar to that employed by Stockhausen in *Zyklus Nr.9*. The composer utilized traditional notation for the string orchestra and employed dodecaphonic technique. The analysis in this work employed as main tools the set class theory. In addition, the article discusses the edition process of the graphic notation employed, and the insertion of performance notes in the critical edition based on an interpretative study.

Keywords: critical edition, Eleazar de Carvalho, concerto for percussion and orchestra, Brazilian music

1. Introduction

The genre of the percussion concerto is a recent development. The first work in this genre is Darius Milhaud's *Concerto pour batterie et petit orchestre*, written in Paris in 1929 as his Opus 109 and dedicated to Paul Collaer, a close friend and biographer of Milhaud. (LESNIK, 1997).

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The concerto was premiered by the Pro Arte Orchestre, with Theo Coutilier as soloist and the composer as conductor in 1930 at the Palais des Beaux-Arts in Brussels. (DODGE, 1979)

Lasting approximately seven minutes, Milhaud's percussion concerto employs a multiple percussion set similar to that used in the *La Création du Monde*. Both sets are inspired by the American jazz drum set, and Milhaud's concerto includes a pedal bass drum. The work calls for multiple percussion instruments to be played by a single percussionist. Although it was a novelty, this multiple percussion set was already used by Stravinsky's *L'Histoire du Soldat* in 1918, an important work in the development of percussion music.

About a decade after Milhaud's concerto, Paul Creston's 1940 *Concertino for Marimba and Orchestra* appeared, another work featuring the percussionist in the role of soloist. Orchestrette Classique premiered the concerto on April 29, 1940, at New York's Carnegie Chamber Music Hall. Frederique Petrides conducted, and Ruth Stuber Jeanne was the soloist. (SMITH, 1996) It was Creston's only work for percussion, written in a traditional three-movement concerto format. The second movement calls for a four-mallet technique, which contemporary critics referred to as a kind of novelty. The *New York Times* critics declared, "A concertino for marimba and orchestra—at first blush, that might read like a manifestation of the silly season. But don't laugh; it wasn't."²

Creston's concerto was vital in promoting the marimba as a serious concert instrument. Although the concerto did not receive many performances in the two decades following its conception, after 1960 it became one of the most performed concertos for marimba, surpassed only by *Concerto para Marimba e Orquestra* by the Brazilian composer Ney Rosauo in 1986. (MOORE, 2006)

In 1947, Milhaud, who was living in the United States at the time, wrote his *Concerto for Marimba and Vibraphone*, Opus 278. American percussionist Jack Connor had commissioned the work, and he premiered it as soloist with the St. Louis

² Howard Taubman, "Concert offered by Orchestrette," *New York Times*, April 30, 1940.

Symphony Orchestra, conducted by Vladimir Golschmann, on February 12, 1949. Milhaud believed that the marimba would not be well received as a soloist instrument.

(FINK, 1978) Thus, the commissioning process took a long time; Connor had to make great efforts to convince the composer to write the piece. The composer explored new instrumental sonorities; various passages call for the performer to play with hands (without mallets) or with the shaft of the mallet.

If the beginning of the twentieth century marked the “rediscovery” of percussion, the 1960s witnessed its affirmation or consecration. After a long “Cagean” influence on percussion music, the 1960s was radically plural and permeated by serialism, indeterminacy, electroacoustical music, minimalism, neo-tonality, ethnic music, quotation music, and so on.

The work *27'10.554"* (1956) by John Cage is considered the first work for multiple percussion ever written. Stockhausen's *Zyklus Nr. 9* was commissioned in 1959 as a test piece for the Kranichstein Music Prize for percussion players in response to the near non-existence of major percussion works. (WILLIAMS, 2001) Other well-known composers wrote important works for percussion at that period. These included Luciano Berio's *Circles* (1960), Elliott Carter's *Eight Pieces for Four Timpani* (1950-66), Steve Reich's *Marimba Phase* (1967; originally for piano), and Iannis Xenakis's *Persephassa* (1969). Specifically for multiple percussion we can highlight Morton Feldman's *The King of Denmark* (1964), Helmut Lachenmann's *Intérieur I* (1965), Charles Wuorinen's *Janissary Music* (1966), among the list of first pieces written for multiple percussion.³

2. The Work

In 1969, two decades after the premiere of Milhaud's second concerto by the St. Louis Symphony Orchestra, this same orchestra premiered the first Brazilian concerto for percussion, Carvalho's *Variations on Two Rows for Percussion and Strings*. Begun in 1968, Carvalho's concerto was originated in an unusual manner. Acting as artistic director of the St. Louis Symphony Orchestra (1963-68), the composer asked the orchestra's percussionist, Richard O'Donnell, to write a cadenza for percussion. Carvalho then composed a concerto for percussion upon this cadenza. This process

³ It is important to mention the work *Musica para La Torre*, by Mauricio Kagel, possibly written in 1953-54, which could be the first piece written for multiple percussion, but the manuscript was lost.

of composing a concerto around a cadenza can be viewed as not only unusual, but unique in the history of the cadenza's role within a concerto.

