Percussive Notes Online Research Edition

A scholarly publication of the Percussive Arts Society

Volume 1 • December 2016

PERCUSSIVE ARTS SOCIETY

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Percussive Notes Online Research Edition is a peer-reviewed, online publication that aims to promote advanced research and expand academic perspectives on topics in percussion relating to areas including, but not limited to, historical musicology, critical theory, aesthetics, musical analysis, performance practice, interdisciplinary studies, ethnomusicology, and interviews.

The Editorial Board would like to express its gratitude to the referees who reviewed the submissions in this volume.

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Forgotten Percussion Works: Johanna Magdalena Beyer

Ron Coulter

Abstract

This article examines three newly discovered compositions for percussion ensemble by Johanna Magdalena Beyer titled PERCUSSION *(1935),* STRIVE *(1941), and* HORIZONS *(1942). The composer's sizable and innovative work list of percussion ensemble compositions is examined and placed in its historical context alongside contemporaries also working in the area of percussion, especially John Cage, Henry Cowell, and Lou Harrison. Primary sources including music manuscripts and correspondence are used as the basis for descriptive and contextual analysis of these three compositions, and their performance histories are presented along with innovative compositional aspects of each work. Although her music received little recognition during her lifetime, Johanna Magdalena Beyer was a pioneering composer in the field of percussion, and her work is becoming recognized for its place of significance in percussion literature alongside already recognized composers.*

Introduction

> In 1933 Henry Cowell wrote, "Up to this year, in my experience as a music publisher I have never been offered any work for percussion instruments alone. This season I have been offered fifteen different works for such combinations…"[2] And the review of a John Cage concert in 1942 reported, "When he played his first percussion concert in 1938, there were only two pieces written for percussion groups. Now there are more than 100, he said…"[3, 4]

Despite the contradictory numbers, these two statements both suggest a significant number of percussion compositions forgotten by history. This paper presents three such compositions for percussion ensemble by Johanna Magdalena Beyer and discusses Beyer's significant contributions to the emergence of percussion music. The historical context and significance of each of these three newfound works is presented alongside discussion of innovative compositional aspects and the placement of these compositions within Beyer's sizable work list for percussion ensemble. Beyer played an important role as a contributor to, and catalyst in, the development of percussion music as demonstrated by her compositions and her involvement with leading figures in this area such as John Cage, Lou Harrison, and Henry Cowell. In totality, these insights place Beyer as an important and overlooked contributor to the emergence and development of percussion music.

Biographical Information

Composer and pianist, Johanna Magdalena Beyer (July 11, 1888 – January 9, 1944) was born in Leipzig, Germany and immigrated to New York City in 1923 where she spent the remainder of her life. There she studied with Henry Cowell, Ruth Crawford Seeger, and Charles Seeger; many of Beyer's compositions reflect their ultra-modernist aesthetic and related compositional techniques in addition to her own unique aesthetic and compositional style. A characteristic of the ultra-modernists was their desire to create music free from the influence of the European tradition, and Beyer's works for percussion ensemble are exceedingly successful in this regard. One of Beyer's contemporaries and correspondents, Lou Harrison, described her as "An interesting Germanic Satie in a strange way."[5]

Beyer was an active presence in the 1930s modern music scene as demonstrated by her prolific, extant correspondence.[6] She maintained relationships and correspondence with Henry Cowell, Percy Grainger, and many other prominent music figures of the era.

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1 Thank you to Amy C. Beal and Violet Juno for their generous assistance and encouragement with this project.

2 Henry Cowell, "Towards Neo-Primitivism," *Modern Music* 10, Vol. 3 (March/April 1933): 153.

3 Pence James, "People Call It Noise–But He Calls It Music," *Chicago Daily News* (March 19, 1942): 4.

4 Ron Coulter, liner notes to *ORIGINS: forgotten percussion works, vol. 1*, Kreating SounD 04, 2012.

5 Tom Siwe, "Lou Harrison at The University of Illinois, with Tom Siwe," *Percussive Notes* 18, no. 2 (Winter 1980): 30.

Despite Beyer's apparently unrelenting efforts, her music went largely unnoticed, unperformed, and unappreciated during her lifetime. Beyer's music was forgotten after her death until 1965 when Charles Amirkhanian discovered a cache of her works at the American Music Center.[7] Subsequently, many of Beyer's compositions have been performed, recorded, and published alongside an accumulating body of research on her life and art.

New Old Music

Lou Harrison, speaking of Beyer, stated: "She's completely - practically unknown. But every so often a piece turns up that is very attractive, and was for the time extremely far out, and still sounds that way in a strange sort of way."[8] In October of 2010, three of Beyer's forgotten percussion scores were discovered in the Northwestern University Music Library, John Cage Collection by this author. The titles of these three compositions are *PERCUSSION*, *STRIVE*, and *HORIZONS*. The addition of these works to Beyer's oeuvre broadens our understanding of her contributions to the medium of percussion and her considerable accomplishments therein.

Composing Percussion

To date, including the three newfound scores, Beyer is known to have composed fifty-six works from 1931 to 1943, eight of which are for percussion ensemble. However, in a 1941 letter to Henry Cowell titled *Aggravations*, Beyer asserted that she composed more than 100 works.[9] For the eight percussion works known at present, see Table 1.

Table 1. Listing of titles and dates of composition for Beyer's percussion ensemble compositions.

Title	Date
Percussion Suite	1933 (completion date unknown)
PERCUSSION	1935 (October-December)
Three Movements for Percussion[10]	1939 (completion date unknown)
MARCH for 30, Percussion instruments	1939 (July 25)
Percussion Opus 14[11]	1939 (August)
Waltz for Percussion	1939 (December)
STRIVE	1941 (July)
HORIZONS	1942 (April)

These pioneering works for percussion demonstrate innovative design, economical use of material, and a confident originality. In Beyer's time, these attributes were often confused as primitive and lacking technical merit.[12] However, in retrospect, they reveal a strong, idiosyncratic aesthetic and a rigorously analytical compositional mind at work. Lou Harrison, speaking of Beyer, stated:

> She had the typical 20's and 30's [*sic*] attitude of geometry in music, or schemes that were carefully carried out and beautifully executed. She was very good at that. Those percussion pieces particularly have that. They're fully worked out and they have all the variety that is inherent in the piece, and still it's rigorous in its qualities.[13]

6 For a list of correspondents see: Amy C. Beal, "How Johanna Beyer Spent Her Days," web-published essay draft (2007; rev. 2011): 9-11. http://music.ucsc.edu/sites/default/files/BeyerEssayBeal.pdf. Much of this correspondence was in advocacy of Henry Cowell and his work.

7 Amy C. Beal, "How Johanna Beyer Spent Her Days," 2n1.

8 Siwe, 30.

9 The letter is reprinted in: Beal, "How Johanna Beyer Spent Her Days," 41. Beyer's claim is supported by an entry in her friend, Bertha Reynolds', diary: "13 June 1943: …Sec. of Musician's Alliance (?) [*sic*] picked up all her compositions to be catalogued–over 100." This diary entry is reprinted in: Amy C. Beal, *Johanna Beyer* (Urbana: University of Illinois Press, 2015), 88.

10 Although the exact date is unknown, Three Movements for Percussion had to be composed well before its premiere by John Cage at his second percussion concert on May 19, 1939 at the Cornish School Theater in Seattle, WA.

11 As noted by Kennedy and Polanksy, Percussion Opus 14 is a curious title. John Kennedy and Larry Polansky, "'Total Eclipse': The Music of Johanna Magdalena Beyer: An Introduction and Preliminary Annotated Checklist," Musical Quarterly 80, no.4 (Winter 1996), 761. A plausible explanation is revealed by counting each movement of Beyer's preceding percussion works which now total twelve; this hypothesis indicates the possibility of an unknown thirteenth percussion composition prior to Percussion Opus 14.

12 Kelly Hiser, "'An Enduring Cycle': Revaluing The Life and Music of Johanna Beyer," MM thesis, University of Miami, 2009, 49–51, 69, 70.

13 Siwe, 30.

It is worth noting that Beyer's earliest percussion work, *Percussion Suite* (1933), is only confirmed to be predated by Amadeo Roldán's *Ritmicas V & VI* (1930), Edgard Varèse's *Ionisation* (1931), and William Russell's *Fugue* (1931–1932). However, the completion date for Beyer's *Percussion Suite* is presently unknown and therefore could also be predated by William Russell's *Three Dance Movements* (April 1933), José Ardévol's *Estudio en forma de preludio y fuga* (May 1930 – June 1933), and/or John J. Becker's *The Abongo: a primitive dance for percussion orchestra with 2 solo dancers & dance group* (1933). Nevertheless, Beyer is situated at the very forefront of the emergence of percussion music within Western art music alongside other more widely recognized composers.

Beyer's foray into composing for percussion was likely due to her association with Henry Cowell,[14] who "was a highly influential progenitor and facilitator of percussion music in the American Experimentalist tradition and perhaps the most important figure in the initial dissemination of percussion music via his organization of performances, publishing, recording, teaching, mentorship, and social networking activities."[15] Cowell coordinated the premieres of William Russell's *Fugue* and Edgard Varèse's *Ionisation* on March 6, 1933, and Russell's *Three Dance Movements* on November 22, 1933;[16] these seminal performances were the first serious presentations of percussion ensemble music in the Western art music canon.[17] Cowell composed his first percussion work, *Ostinato Pianissimo (for Percussion Band)*, in 1934, and his probable influence accounts for the impetus for Beyer's initial percussion works of 1933 and 1935. However, her flurry of activity in 1939 was attributable to her interaction with John Cage, whom Beyer likely met via Cowell during Cage's studies in New York City during the Fall of 1934.[18]

In 1939, by means of a letter campaign, Cage solicited composers for compositions for his second concert of percussion music on May 19, 1939 at the Cornish School in Seattle, Washington. Beyer composed and dedicated her *Three Movements for Percussion* to Cage, who premiered movements two and three of the work on that concert and performed them on four additional concerts in 1939 and 1940.[19] In a letter to Cowell, Cage commented on the work inferring that Beyer had sent one or both of her earlier percussion works to him as well: "The Beyer is good, the best she has sent me."[20] Considering Beyer's persistent ambition to have her compositions performed and Cage's eagerness for new percussion works and his willingness to perform them, it is plausible that Beyer composed four of her latter five percussion works with Cage in mind and her final percussion work for Lou Harrison.[21] The interconnection of Beyer, Cowell, Cage, and Harrison formed a collaborative network that resulted in the creation and performance of percussion music that could never have otherwise occurred.