The conductor and percussionist maintained a close professional relationship, having daily contact at the orchestra's rehearsals. In addition, O'Donnell joined with the pianist Jocy de Oliveira, Carvalho's first wife, to form a duo that had a regular concert agenda in the United States. In 1966, they expanded the agenda to include a Brazilian tour, performing in festivals of avant-garde music. O'Donnell recalls the beginning of the compositional process of the concerto:

He [Carvalho] asked me to write the cadenza and he told his idea writing this piece for two rows of strings and percussion. It was after we had gone to Brazil, in the summer of 1966 for an avant-garde music festival, and we had a lot of conversations about what is going on, what is music. I remember I was often mentioning Marshall McLuhan, *The Medium is The Massage*,⁴ and we talked a lot about the ideas of music that were being generated by Stockhausen, Xenakis and Berio. He knew these people, especially Xenakis and Berio; that is why Xenakis was there in Brazil for that festival.⁵

O'Donnell wrote a virtuosic cadenza for multiple percussion employing graphic and proportional notation like that found in Stockhausen's *Zyklus Nr. 9* (1959). He utilized an enormous set of percussion instruments; many were exotic for that time, and many were built by O'Donnell himself.

About his main influences in writing this cadenza O'Donnell reported the following:

Historically, a lot of the experimental music that I played was influenced by the composers using proportional notation. Perhaps the most notable is Stockhausen's *Zyklus Nr. 9*. I also played some pieces of Roman Haubenstock-Ramati, and I found that a lot of things that I was playing and writing felt much more comfortable in the role of non-meter, or non-quantized metric system... In this concerto, I have the timing marks or the second marks in there.

⁴ The title of McLuhan's *The Medium is the Massage* (published in 1967 by Random House, New York) was an error; the typesetter switched "message" to "massage." But when the author saw the error, he was amazed; he declared that the title now had possibly at least four new readings: "message" and "mess age," "massage" and "mass age." The general idea of McLuhan's book is that each medium, independent of the content it mediates, has its own intrinsic effects, which are its unique message.

⁵ Richard O'Donnell, interview with the author, St. Louis, MO, 5 June 2007.

And I think that is a direct relationship to *Zyklus*, where you have a timeline, you have to keep subconsciously an even tempo, and everything I should do above that is non-meter, but is that time that you keep, it is a sort of organization of this structure. I am doing the same thing with that.⁶

Carvalho was notable for promoting the works of the Second Viennese School, and this influence can be perceived in his use of the two twelve-tone rows that serve as the basis of his concerto. After he received the cadenza from O'Donnell, Carvalho wrote the concerto for percussion that employs a large string ensemble, and utilized three distinct compositional procedures: (1) traditional notation for all strings parts and in some sections of the percussion part; (2) graphic and proportional notation similar to the cadenza writing in some sections of the percussion part; and (3) cutting and pasting parts of the cadenza and pasted into the percussion part of the score. Carvalho also added new percussion instruments to O'Donnell's set. The additional instruments were marimba, vibraphone, glockenspiel, xylophone, and two suspended cymbals with different weights.

The concerto, which is about nineteen minutes in length, was performed only three times until now: at the premiere in February 27, 1969 by O'Donnell as soloist with the St. Louis Symphony Orchestra at Powell Hall, under the direction of the composer; and in Brazil on October 2, 1978 by American percussionist John Boudler as soloist with the Orquestra Sinfônica do Estado de São Paulo at Teatro Cultura Artística, under the composer's direction. The concert in Brazil was broadcast by Rádio e TV Cultura; and recently by the author as soloist with Orquestra Sinfônica da Unicamp, under direction of Spanish conductor Otavio Más-Arocas, at Teatro Castro Mendes / Campinas, Brazil, in June 19, 2013.

Probably the only concerto for percussion that employed graphic and proportional notation in the 1960s, Carvalho's concerto is a portrait that reveals the musical scene of that decade. The graphic and proportional notation, the use of exotic instruments, the amplified tam-tam (which was previously used in Stockhausen's *Mikrofonie I*, 1964), the use of twelve-tone technique, the influence of popular music (Bossa Nova)—all of these aspects contributed to the final output of the work, which

⁶ *Idem*.

is itself a landmark in Brazilian music and deserved an accurate edition and wider recognition.

In *Variation on Two Rows for Percussion and Strings*, Carvalho employed two distinct compositional materials. The first is twelve-tone technique employing two series. The second is based on parts extracted from the percussion cadenza written by O'Donnell. As the analysis demonstrates, the pitch material extracted from the cadenza is not related to the twelve-tone organization of the piece.

This procedure was clearly emphasized by the composer in the concert program of the premiere, in which he affirmed that the percussion “adds a certain flexibility” in a “totally organized structure based on 12-tone rows.” Carvalho also stated that the “process of variation is achieved by permutation of pitches, inversions, retrograde, etc., sometimes involving the entire row, but often involving only part of the set such as 1st to 6th, 7th to 12th, 6th to 1st, 12th to 7th, etc.”⁷

As this analysis demonstrates, Carvalho did not manipulate the twelve-note technique in a restrictive manner in this piece; sometimes he freely manipulated the rows. It is important to point out that, of the two rows, greater use is made of series B. In Figures 1 and Figure 2, the two series are represented as they are originally introduced horizontally; series A in mm. 4-5, and series B in mm. 8-10.



Fig. 1. Series A, mm. 4-5



Fig. 2. Series B, mm. 8-10

⁷ Arthur Custer, “Notes on the Program,” in *St. Louis Symphony Orchestra’s 1968-69 Season* (St. Louis: St. Louis Symphony Orchestra, 1968: 425-27).

In series A, we note the predominance of interval classes 2 and 4, the absence of interval class 1, and the appearance of two tritones, as shown in Figure 3.