Although Cage possessed manuscripts of *PERCUSSION*, *STRIVE*, *HORIZONS*, *Waltz for Percussion*, and a holograph reproduction of *Three Movements for Percussion*,[22] he is only known to have performed the second and third movements from *Three Movements for Percussion* on five occasions. His reason for not performing certain works is unknown, but it is most likely due to the personnel, instrument, and/or technical performance requirements related to each work.

14 The exact date of Beyer and Cowell's first meeting is unknown but written evidence of Beyer appears in one of Cowell's pocket calendars on October 6, 1933, and Amy C. Beal posits that they met as early as March 1933. Beal, *Johanna Beyer*, 16, 96. Another probable inspiration for, and exposure to, percussion music was via Beyer's work as a dance accompanist, including working at the New York branch of the Denishawn School of Dance and Related Arts; Beal, *Johanna Beyer*, 12.

15 Coulter.

16 *Fugue* and *Ionisation* were premiered at Carnegie Chapter Hall on the third concert of the Pan American Association of Composers. Cowell also published these works in his New Music Orchestra Series: *Fugue* in No. 6 (1933) and *Ionisation* in No. 11 (1934). *Three Dance Movements* was premiered at the New School For Social Research in New York City and published in Cowell's New Music Orchestra Series No. 18 (1936).

17 George Antheil's *Ballet Mécanique* was given its premiere in Paris at the Theatre de Champs Elysees on June 19, 1926 and its US premiere at Carnegie Hall on April 10, 1927. These sensationalized performances unfortunately did not have any documented impact on percussion music development at the time, nor did they generate traction for future development in the area of percussion music.

18 There is conjecture that Cage and Beyer met in a percussion class taught by Cowell at the New School For Social Research in 1935; however, as of this writing, there is no known evidence of this beyond the anecdotal. This speculation appears in: Kennedy, 723; and Hiser, 96. Cage enrolled in Cowell's course, "Primitive and Folk Origins of Music" in the Fall of 1934 but Beyer is not listed on the enrollment. The enrollment sheet for the course is reproduced in Leta E. Miller's article, "Henry Cowell and John Cage: Intersections and Influences, 1933–1941," *Journal of the American Musicological Society* 59, No. 1 (2006): 54. The course that is likely mistaken as a percussion course in the lore is Cowell's "Theory and Practice of Rhythm" which included the use of percussion instruments in the course description. He taught this course at the New School in the 1932–33 and 1935–36 academic years. Although Beyer may have taken this course, Cage was not in NYC during either period. "Theory and Practice of Rhythm" course information comes from: Carwithen, "Henry Cowell: Composer and Educator," PhD diss., University of Florida, 1991, Appendix B. Cage apparently did meet Beyer at some point, as he stated: "I remember Johanna very little though I enjoyed her when I was with her…" Letter from John Cage to John Kennedy, January 25, 1988, reprinted in Kennedy, "Total Eclipse," 768. At present, the only documented meeting of Cage and Beyer occurred at Beyer's first floor apartment at 303 West Eleventh Street, New York, NY on August 23, 1942; Beal, *Johanna Beyer*, 88.

19 A partial audio recording of Cage's May 19, 1939 concert at the Cornish School in Seattle, Washington is available at: http://radiom.org/detail.php?omid=OTG.1971.03.10. This radio program, titled "Ode To Gravity: Percussion Music: From Lou Harrison's collection of 78 rpm acetate records," was created by Charles Amirkhanian and was broadcast on KPFA radio on February 1, 1970.

20 Letter, Cage to Cowell, undated (New York Public Library Henry Cowell Papers, box 2, folder 22). The year is likely late 1940 or early 1941, as this folder contains another letter to Cowell bearing the same mailing address and dated January 21, 1941.

21 This is evidenced herein for *STRIVE* by the letter reprinted in the section titled "*STRIVE*: Marching On" and later for *HORIZONS* in the statements from Lou Harrison in the section titled "*HORIZONS*: Going Beyond."

22 These scores reside in the Northwestern University Music Library, John Cage Collection, Series II. Notations Project, 1884–1978, Folder D-277. The location of these scores in the collection indicates Cage's consideration for their inclusion in his 1969 book, *Notations*.

Regarding instrument considerations, in a letter to Paul A. Pisk at the University of Redlands, Cage solicited for establishing a center for experimental music and included an inventory of his percussion instrument collection, stating that it included more than 150 instruments as of July 2, 1940.[23] The inventory does not include timpani, which are required in movement one of *Three Movements for Percussion*, *Waltz for Percussion*, and *STRIVE*. Further regarding instrumentation and also technical considerations, Lou Harrison stated in 1980: "…John Cage and I had quite large collections. In fact we used them for dances. But they did not include timpani. I think we did use the snare drum occasionally, for the sound but not for the roll."[24]

On technical performance requirements, Cage stated: "We weren't trained percussionists. We could do anything in the way of counting, but we couldn't roll. That was the big impediment."[25] In spite of this, the Cage Percussion Players did perform movement three of *Three Movements for Percussion*, which requires extensive snare drum rolls, but they did not perform movement one which requires snare drum rolls *and* timpani. Lastly, Lou Harrison responded to the question: "Were all those pieces written by you and Cage written for non-percussionists?" by stating, "Yes, that's why there are no timpani parts and no snare drum rolls."[26]

PERCUSSION: IV, Alone No More

IV has been Beyer's most well-known percussion work, due to its availability, and has until present been understood as a free-standing composition. In fact, *IV* is the fourth movement of the composition titled *PERCUSSION*. The contextualization of *IV* within *PERCUSSION* answers questions related to this previously orphaned composition's place in Beyer's work list[27] and increases its already important position as a pioneering work.

PERCUSSION, dated October–December 1935, is a five-movement work with unspecified instrumentation scored for nine parts. The manuscript is in Beyer's distinctive hand using black ink on twelve leaves of 10x12.5-inch medium-heavy paper oriented vertically.[28] As with some of Beyer's other manuscripts, rests are generally omitted, creating a visually uncluttered score and requiring careful reading by the performers. Each movement's title page is designated with a Roman numeral, the title *PERCUSSION*, an abbreviated signature of J.M. Beyer, and dated with the month and year (see Table 2 and Figure 1).

Table 2. Comparison of the features of each movement of *PERCUSSION*.

Movement	I.	II.	III.	IV.	V.
Date	X. 1935	Nov. 1935	XI. 1935	October 1935	December 1935
Measures	64	64	64	48	48
Measure Signature	4 / 4	4 / 4	3 / 4	7 / 8	5-4-3 / 4
Tempo	♩= 120	♩= 96	♩= 120	♪ = 144	♩= 112
Phrase Structure	8-8-12-12-12-12	8-8-8-8-8-10-14	8-8-8-12-4-8-16	8-8-8-8-8-8	8-8-12-8-4-8
Dynamic Range	ppp-pp-p-mp-mf-f	ppp-pp-p-mp-mf-f-ff	p-mp-mf-ff	p-mp-mf-ff	ppp-pp-p-mp-mf-f-ff
Duration	2'20"	3'06"	2'00"	2'28"	2'15"

23 Letter, Cage to Pisk, December 29, 1940 (New York Public Library, Henry Cowell Papers, box 2, folder 19).

24 Siwe, 59–60.

25 Michael B. Williams, "The Early Percussion Music of John Cage, 1935–1943," *Percussive Notes* 31, no. 6 (August 1993): 65.

26 Siwe, 59.

27 Kennnedy and Polanksy speculate about the placement of *IV* in Beyer's work list and write: "In her letters she states it is a '4th movement for percussion;'" Kennedy, 761.

28 The manuscript in the NWU Music Library John Cage Collection is incomplete, containing only movements I, II, III, and V. The location of the manuscript of movement IV is unknown; it was most likely separated from the larger work during the publication process. The date ascribed to the published version of *IV* deviates from the chronology of the other movements (see Table 1) and was possibly taken from the title page of movement I during publication (see Figure 1).

PERCUSSION appears to have been composed under the influence, if not the direct tutelage, of Henry Cowell, to whom Beyer wrote the following:

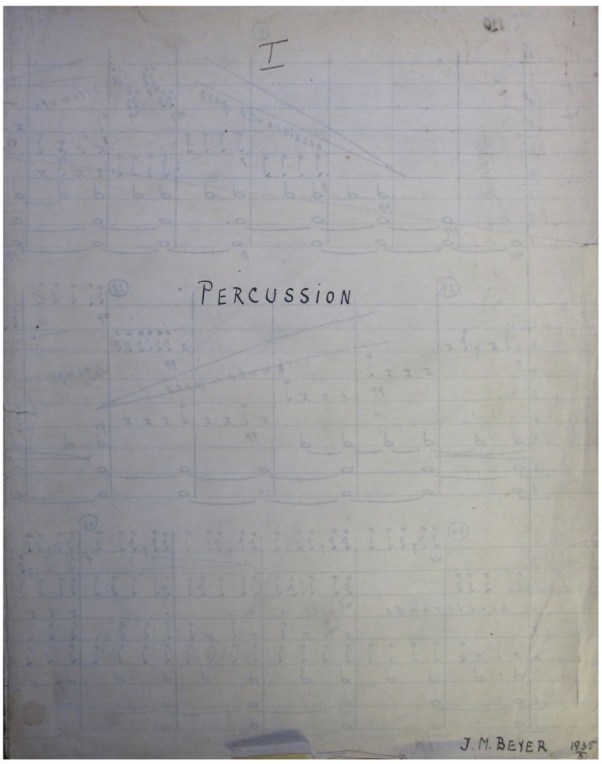

Figure 1. Johanna Magdalena Beyer, *PERCUSSION, movement I* (1935), title page. Courtesy of Northwestern University Library.

> ... I started a percussion movement ... Now while working at it, a number of questions and different ideas popped in, but I went ahead. Whether it is, what you mean it to be, I do not know. You must tell me when I show it to you; I don't mind at all to do it all over again. I kept it short and rather simple: 8 times 8 measures, numbering the different instruments 1 2 3 4 5 6 7 8 9 so it can be played on different ones.[29]

This use of unspecified instrumentation was a practicality, particularly in Beyer's time when there were no established percussion groups until the John Cage Percussion Players were formed at the Cornish School in 1938.[30] Cage also utilized this pragmatic approach to instrumentation in his compositions *Quartet* (1935) and *Trio* (1936), stating: "So, the *Trio* and the *Quartet* were both written without instruments in mind . . . And I've let that continue in the presentation of the *Quartet*, whereas in the *Trio*, I've orchestrated, so to speak."[31] Also, in a letter to Cowell discussing *Quartet*, Cage stated: "For this piece there would not be the trouble getting instruments which would be encountered with the Coast."[32]

29 Letter, Beyer to Cowell, undated (NYPL Cowell Papers, box 2, folder 5) as reprinted in: Hiser, "An Enduring Cycle," 96n186. Hiser attributes this description to IV, but the number of measures does not match. However, the unspecified instrumentation, numbering system, and number of measures corresponds exactly to PERCUSSION movements I, II, and III; movements IV and V differ from the description only in the number of measures, which is 48 in each. Presuming *PERCUSSION* was composed sequentially and that Beyer is describing movement I, this would date the letter to October 1935.

30 And still, Cage's percussion group was fluid in terms of personnel and instruments, most often utilizing dance students, friends, and borrowed instruments as necessary.

31 Williams, 60.

32 Letter, Cage to Cowell, 4 February [year unknown] (NYPL Cowell Papers, box 2 folder 22). The year is likely 1941, as this folder contains another letter to Cowell bearing the same mailing address and dated January 21, 1941.

Yet despite such practical compositional decisions, performances of Beyer's compositions were rare, with the majority remaining unperformed during her lifetime. Two movements of both *Three Movements for Percussion*, as previously noted, and *PERCUSSION* were Beyer's only percussion works to receive public performances during her lifetime. Two 1937 New York City performances of *PERCUSSION*, movement three, are documented in Beyer's curriculum vitae,[33] and a review of a concert organized by Lou Harrison on May 7, 1942 at the Holloway Playhouse in San Francisco mentions "two neat little studies in rhythm by Johana [*sic*] Beyer."[34] A different review of the same concert stated, "Next in interest to Harrison's 'Canticle,' from the rhythmic standpoint, were Johanna Beyer's 'Two Movements.'" It is probable that these "Two Movements"[35] were movements one and three of *PERCUSSION*, as Harrison recollected requesting and receiving a score from Beyer,[36] and Harrison's unmistakable handwriting appears in the manuscript indicating instrumentation for movement three and bracketing the nine parts into groups of five and six parts respectively for movements one and three (see Figure 2).[37] To date, the first known complete performance of *PERCUSSION* was presented in Carbondale, Illinois by the Southern Illinois University Carbondale (SIUC) Percussion Group on 3 April 2011.

PERCUSSION is an elegant set of rhythmic studies that explore textural density. This is readily identifiable through audition of the work and visual perusal of the score. Canonic entrances and egresses of rhythms result in textural aggregation or dissipation within phrases of each of the five movements. This process is enhanced by tempo variations that give the aural impression of increasing density via acceleration and decreasing density via deceleration. Tempo acceleration appears most often with the entrance of rhythmic material and deceleration with the egress of rhythmic material, thus amplifying the simple effect of adding and subtracting material. All five movements utilize tempo variation with indications of *accelerando*, *ritentuo*, *a tempo*, and *alargando* [*sic*], with various gradations of *poco*, *poco piu*, and *molto*. Suspension of musical time is utilized throughout movements one, two, three, and five with fermatas occurring on measure lines. The approximate total duration of *PERCUSSION* is twelve minutes.

Individual parts are economically composed of minimal rhythmic material that is repeated verbatim, subtly varied, and/or recombined throughout each movement. The nine individual parts are broadly divided throughout all movements into two groupings. The lower group (parts 6, 7, 8, 9, and sometimes part 5) is repetitive and generally delineates the phrase structure. The upper group (parts 1, 2, 3, 4, and sometimes part 5) is more rhythmically active, varied, and often obscures the phrase structure established by the lower group.

Successive movements of *PERCUSSION* increase in rhythmic complexity, which would appear to reveal the composer's increasing confidence with, and exploration of, the form (see Media Examples 1 and 2). Movement four is the only movement to maintain a regular phrase structure of "6 times 8 measures," to apply Beyer's own terminology. Each of the other movements begin with eight-measure phrases exposing the concept of simply multiplying eight-measure phrase lengths to generate the overall structure, after which Beyer deviates from the phrase length and thus obscures the eight-measure units and the process (see Table 2).

33 Beyer's Curriculum Vitae as reprinted in: Kennedy, 776n19. Kennedy and Polansky speculate that the CV entries "percussion movement N.0III" [sic] and " Percussion movement No. III" are the third movement of the *Percussion Suite*. However, given the discovery of *PERCUSSION* in addition to the specific instrument requirements and greater technical demands of *Percussion Suite*, it is clear that these performances were of *PERCUSSION*, movement III.

34 Alfred Frankenstein, "A Recital on Percussion Instruments," *San Francisco Chronicle* (May 8, 1942): 18. The location is erroneously cited as the "Hollywood Play house."

35 Marjory M. Fisher, "Interest Shown in Percussion Music Program," *San Francisco News* (May 8, 1942): 13.

36 Kennedy, 763.

37 The partitioning into six parts corresponds to the number of performers for the May 7, 1942 San Francisco concert as listed in: Fisher, 13.

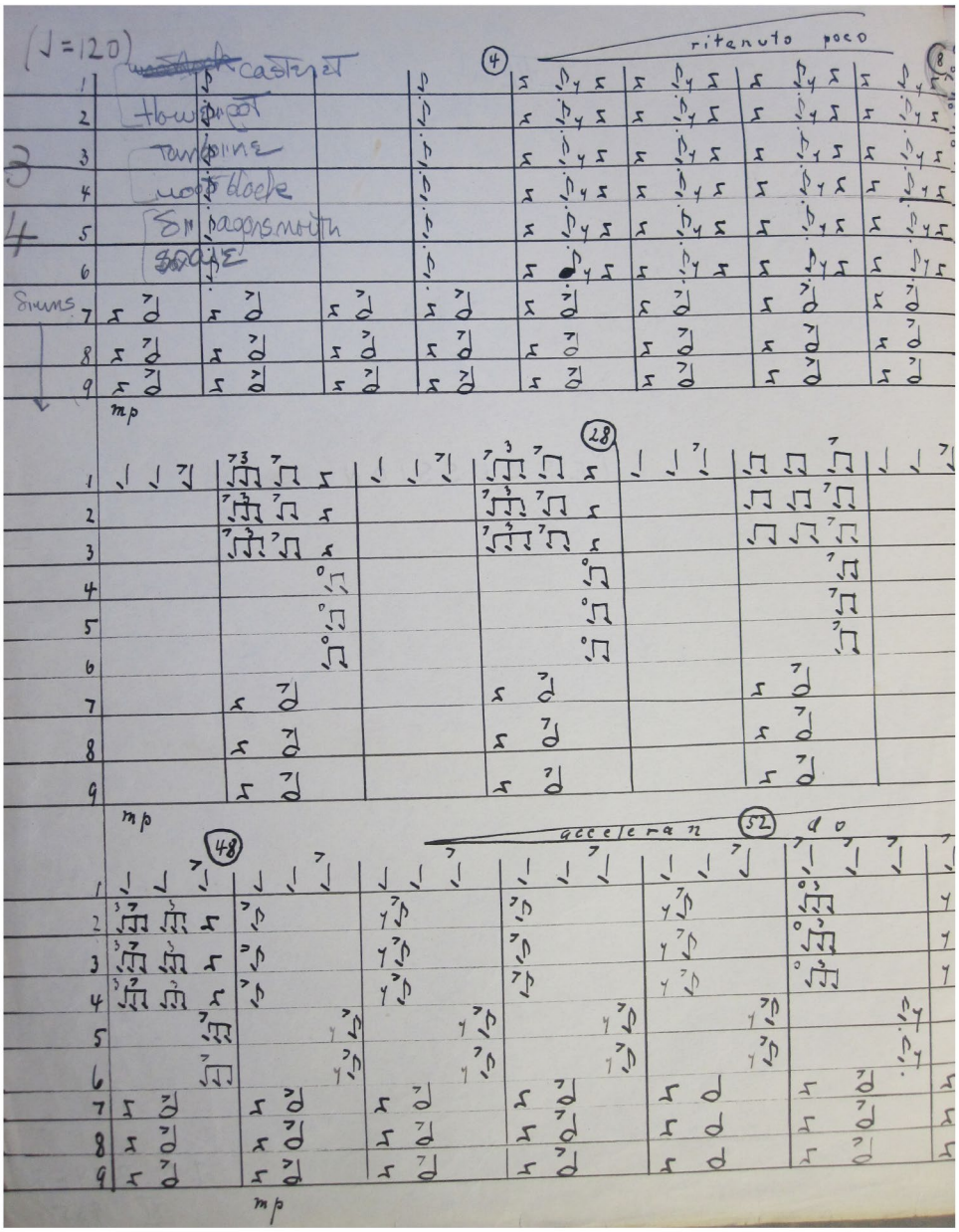

Figure 2. Johanna Magdalena Beyer, *PERCUSSION, movement III* (1935), page 1. Courtesy of Northwestern University Library.