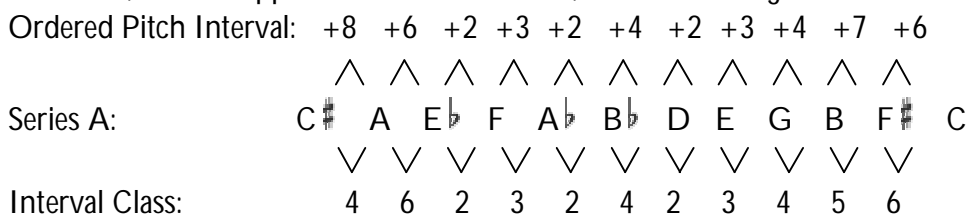


Fig. 3. Ordered Pitch Intervals and Interval Class of Series A

Series B is characterized by a great incidence of interval class 1 and the presence of a tritone between H₁ and H₂, as shown in Figure 4.

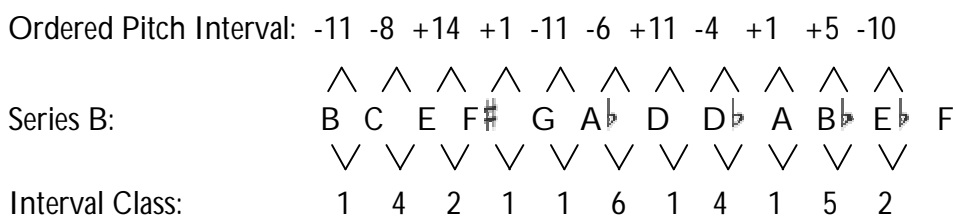


Fig. 4. Ordered Pitch Intervals and Interval Class of Series B

Another important compositional factor is the use of three- and four-note subsets of these two series, which are largely responsible for the general sonority of the piece. Figure 5 shows the discrete tetrachords of series A, which instantiate 4-24 (0248), 4-25 (0268), and 4-8 (0156), and also three important three-note subsets of series A, namely set class 3-8 (026), 3-7 (025), and 3-5 (016). The subset [C[#], A, E^b] is related by T₆I to the subset [A, E^b, F], by T₁₁I to the subset [A^b, B^b, D], and by T₁ to the subset [B^b, D, E]. Subset [E^b, F, A^b] is related by T₁I to the subset [F, A^b, B^b], and by T₁₁ to the subset [D, E, G].

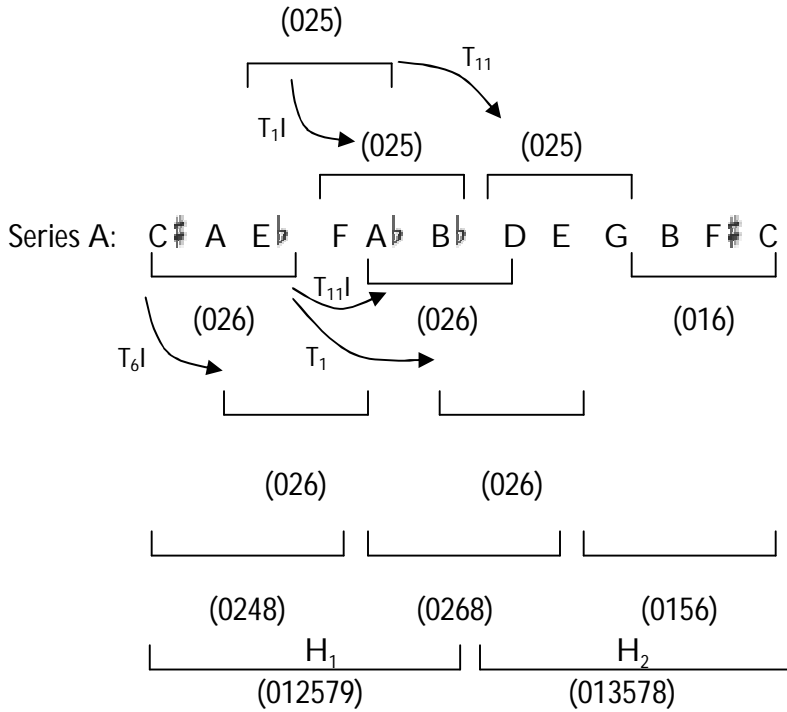


Fig. 5. Subsets of series A

As Figure 6 shows, series B does not share many significant subsets with series A. The most important set class of the piece is the first tetrachord of series B, set class 4-16 (0157), which appears as the first and last tetrachord of the series. Other important subsets of this series are trichords 3-4 (015) and 3-5 (016), as well as tetrachord 4-2 (0124). These sets become important musical motives throughout the piece. The set [B, C, E] is related by T_{1I} to the set [D, D \flat , A]. Set [G, A \flat , D] is related by T_6 to the set [A \flat , D, D \flat], and by T_5I to the set [A, B \flat , E \flat].