Media Example 1.
Johanna Magdalena Beyer, *PERCUSSION, movement I* (1935), performed by the Percussion Art Ensemble. Used by permission of Kreating SounD.

Media Example 2.
Johanna Magdalena Beyer, *PERCUSSION, movement V* (1935), performed by the Percussion Art Ensemble. Used by permission of Kreating SounD.

Of the five movements, movement four is the prime example of Beyer's compositional processes; here parts 5, 6, 7, 8, and 9 (the lower group) create an eight-measure palindromic ostinato while parts 1, 2, 3, and 4 (the upper group) provide varied motivic content phrased asymmetrically against the underlying ostinato with increasing complexity throughout. The tempo is in constant change throughout the entire movement, which amplifies the continual parallel changes in textural density (see Figure 3). This compositional transparency may well have been the reason that Henry Cowell selected this movement from the larger work for publication in his *New Music Orchestra Series, Collection No. 18* in 1936.[38] Movement four, or *IV* as it has been known, was Beyer's only composition to be published during her lifetime.

PERCUSSION holds a place of significance in Western percussion literature as the first composition for unspecified instrumentation[39] and the first to use simple proportional structures as the basis of the composition. This compositional technique of proportional structure, what Beyer referred to as "8 times 8 measures," predates Cage's development of micro-macrocosmic rhythmic structure, albeit in a fairly rudimentary form.[40] The ingeniousness of the unspecified instrumentation allows accessibility of performance and endless reinvention of the composition. And finally, Beyer's copious use of tempo variation is remarkable given the historic function of percussion instruments in Western popular and art music as establishing or reinforcing the rhythmic reference point (i.e. pulse) of a composition.[41]

38 Presently, all of Beyer's known percussion works are in publication by Smith Publications or Frog Peak Music. In a letter to New Music Editions dated September 21, 1953, percussionist Paul Price enquired: "…what to do concerning the possible use of works of Johanna Beyer" for his "publishing venture called 'Music for Percussion'." In the reply, Vladimir Ussachevsky stated that Cowell could not find Beyer's heirs. Price never published any of Beyer's compositions nor those of Amadeo Roldán, which he also enquired about to New Music Editions. Letter, Price to Ussachevsky, September 21, 1953, New York Public Library New Music Society Archives, folder 277.

39 Its concurrence with Cage's *Quartet* (1935) and *Trio* (1936), both conceived for unspecified instrumentation, suggests Cowell's central influence, as Cowell had dealt with the challenge of procuring percussion instruments for several percussion ensemble performances by 1935. There is speculation that Cage's Quartet was not composed in 1935, but rather in 1936 or 1937; see: Miller, "Henry Cowell and John Cage," 59n45.

40 Beyer's focus on structure, "8 times 8 measures," was likely inspired by Cowell and his early work composing for dance, which eventually culminated in his elastic form technique. Composing to a dance's pre-existing "count" structure meant filling an empty rhythmic structure with music: "Others constructed their choreographies first, and then brought in a composer to write the score. Cowell, Cage, Harrison, and others…worked in this manner, watching the dance, taking down the 'counts,' and then devising music to match the choreography;" Miller, "Henry Cowell and Modern Dance: the Genesis of Elastic Form," *American Music* 20, no. 1 (Spring 2002), 2. Proportional structures were developed most prominently by John Cage in his percussion works from 1939 onward to replace traditional harmonically derived structures. This proportional concept was termed "micro-macrocosmic rhythmic structure" by Cage and "the square-root formula" by Lou Harrison.

41 Also contradictory to the historical precedent of percussion use in Western art music was Beyer's use of low dynamic levels, thin textures, and economic use of materials as epitomized in her compositions *PERCUSSION* and *STRIVE*.

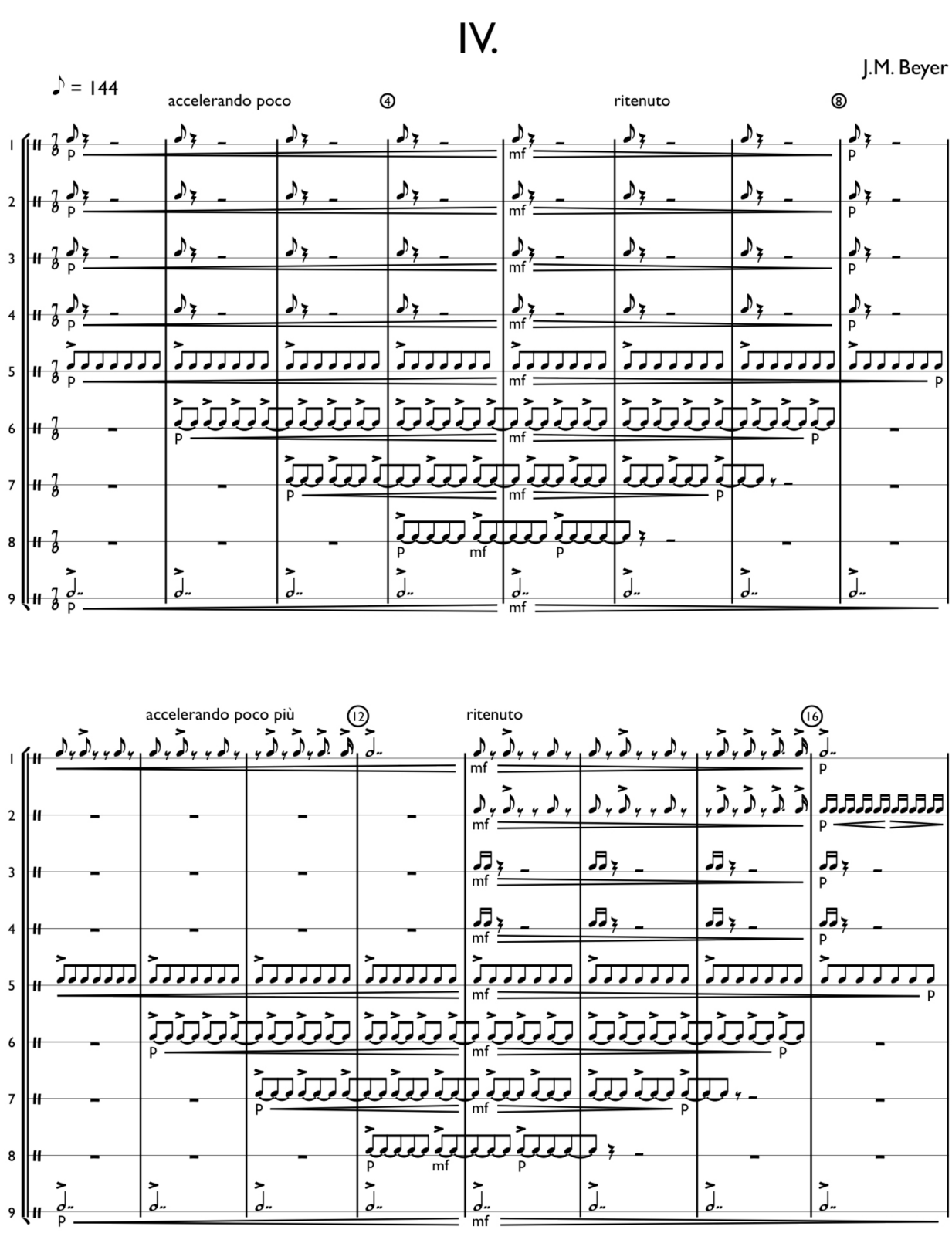

Figure 3. Johanna Magdalena Beyer, *PERCUSSION, movement IV* (1935), page 1. Used by permission of Smith Publications, 54 Lent Road, Sharon, Vermont 05065.

STRIVE: Marching On

STRIVE, dated July 1941, is a single movement work with specified instrumentation for fifteen percussion instruments. The manuscript is in Beyer's hand using pencil on a continuous sheet of 36x13-inch lightweight paper oriented horizontally and hand-lined with black ink. The thirty-line manuscript, its horizontal layout, and general omission of notated rests are comparable to the scores of *Percussion Opus 14* and *March for 30, Percussion instruments*. The manuscript has no title page; however, similarly to other works it is designated with the title, an abbreviated signature of Johanna M. Beyer, and dated with the month and year in the upper left corner of the first score page. As with Beyer's *March for 30, Opus 14*, *Waltz*, *PERCUSSION*, and *HORIZONS*, each instrument is notated on an individual line. Hence, although scored for fifteen individual instruments, the work is performable with eight performers by grouping similar material and instruments for a single performer, such as the three dragon's mouths, two tom-toms, and so on. The specified instrumentation is, in score order: triangle, two high-pitched metal bowls, three dragon's mouths, two tom-toms, cymbal, anvil, gong, snare drum, bass drum, timpano, and lyons [*sic*] roar (see Figure 4).

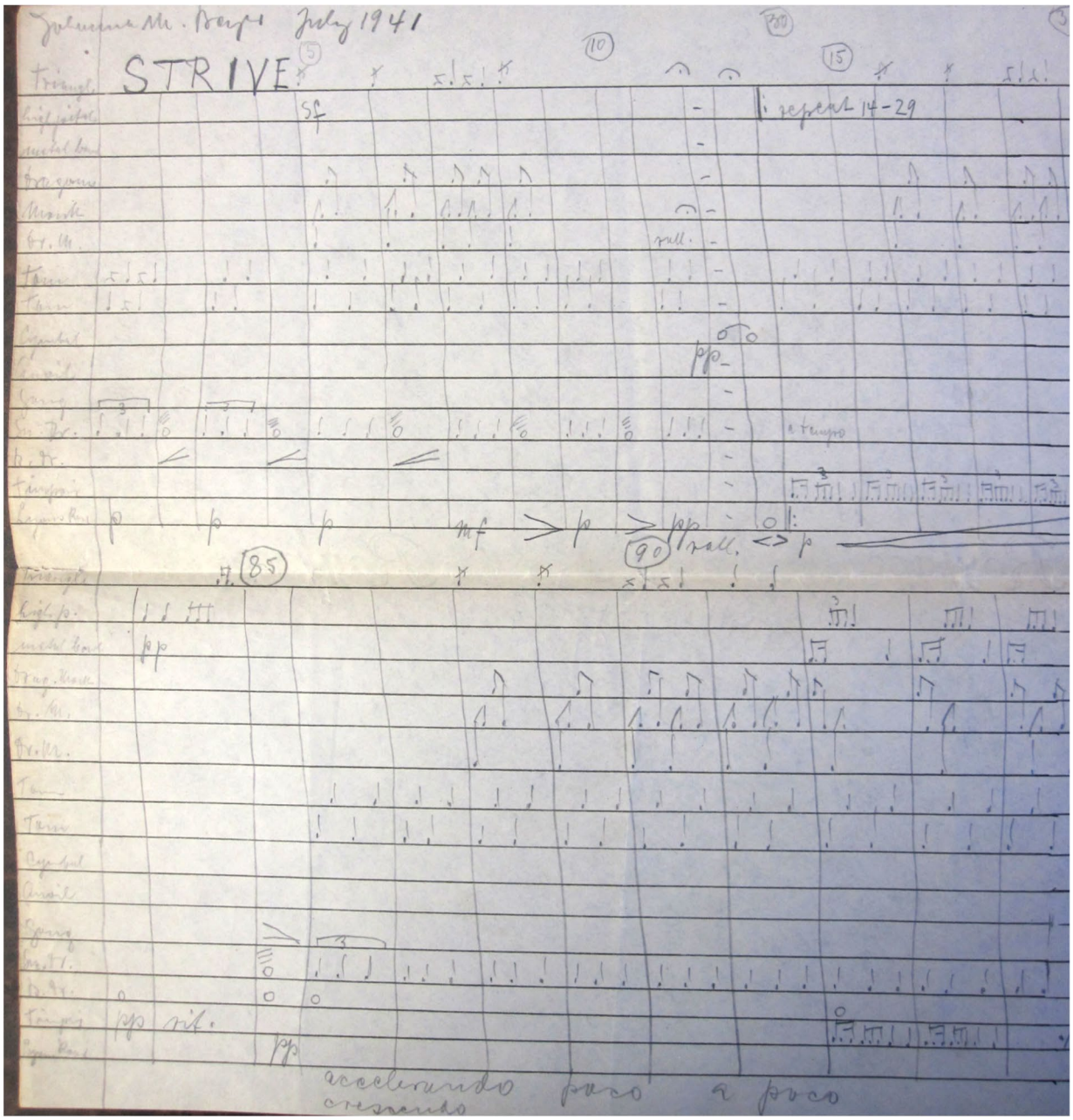

Figure 4. Johanna Magdalena Beyer, *STRIVE* (1941), manuscript page 1. Courtesy of Northwestern University Library.

STRIVE was composed on a whim for John Cage, as the following letter, handwritten by Beyer on the back of the manuscript, reveals. Not only is the impetus for the composition relayed, but also a response from the composer Harrison Kerr regarding a prior request by Cage for a percussion composition. The letter references Cage's July 26, 1941 concert at Mills College in Oakland, CA entitled "Percussion, Quarter Tones, Dance, Electronic Sound" and Cage's solicitation for percussion scores.

> Dear John: After addressing the enclosed letter I hunted around for some paper to write on and found this with the fifteen lines drawn. It induced me to hold down an idea and once started, I could not stop. So I dare to send it to you hoping that you will like it and can use it. It may be too late for Mills, it may just be in time. I better copy Kerr's letter, he uses heavy paper and I may not get it all in here.
>
> Dear Miss Beyer: Thank you for your card. I could not answer it sooner. . . . . [*sic*] When you write to John Cage would you be so kind as to tell him that there is very little possibility that I will be able to write anything for his program in the immediate future. As things stand now, I have practically no time for composition, and there are several works promised to other people that have been waiting even longer than Mr. Cage's work. Please tell him that I appreciate his interest. . . . [*sic*]
> Harrison Kerr[42]

Despite Beyer's hopeful effort, Cage did not perform *STRIVE* on his July 26, 1941 concert or thereafter. Speculatively, the work was unplayable by Cage's group due to the snare drum part requiring rolls and the inclusion of a timpano. To date, the first known performance of *STRIVE* was presented on 3 April 2011 in Carbondale, Illinois by the SIUC Percussion Group.

STRIVE is in a measure signature of 4 / 4 (although no measure signature, metronome marking, or tempo markings are indicated in the score) and is 88 measures in length with three repeated sections of 16, 8, and 5 measures respectively, totaling 146 measures for the entire work. The composition's duration is approximately 4'40" at a tempo of quarter note at 120 bpm and includes the use of *rallentando*, *ritardando*, *alargando* [*sic*], *accelerando poco a poco*, *a tempo*, and fermatas throughout the work. Stretched temporality via such tempo changes and suspended musical time via fermatas are hallmarks of Beyer's percussion music that deviate from the traditional use of percussion, as previously mentioned. Another hallmark of Beyer's compositional aesthetic is an extreme economy of material, epitomized in *STRIVE* by the timpano part, which is composed exclusively of a one-measure rhythm pattern that is altered throughout only by its dynamic level and textural context (see Figure 5, P. 7). Texture is an integral compositional element in *STRIVE*, consisting of a spectrum from individual sounds framed in silence to the blurring of individual sounds by dense aggregates created from all of the instruments sounding simultaneously (see Figure 5). The use of silence and minimal textures in *STRIVE* is reminiscent of the second movement of Beyer's *Three Movements for Percussion*.

STRIVE is also reminiscent of Beyer's *MARCH for 30, Percussion instruments* in terms of notation and instrumentation, although *STRIVE* is stylistically more representative of a march than the latter due to the measure signature and rhythmic material.

42 Northwestern University Music Library, John Cage Collection, Series II. Notations Project, 1884–1978, Folder D-277.

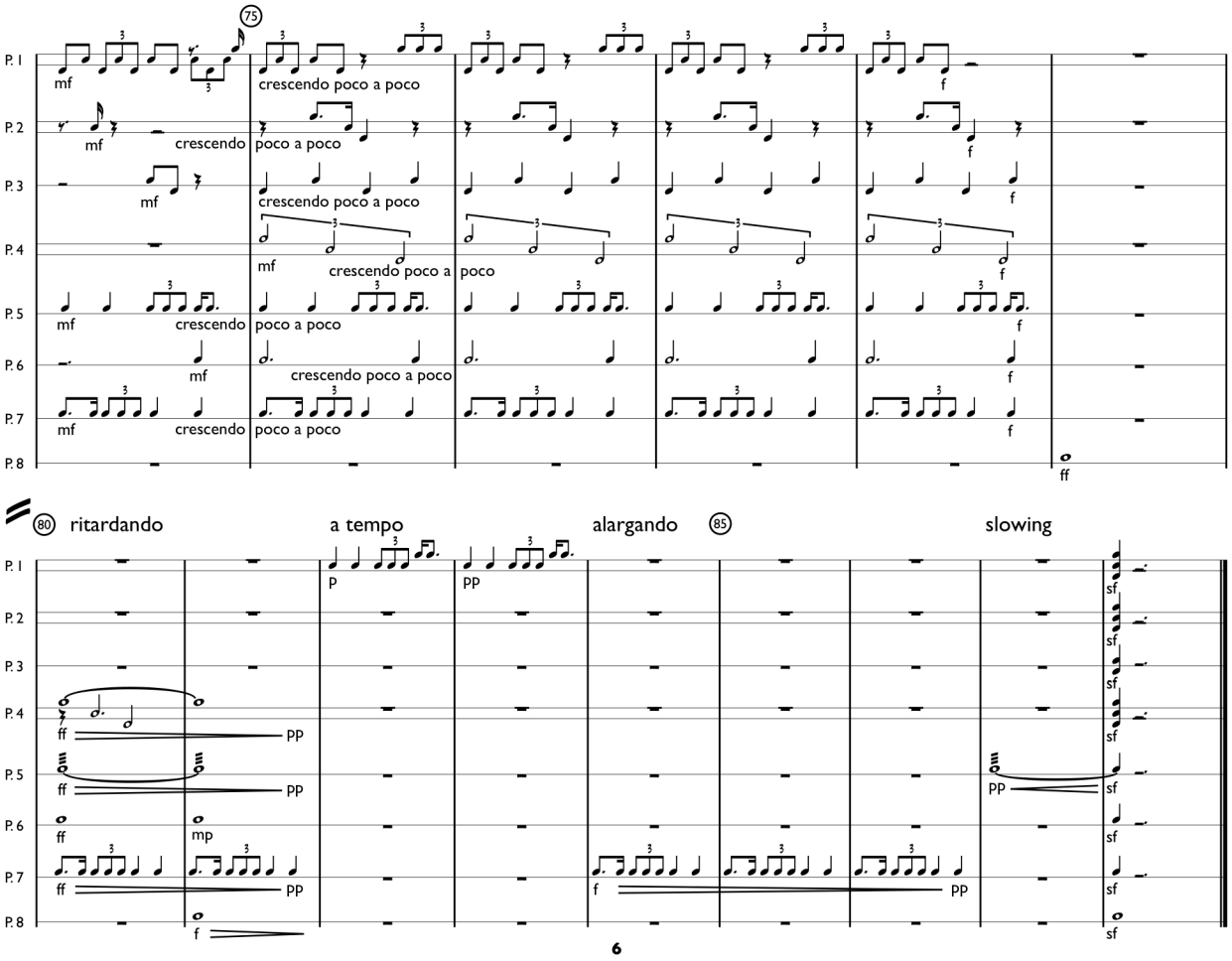

Figure 5. Johanna Magdalena Beyer, *STRIVE* (1941), page 6. Used by permission of Smith Publications, 54 Lent Road, Sharon, Vermont 05065.