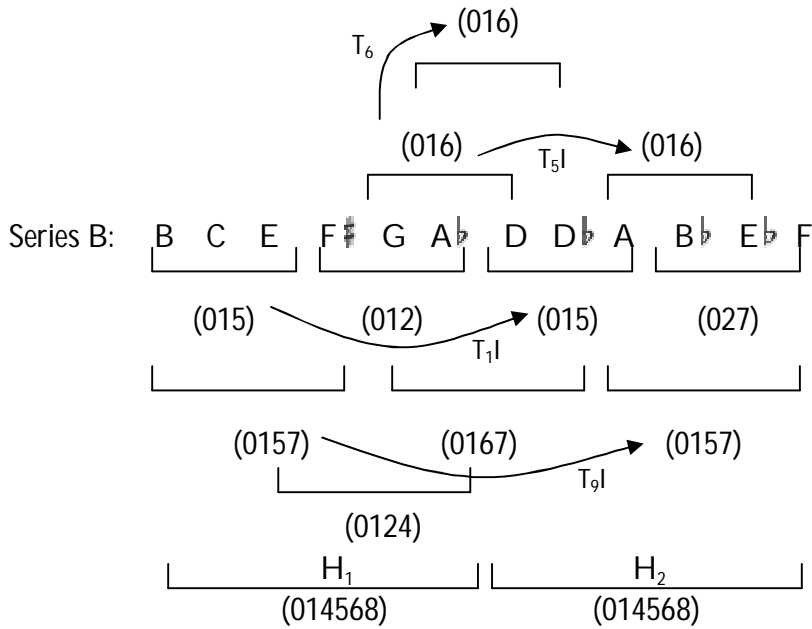


Fig. 6. Subsets of series B

Although the two series employed by Carvalho have distinct intervallic characteristics—series A features triadic relationships and series B chromatic ones—they both pursue combinatorial relationships between their hexachords. As Figure 7 shows, the first hexachord (H_1) of series A shares five members of the second hexachord (H_2) of series B, a similarity that the composer exploits in the composition.

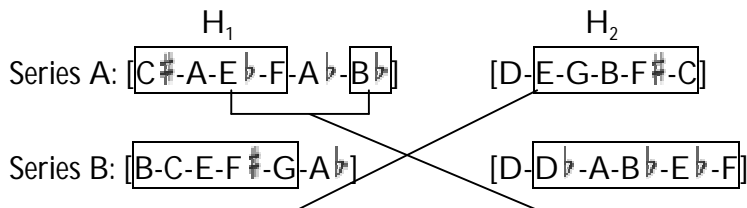


Fig. 7. Relationship between H_1 and H_2 of Series A and B

By the use of rotation, omission of members of the series, and the use of non-serial elements, the constituent hexachords (H_1 and H_2) of the two series are treated as

basic harmonic units throughout the piece, and in some cases the ordering within them has no significance.

Although the H_1 , set class 6-Z48 (012579), and H_2 , set class 6-Z26 (013578), of series A have a retrograde-inversional combinatoriality (at RI_4), and although H_1 , set class 6-16 (014568), and H_2 , set class 6-16 (014568), of series B have an inversive combinatoriality (at I_{11}), Carvalho did not utilize the combinatorial properties of these rows. All orderings of series A and B employed by Carvalho can be found in Figure 8.

| | | | | | | | | | | | | | | |
|-----------|----------|------------|-----------|-----------|------------|------------|-----------|------------|------------|------------|------------|------------|------------|----------|
| Series A: | P_1 | C \sharp | A | E \flat | F | A \flat | B \flat | D | E | G | B | F \sharp | C | R_1 |
| | P_6 | F \sharp | D | A \flat | B \flat | C \sharp | E \flat | G | A | C | E | B | F | R_6 |
| | P_0 | C | A \flat | D | E | G | A | C \sharp | E \flat | F \sharp | B \flat | F | B | |
| Series B: | | E \flat | B | F | G | B \flat | C | E | F \sharp | A | C \sharp | A \flat | D | R_3 |
| | | A \flat | E | B \flat | C | E \flat | F | A | B | D | F \sharp | C \sharp | G | R_8 |
| | P_{11} | B | C | E | F \sharp | G | A \flat | D | D \flat | A | B \flat | E \flat | F | R_{11} |
| | P_0 | C | D \flat | F | G | A \flat | A | E \flat | D | B \flat | B | E | F \sharp | |

Fig. 8. Orderings of Series A and B Employed by Carvalho

The second device employed in the piece is the manipulation of the cadenza written by O'Donnell. The cadenza, which served as the basis for the percussion part, makes use of pitched and unpitched material. As previously mentioned, the percussion part is written in graphic and proportional notation as well as in conventional notation at various times.

According to O'Donnell, the compositional process took into consideration two main aspects: (1) the variation of timbre, and (2) the distinction between undefined pitch and *glissando*.

3. Critical Edition

The practice of editing or emendation of percussion music has become more common recently. The practice extends from the timpani parts of the standard orchestral repertory to concerti for percussion and has been carried out primarily by percussionists.

The range of these studies has been limited to a number of articles and dissertations; few critical editions have been commercially published that deal with this repertoire.⁸ A good example is Milhaud's concerto for percussion. Although many discrepancies have been detected between the editions of Milhaud's concerto for percussion, there exists today no critical edition of the work.⁹

The critical edition made Carvalho's *Variations on Two Rows for Percussion and Strings* available in print for the first time. As in many other 12-tone pieces, Carvalho's manuscript contains some notes that are inconsistent with the serial context, as well as other discrepancies. As noted by Joseph N. Straus, "Contradictions of this kind—notes in the published score that are 'row-incorrect'—are a persistent feature of music by all serial composers." (STRAUS, 1999) Not only is the manuscript itself unclear, but the percussion parts in particular are riddled with uncertainties.

The questionable passages in Carvalho's concerto can be organized into these categories: (1) typographical errors and omissions, (2) uncertainties in the score regarding performance notes, and (3) notes that apparently violate the prevailing idiom of the composition including 'row-incorrect' notes.

In correcting "mistakes" in serial music, an editor has to take into account the possibility that the composer consciously chose to deviate from the row.