Media Example 3.
Media Example 3. Johanna Magdalena Beyer, *STRIVE* (1941), mm. 57-88, performed by the Percussion Art Ensemble. Used by permission of Kreating SounD.

The intriguing title of *STRIVE* may be related to Beyer's unrequited professional and personal relationship with Henry Cowell, which came to a bitter and disappointing end in June 1941.[43] The end of this long and important relationship coupled with Beyer's progressing illness (Amyotrophic lateral sclerosis) unquestionably created obstacles to strive against, and a convincing argument could be made for *STRIVE* as a work of program music.

43 For a detailed discussion of this relationship see: Beal, "How Johanna Beyer Spent Her Days," 1–46.

HORIZONS: Going Beyond

HORIZONS, dated April 1942, is the last and most ambitious of the eight known percussion ensemble works composed by Beyer. The manuscript is in Beyer's hand using pencil on a single sheet of 144x14-inch hand-lined (in black ink) glossy paper and folded into twelve page faces. The score is single-sided, the only exception being the title page on the reverse of the first score page, with each two-system page oriented horizontally. *HORIZONS* is a four-movement work with a total approximate duration of 15'40" and scored for fourteen parts on independent staff lines (see Table 3).[44] As in Beyer's second percussion work, *PERCUSSION*, no specific instrumentation is indicated, with the exception here of general pitch ranges of high and low and indications of wind, water, and bird in the fourth movement. There is a noticeable deterioration of Beyer's handwriting in this manuscript, as well as *STRIVE*, that is likely due to the progression of her illness. These scores share the same notational traits as earlier manuscripts but lack their clean, precise lines and assured markings.

Table 3. Comparison of the features of each movement of *HORIZONS*.

Movement	I. LIBERTY	II. UTOPIA	III. DESTRUCTION	IV. REALITY
Measures	100	57	83	74
Measure Signature(s)	4 / 4	4 / 4	5 / 8, 3 / 4, 1 / 4	3 / 4
Tempo	lento	start fast, leisurely swinging	swift, slow	nothing is to be taken literally
Duration	6'40"	2'02"	2'14"	4'09"
Parts	14	7	14	14

In an interview with Tom Siwe, Lou Harrison described a percussion composition by Beyer that corresponds to *HORIZONS*:

> We have one very large work of Johanna Beyer's, which I can't find… It is in one of my trunks… Yes, 13 players, and page after page after page written on shelf paper, folded accordion-wise, in pencil on single line, and no indication as to instrumentation. And again, it's schematic – canons that go all the way down the page and then go back up and things like that. Very schematic - it'll be fun to play. And nowadays, it will be possible - one can get ahold [*sic*] of 13 percussionists if necessary. Perhaps also it could be scored so that one player could play 2 or 3 parts at the same time. I'll hunt for it, I'll get it out.[45]

Later in the interview, Harrison stated the following about the same composition:

> I couldn't play that Johanna Beyer. That upset me very badly because I don't know why I had failed to mention to her that we couldn't rouse more than about 6 people and here arrived something for 13 players. And it also arrived late enough so that in any event it would have been hard to do had it been within the realm.[46]

In a letter to Harrison, Beyer stated the following:

> Dear Lou: I was very happy to get your letter and enclosures about the concert. Arthur Cohn from the Philadelphia Library would like to have a copy of the program or rather a program for his files. John Cage used to send me a few and I sent it on to Cohn. He also wants the score for copying purpose. However, I would rather leave it with you now, since you have the intention to perform Horizons this fall, unless you make a copy of it yourself this summer. The original could be sent on. In a way it would be good to send it on to Cohn as soon as possible as all these WPA projects are very uncertain now. But again it may be best to wait till you have a chance to try it out and plan it for definite instruments. . . . [*sic*] And now best wishes and good luck for further percussion concerts![47]

Ultimately, John Cage possessed the manuscript of *HORIZONS*, but neither he nor Harrison ever performed the work.[48] This was

44 As with many of Beyer's other percussion works, it is possible, and preferable in terms of performance efficiency, to economize part assignments for fewer performers by combining parts.

45 Siwe, 30.

46 Ibid., 59. The score, composed in April 1942, arrived too late for what was likely Harrison's percussion concert on May 7, 1942 at the Holloway Playhouse in San Francisco, CA.

due to the large number of performers required (the most of any percussion work by Beyer) and the date of composition, which was near the end of Cage and Harrison's period of percussion-centered activities.[49]

Each movement of *HORIZONS* has performance instructions and a short verse of poetry accompanying the title that suggests a programmatic conception for the work (see Table 4). The inclusion of such text here is unique and does not occur in any of Beyer's other percussion works.[50] Beyer stated the following regarding recitation of the poetry: "Also, coming back to performance, I begin to like the idea that a voice should utter the words belonging to each movement first before the movement itself is played."[51]

Table 4. Listing of title, poetic verse, and performance instructions of each movement of *HORIZONS*.

Title	Poetic Verse	Performance Instructions
I. LIBERTY (a planless "free for all")	"…Sleepers, toiling with a minute, with a grain of soil, poor forgotten creatures…."	use low pitched instruments to give a mystic, rather subconscious impression do the whole thing behind a curtain, if possible
II. UTOPIA	"…Behold the hypocrite, the pleasure loving, his heavenly abode…"	use high pitched instruments "rootless unreality"
III. DESTRUCTION	"…Alas, fate strides in, mowing, plowing… purifying…"	use all instruments double up parts to vary the pitch don't keep within rhythm literally use all possible sounds and blitz tricks vary it with each performance instinctively
IV. REALITY	"…Stars, moons, suns, boundless beauty…"	Sunrise nothing is to be taken literally with increasing intensity following a day's activities slowly back to its starting point Sunset

The first movement of *HORIZONS* is the most rhythmically complex percussion work by Beyer, incorporating half-note and eighth-note triplets, quarter-note quintuplets, and rhythm patterns in the polyrhythm of 9:4, all in addition to more common duple-based rhythmic material (half-, quarter-, eighth-, and sixteenth-note values) (see Figure 6 and Media Example 4). The movement is constructed from fourteen short, independent rhythmic ostinati that are often slightly altered on repetition.[52] The first movement's structure, reflected in its title, *LIBERTY (a planless "free for all")*, is through-composed, and this complements the asymmetrical use of ostinati combination, repetition, and variation to generate a complex aggregate texture from the simple building blocks of rhythmic ostinati. Additionally, the prolonged accelerando and crescendo for nearly two-thirds of the movement (measures 38 to 100) amplify the continuously increasing rhythmic and textural complexity throughout movement one. The dense and complex texture created from the fourteen independently functioning parts foreshadows the sound-mass compositions of György Ligeti, Iannis Xenakis, and others.[53]

47 Letter, Beyer to Harrison, July 11, 1942, UCSC McHenry Library Special Collections and Archives Lou Harrison Papers MS 132, Series 3, Box 1, folder 14. Thanks to Amy C. Beal for providing a transcription of this letter to the author.

48 The premiere performance of *HORIZONS* was presented in Carbondale, Illinois on April 3, 2011 by the Southern Illinois University Carbondale Percussion Group, directed by Ron Coulter.

49 Harrison's final percussion concert from this period was on Thursday, May 7, 1942 at the Holloway Playhouse in San Francisco, CA. Cage's last percussion concert from this period was presented on Sunday, February 7, 1943 at the Museum of Modern Art in New York City and cosponsored by the League of Composers.

50 Beyer excerpted the poetry used in *LIBERTY* and *REALITY* from her own poem, *Universal–Local*, written in July 1932. The complete poem was used as the lyric for the third song of Beyer's 1934 composition, *Three Songs for Soprano and Clarinet*. Thanks to Amy C. Beal for pointing out this connection.

51 Letter, Beyer to Harrison, July 11, 1942, (UCSC McHenry Library Special Collections and Archives Lou Harrison Papers MS 132, Series 3, Box 1, folder 14).

52 The compositional technique of creating a percussion work from overlapping ostinati of different lengths was first used by Henry Cowell in his *Ostinato Pianissimo (for Percussion Band)* (1934). For more information see: H. Wiley Hitchcock, "Henry Cowell's *Ostinato Pianissimo*," *The Musical Quarterly* 70, no. 1 (Winter 1984): 23–44.