⁸ Editing and reviews of percussion music can be found in many articles and dissertations written since the 1970s. These studies cover different genres; for example, on timpani parts from Beethoven to Strauss (Eric Remsen, "Editing the Timpani Parts of the Orchestral Music of the 18th and 19th Centuries," *Percussive Notes* 21, No. 2 (January 1983: 50-59); Stravinsky's works (Morris Lang, "A Journey to the Source on *L'Histoire du Soldat*," *Percussionist* 12, No. 2 (Winter 1975: 50-54); marimba repertoire (William Moersch, "Beyond the Notes: Phrasing and Structure in *After Syrinx II*, *Merlin*, and *Reflections on the Nature of Water*," *Percussive Notes* 35, No. 5 (October 1997: 60-61); Yun-Kwong Chung, *Hans Werner Henze's Five Scenes from the Snow Country*, D.M.A. diss. New York: City University of New York, 1991) – later editions of Henze's work were based on Chung's analysis; and on percussion concerti (Igor Lesnik, "Darius Milhaud's Concerto for Percussion," *Percussive Notes* 35, No. 2 (April 1997: 64-67), to cite only a few.

⁹ Milhaud's concerto for percussion is published by Universal Edition, A. G. Vienna. Discrepancies can be detected among the following editions: complete concert material (UE 13867, 1967), pocket-score format (UE 13866, 1966), and the piano reduction (UE 6453, 1931, revised in 1958—in which the percussion part was possibly revised by the composer himself).

However, on this question I am guided by the composer's own words; Carvalho declared that his concerto for percussion is a "totally organized structure based on two 12-tone rows."¹⁰

The edition was based on Carvalho's manuscript of the score and O'Donnell's manuscript of the cadenza. The corrections of misprints in the score are based on the analysis, audio recording of the premiere, and an interview with the cadenza's author.

The only source of the *Variations on Two Rows for Percussion and Strings* is Carvalho's autograph manuscript, which is kept in the personal files of his widow, Sonia Muniz de Carvalho, in São Paulo, Brazil. The score is written on 33 pages of 26-staff manuscript paper in "portrait" format. The pre-printed names of standard instruments were crossed out, and the staff was adapted to strings and percussion. On the top left of the first page is a hand-written note; "First Performance Feb 21 – 1968, St. Louis Symphony Hall, Powell Symphony Hall, St. Louis, MO." The date indicated on the manuscript is wrong, as the first performance took place on February 27, 1969. The top right displays Eleazar de Carvalho's signature. The composer signed and dated the last page. The score did not include the percussion cadenza; there is only an indication of where it is to be played on page 25. Although the score does not have a clean-looking appearance, it is more than just a draft, as we can see by the clear, determined handwriting and the presence of few apparent corrections. The score is difficult to read because of percussion parts that were extracted from the cadenza and pasted or attached to the score with tape. See Figure 9.

O'Donnell's cadenza is a manuscript of three pages written on white paper in "landscape" format, which were numbered on the bottom center of the pages. The manuscript is not autographed or dated, nor did it include performance notes. O'Donnell was not responsible for either the performance notes or the percussion instrument list provided in the premiere's concert program. The manuscript of the cadenza has remained in Richard O'Donnell's personal files in St. Louis, Missouri. The score of the cadenza is very clean-looking, and the "bars" have an even and consistent distance between the vertical lines throughout the three pages. See Figure 10.

¹⁰ Arthur Custer, "Notes on the Program," in *St. Louis Symphony Orchestra's 1968-69 Season* (St. Louis: St. Louis Symphony Orchestra, 1968: 425).

O'Donnell owns an audio recording of the premiere. Even if the recording does contain mistakes by the performers, the recording was helpful in elucidating discrepancies in the score and in confirming the analysis. The author takes into account that Carvalho was famous for his perfect pitch, and the recording helps to confirm both dubious passages of the scores and the authentic errors by the composer.

The taped interview with O'Donnell is found in the author's personal files. Some of the uncertainties in the percussion part were cleared up by what O'Donnell revealed in this interview.

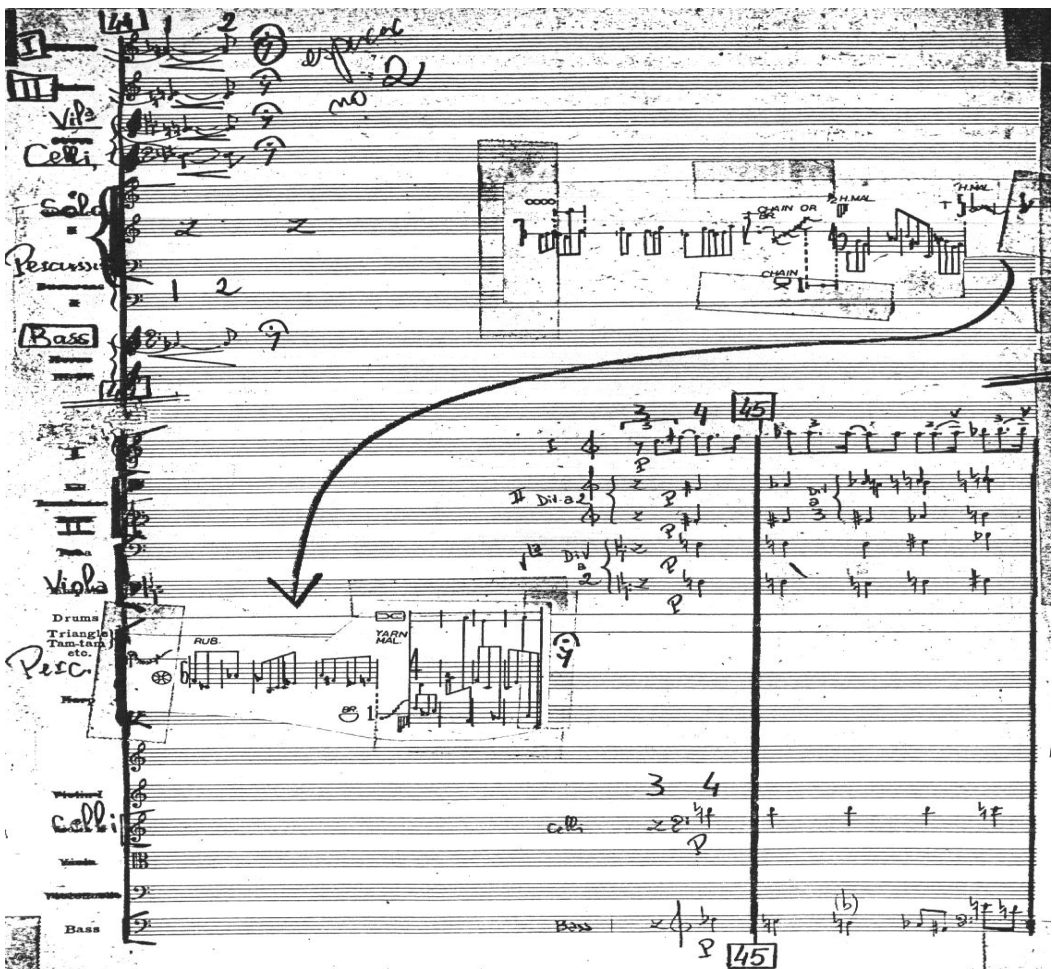


Fig. 9. Page 16 of Carvalho's Manuscript of the Score

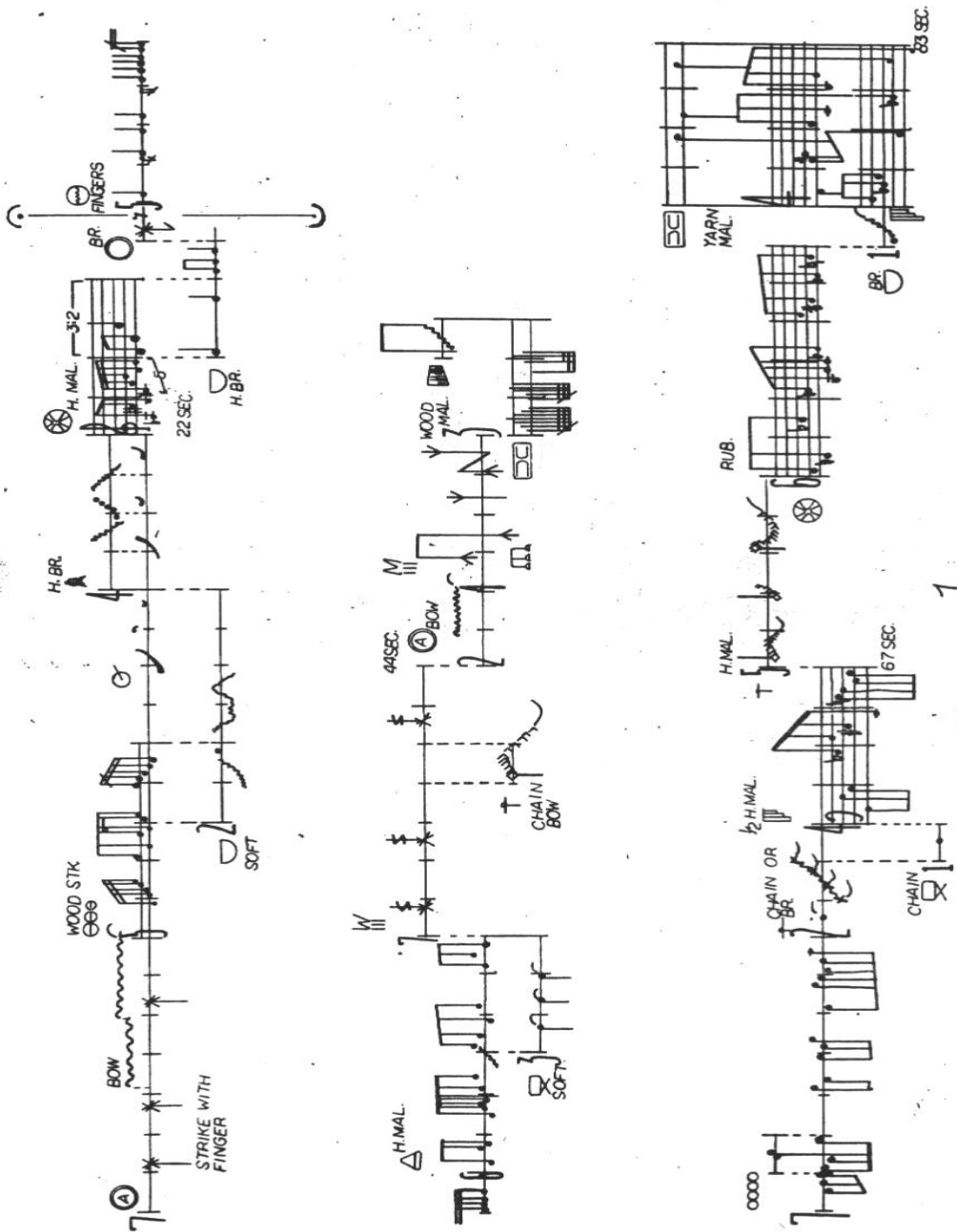


Fig. 10. Page 1 of O'Donnell's Manuscript of the Cadenza

The Editorial methods in this process were:

- (1) The numbering of measures in the manuscript is occasionally incorrect. The manuscript numbers m. 2 as m. 1; m. 42 is numbered as m. 40; m. 68 is numbered as m. 65; m. 110 is numbered as m. 106. The critical edition does not follow the inconsistent numbering of measures in the manuscript. All numbers of measures in this chapter refer to the numbering of the critical edition.
- (2) Rehearsal letters were added in this edition. Double-bar lines in the composer's hand appear in measures 49, 68, and 108 in the manuscript, the other double-bar lines were added in this edition.
- (3) In the original manuscript, symbols were utilized to identify different percussion instruments. In this edition, percussion instruments are identified by names instead of symbols. Although idiomatic in the 1950s and 1960s, these symbols could only serve to confuse modern performers (see Figure 10).
- (4) It was important that the graphic and proportional notation used in the percussion part should mirror the original manuscripts as accurately as possible. The percussion part entailed three different procedures by the composer. Where the composer wrote graphic notation by hand, his spacing is not consistent, and the distance between the vertical lines that delimitate the "bar" is uneven (see Figure 11).