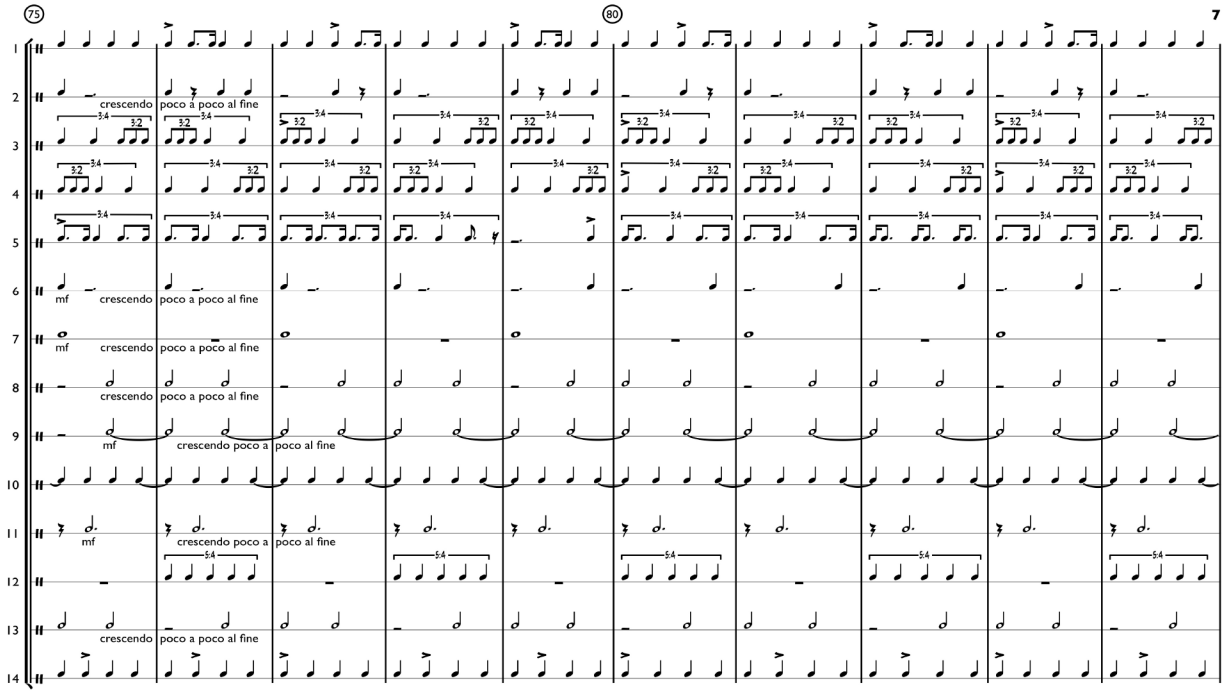

Figure 6. Johanna Magdalena Beyer, *HORIZONS, LIBERTY (a planless "free for all")* (1942), page 7. Used by permission of Smith Publications, 54 Lent Road, Sharon, Vermont 05065.

Media Example 4.
Johanna Magdalena Beyer, *HORIZONS, LIBERTY (a planless "free for all")* (1942), mm. 75-100, performed by the Percussion Art Ensemble. Used by permission of Kreating SounD.

Movement II, *UTOPIA*, utilizes only seven of the fourteen parts (1, 2, 4, 6, 8, 10, 12), which are grouped in two duos (parts 1 and 2 and parts 4 and 6) and a trio (parts 8, 10, and 12). Each group consists of unison material for a majority of the movement (measures 14 to 44) that is bookended by a canonic thirteen-measure introduction and a thirteen-measure reverse-canonic coda that closely mirrors the introduction. Rhythmic complexity in this movement is lessened due to fewer parts and the mostly unison rhythmic material of the three groups, yet the aggregate texture remains fairly complex from the use of half-, quarter-, and eighth-note triplets juxtaposed with whole-, half-, quarter-, eighth-, and sixteenth-note values (see Figure 7). Tempo and dynamic indications appear in the first five measures only.

53 The Spanish born Cuban immigrant, José Ardévol's *Estudio en forma de preludio y fuga* (1930–33) for thirty-one performers and scored for thirty-five percussion instruments and two pianos, is another early example of sound-mass composition. This work's rhythmic complexity and textural density may have been known by Beyer due to her interaction with Cowell, who was an early exponent of Ardévol's compositions in the United States. Lou Harrison stated: "Through Henry Cowell, I think, most Americans did have some conception of what was going on in Cuba." Siwe, 33.

Movement III, *DESTRUCTION*, is the most demonstrative of Lou Harrison's description: "…it's schematic - canons that go all the way down the page and then go back up and things like that."[54] (see Figure 8). This movement is the most simple in terms of rhythmic material, as it is constructed primarily from quarter and eighth notes. However, there is some use of polyrhythm (2:3, 2:5, 3:5, 4:5) and ample use of mixed meter (5/8, 1/4, and 3/4) to generate rhythmic interest. The fourteen parts are divided into two groups, parts 1 through 8 (occasionally including part 9) and parts 10 through 14 (often including part 9). The upper group, parts 1 through 8 or 9, generates a repeatedly canonic texture utilizing unison material (excepting measures 62–70) and the lower group, parts 9 or 10 through 14, is less rhythmically active, supplying metric reinforcement and some rhythmic counterpoint. In this way, the grouping of parts and the function of the groups is highly reminiscent of *PERCUSSION*. In addition to the canonic treatment of material, this movement is characterized by nearly constant changes of tempo from indications of accelerando, allargando, and ritenuto, as well as subito changes of tempo indicated by swift, slow, and *a tempo* markings. Additionally, the suspension of musical time results throughout from the frequent use of fermatas.

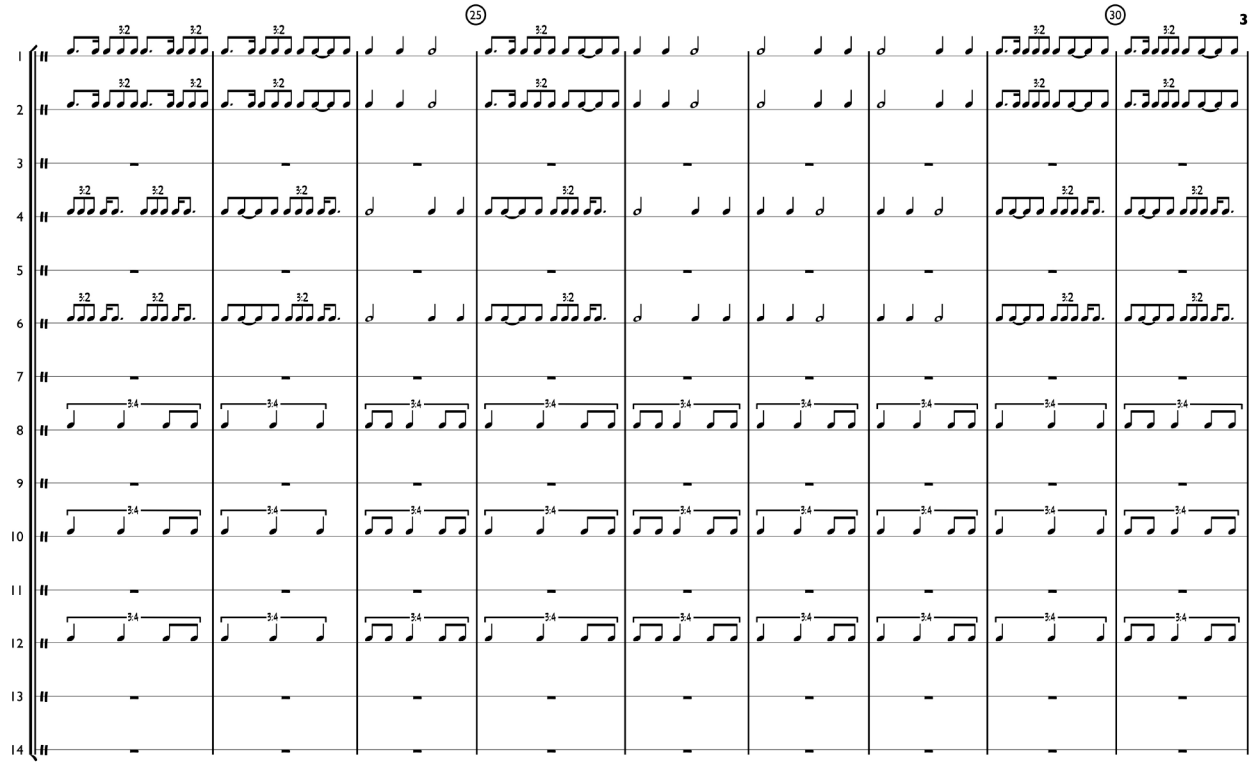

Figure 7. Johanna Magdalena Beyer, *HORIZONS, UTOPIA* (1942), page 3. Used by permission of Smith Publications, 54 Lent Road, Sharon, Vermont 05065.

Media Example 5.
Johanna Magdalena Beyer, *HORIZONS, UTOPIA* (1942), mm. 1-32, performed by the Percussion Art Ensemble. Used by permission of Kreating SounD.

54 Siwe, 30.

Movement four, *REALITY*, is overtly programmatic, depicting the cycle of a day. This is made explicit in the performance instructions: "Sunrise," "nothing is to be taken literally," "with increasing intensity following a day's activities," "slowly back to its starting point," "Sunset." The most interesting and unique aspects of this movement are the indications of "Bird," "Wind," and "Water" in parts 1, 13, and 14, respectively. These indications are the only instrumentation, or specified timbres, in the entire composition (see Figure 9). This movement is similar to the first movement in: (1) the gradual accumulation of textural density from asymmetrical layering of parts, although here the process reverses and the textural density dissipates after reaching maximal density in measure 41; (2) its creation from both unchanging ostinati and ostinati that are slightly varied on repetition.