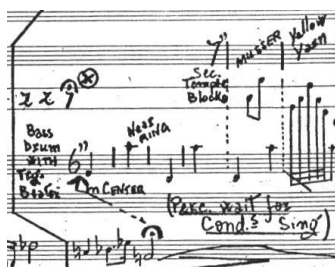


Fig. 11. Percussion Part m. 10

In passages in which the composer pasted parts of the cadenza into the score, the spacing is regular. This regularity persists in the cadenza as well as where the distance between the vertical lines is consistent (see Figures 10 and 11). In all cases, the process for editing the graphic notation was to scan each bar and utilize a gauge of five equidistant vertical lines to capture the precise location of the note inside the bar.

After the scanning process, notation software (Finale) was used to mirror the original manuscript as accurately as possible (see Figure 12).

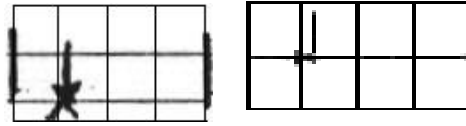


Fig. 12. On the Left is the Original Manuscript with the Gauge. On the Right is the Digitalization of the Bar

(5) Some percussion instruments were notated with the use of additional staves to obtain greater precision and legibility. The staff was altered for the following instruments: temple-blocks, cowbells, slit drums, tuillis and timp-toms (see Figure 13). Single instruments such as bass drum are written in one-line staff in this edition.

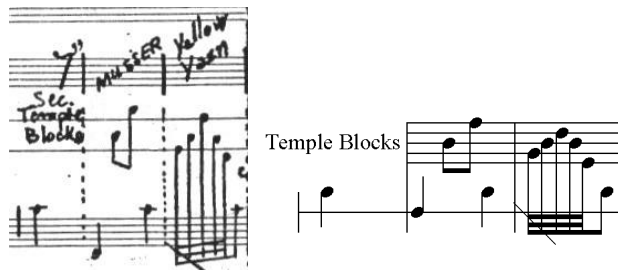


Fig. 13. On the Left, the Temple-Blocks are Written in a Two-Line Staff in the Manuscript. On the Right is the Notation Employing Five lines of the Edition

- (6) All dynamic markings, articulations, tempo indications, and bowings were maintained as indicated in the manuscript. Some dynamics were added, however (all included at the critical commentary).
- (7) The performance notes were corrected grammatically, and they were revised for clarity.
- (8) The use of accidentals in the edition appears according to modern convention: Accidentals are valid for the duration of the measure unless they are specifically cancelled out by a natural. This rule serves for regular measures, as well as measures without time signatures. Carvalho's use of accidentals is consistent. He writes all "courtesy" accidentals throughout the measure. The edition retains the "courtesy" accidentals only in measures with no time signature.

- (9) Carvalho wrote rolls in the percussion instruments in two ways: with trill signal above the notes, and with regular abbreviation on the notes. The edition employs the standard abbreviation for all rolls in the percussion part.

In the final version of this critical edition was included a critical commentary section that lists all instances in which Carvalho's manuscript differs from the critical edition. The first column of the table indicates the measure number. The second column describes the problem. The third column describes, as succinctly as possible, how the manuscript differs from the edition and presents the editor's justification. All notes and markings that have been corrected or added to the edition are printed in parentheses. Figure 14 shows the percussion set-up suggested by the author as solution to issues related to the physical space. All movements and techniques described in this chapter are based on this set-up.

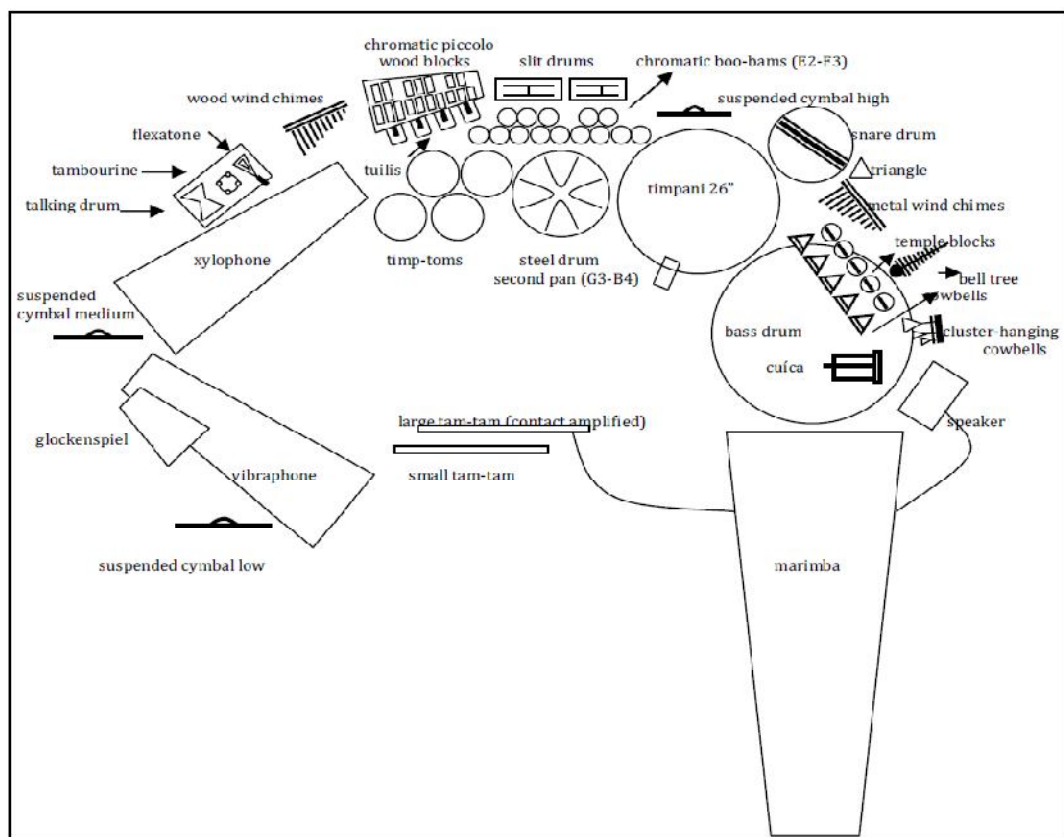


Fig. 14. Percussion Set-Up Suggested by the Author

4. Conclusion

In *Variations on Two Rows for Percussion and Strings*, Carvalho utilized two distinct materials to compose the work: the dodecaphonic technique and the manipulation of the material comprised in the *cadenza* written by O'Donnell.

In relation to the first material, Carvalho used few dodecaphonic operations on the two series during the piece. From series A, he mainly employed the prime (P_1) and retrograde (R_1) orderings, and only once used other forms such as R_6 , P_6 , R_3 , R_8 , and P_0 . The same occurs with series B in which, besides its prime (P_{11}) and retrograde (R_{11}) forms, he employed P_0 only once. Others operations generated under free operation by Carvalho are related to series B, such as the derived row (series B_D), the fragment of series B, set class 4-2 (0124), obtained under transposition T_4 , and the permutations and rotations performed in 12-part canon.

Concerning Carvalho's manipulation of the percussion in the piece, a feasible hypothesis is that he did not expect to receive a *cadenza* from O'Donnell that included definite pitch percussion instruments. In examining the manuscript, it becomes clear that, for the beginning of the piece, Carvalho used the *cadenza* written by O'Donnell as the basis but in his own handwriting, and for which he created slight modifications. Carvalho's alterations of the pitched material of the *cadenza*, shows that, at first, he tried to change the original content of the *cadenza* as little as possible to remain in accord with the dodecaphonic context of the piece. However, shortly after, he "gave up" trying to alter the pitch material of the *cadenza* and literally started to cut and paste extractions of the *cadenza* into the score. That is, he started to consider these elements as undefined pitch percussion instruments. Another factor that reinforces this hypothesis is that when Carvalho used pitch material in the percussion, he always utilized the instruments that he had added to O'Donnell's original set-up, including marimba, xylophone, vibraphone, and glockenspiel, never the boo-bams or steel drum.

This unique composition process, which began with a *cadenza* written by a performer that was then superimposed onto another piece, leads me to ponder the level of collaboration this piece should be considered to have, as Carvalho employed all of the material from the *cadenza* in his piece. Should this piece be considered a composition by Carvalho *and* O'Donnell?

When I posed this question to O'Donnell, he confidently asserted, "He [Carvalho] asked me to write the cadenza... The original concept to do the piece is his...It is his piece. I thought that was a gesture of friendship of our conductor/performer relationship. I did what he asked me to do, with the greatest effort I can bring to it, with the best I can do. And then, he made something else, he crafted the piece."¹¹

A great part of the sonority of the work is related to the twelve pitch classes stacked in the strings. This aspect appears in basically three ways during the piece: (1) stacking in long notes that serve as a curtain of sound or background on which statements of the series are played, in general, by single voices; (2) reinforcing attacks in *tutti*; and (3) performing syncopated rhythms in passages with all strings together as well as with the rhythm displaced among the string sections. Other important sonorities in the piece are the numerous passages of solo percussion and sections with polyphonic texture which are related to the manipulation of the material from series B and in which, outside the 12-part canon section, percussion instruments are not included. The characteristics of the cadenza are the contrasts between glissando areas and undefined pitch areas, along with the great variation of timbre.

Regarding rhythm, Carvalho linked each major element of pitch material with specific rhythmic characteristics. Series A is related to the rhythm of a written-out *rallentando*, series B is related to the rhythmic figure of its first tetrachord, and series B_D is related to regular rhythmic activity. Carvalho varied these elements in only a few ways, including augmentation, diminution, retrogradation, and suppression of the original rhythmic cells and its inversions. Other interesting rhythmic procedures Carvalho employed were the rhythmic palindrome and the procedure to accommodate the metric of the traditional notation with the graphic and proportional notation, as occurs in the proportion 7:5 at the beginning of the piece and in section 3.

In general, the piece neither poses performance challenges for the strings nor presents any major innovations. The form of the work, even though includes free variations, is fairly standard.

¹¹ *Idem.*

It is possible to identify the beginning as an exposition of the prime forms of the rows, sections strongly related with rhythmic *ostinato*, as section 2 with the Bossa Nova, changing in density and tempo, and the insertion of a canon, the preferred imitative technique by the composers of the Second Viennese School, by whom Carvalho was much influenced.

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