The greatest challenge to interpreting *HORIZONS* is to conceive of instrumentation that provides sufficient sonic variety with balanced textural clarity and cohesion while avoiding the pitfalls of monotony and/or the novelty of diversity.

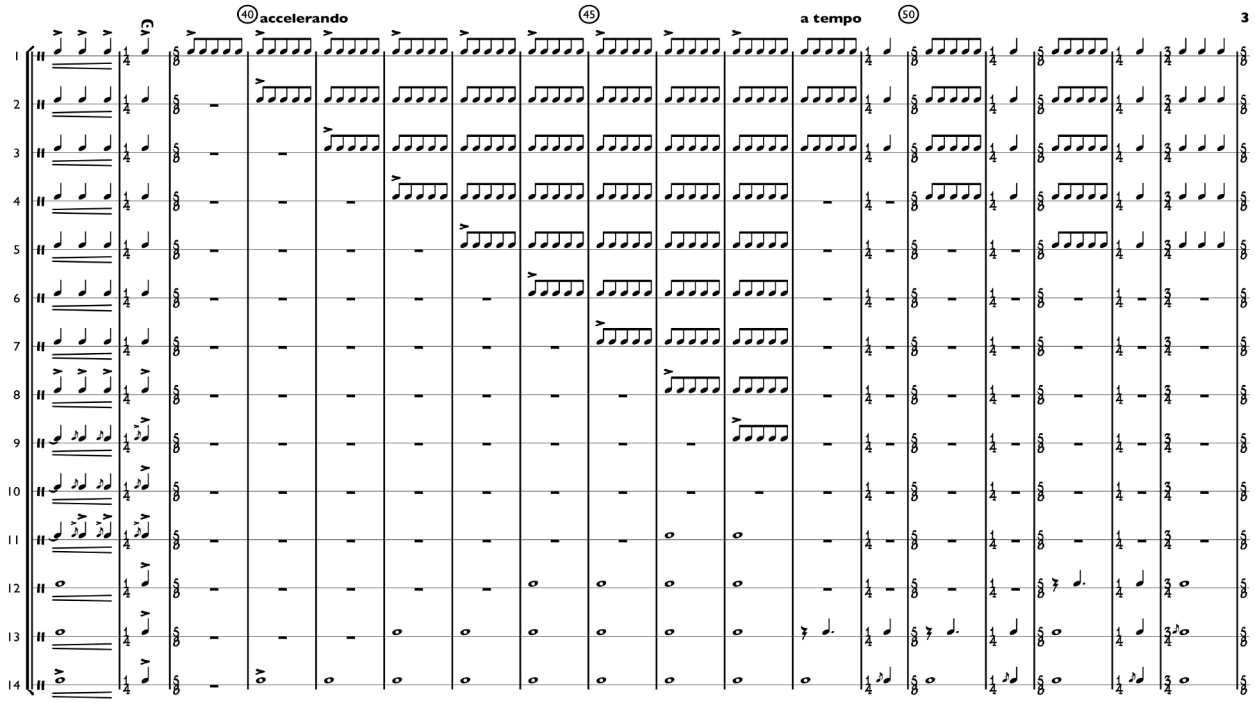

Figure 8. Johanna Magdalena Beyer, *HORIZONS, DESTRUCTION* (1942), page 3. Used by permission of Smith Publications, 54 Lent Road, Sharon, Vermont 05065.

Media Example 6.
Johanna Magdalena Beyer, *HORIZONS, DESTRUCTION* (1942), mm. 1-54, performed by the Percussion Art Ensemble. Used by permission of Kreating SounD.

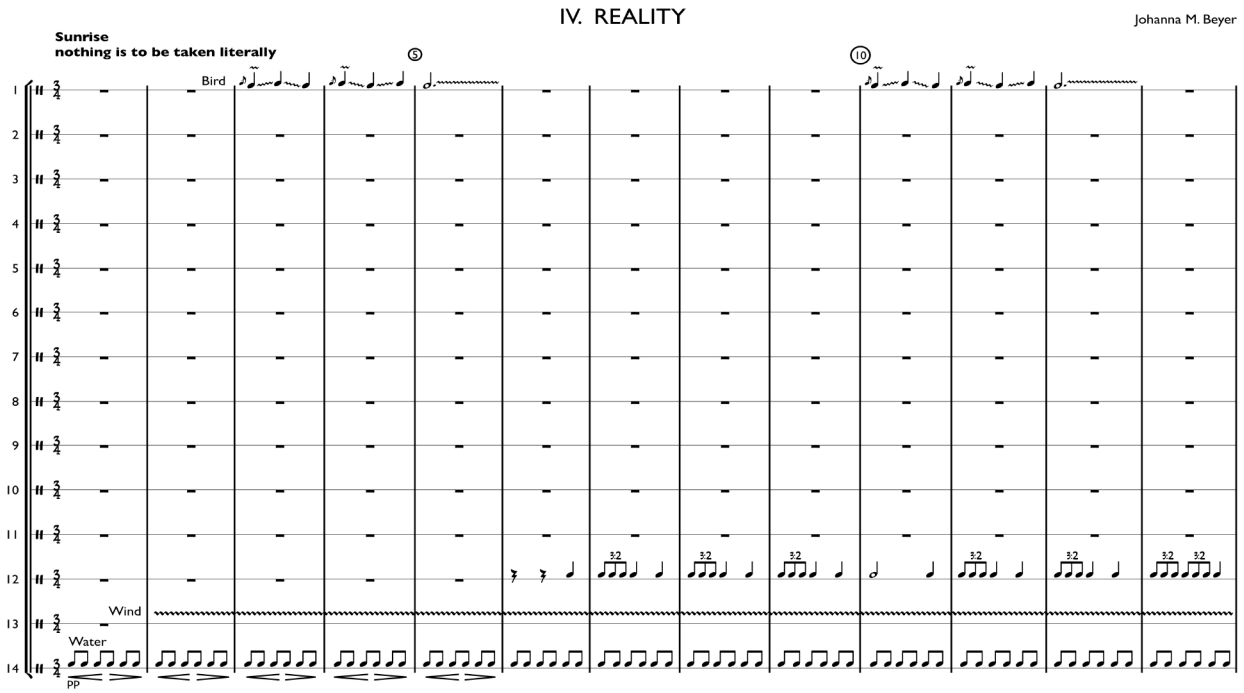

Figure 9. Johanna Magdalena Beyer, *HORIZONS, REALITY* (1942), page 1. Used by permission of Smith Publications, 54 Lent Road, Sharon, Vermont 05065.

Media Example 7.
Media Example 7. Johanna Magdalena Beyer, *HORIZONS, REALITY* (1942), mm. 1-27, performed by the Percussion Art Ensemble. Used by permission of Kreating SounD.

CONCLUSION: Slowly Back to Its Starting Point

PERCUSSION, STRIVE, and *HORIZONS* are significant additions to Beyer's work list and the percussion ensemble repertoire at large. *PERCUSSION* and *HORIZONS* are notable in Beyer's list of percussion works as the largest and most complex compositions in terms of the number of parts, rhythmic material, and textural densities. These are also Beyer's only two percussion works that do not specify instrumentation, and *PERCUSSION* is notable as the first known percussion composition to use unspecified instrumentation. *STRIVE* is remarkable for its economy of material, which is recognized as a signature aspect of Beyer's compositional style. Other innovative aspects of these works, although not exclusive to them in Beyer's percussion works, are the extreme contrasts in textural densities demonstrated most prominently in the first movement of *HORIZONS*, and the frequent use of changing tempos and dynamics, of which *PERCUSSION* is the finest example. All three of these works, eschew preexisting forms and are not derivative of any previous percussion compositions; they stand as truly unique, idiosyncratic statements. The addition of these three compositions to Beyer's work list removes any lingering doubt regarding the substance of Beyer's percussion compositions and signifies her innovative contributions to the canon of percussion music.

As is all too often the case with pioneering artwork, Johanna Beyer's compositions were ahead of her time and apparently incomprehensible to most of the relative few that encountered them. This is evidenced in the rare performances of her music and the extant documentation of reactions from audiences and peers. From the present historical vantage point, Beyer's significance in the development of percussion music cannot be overstated; she composed a large body of idiosyncratic, innovative percussion ensemble music that was unprecedented for a female composer, and nearly so for any composer.[55] Her presence in the American contemporary music scene of the 1930s was a catalyst, helping to feed the fire of activities surrounding the emergence and development of percussion music in the Western art music canon by interacting with Cowell, Cage, Harrison, Percy Grainger, Harrison Kerr, and others in a bubbling cauldron of creative work involving percussion. Beyer's work gave voice to women and immigrants within contemporary American music of the 1930s, and in spite of societal marginalization, she proved exceedingly accomplished in her contributions. Johanna Beyer's life as seen through her compositions today was one of determination, persistence, and great achievement; horizons that all should strive toward.

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55 Based on current data, the number of Beyer's compositions for percussion during the years 1933 to 1942 are only exceeded by Lou Harrison and John Cage, and only equaled by William Russell. Other overlooked female artists from Beyer's time include percussionist composer-performers, Jessie Baetz and Franziska Boas, and the numerous dancer-percussionists who performed in John Cage's percussion groups: Phoebe Appy, Xenia Cage, Doris Dennison, Imogene Horsley, Margaret Jansen, et. al. Cage called Doris Dennison and Margaret Jansen "my best players." Letter, Cage to Cowell, September 27, 1940, (NYPL Cowell Papers, box 2, folder 19).

Real-Time Chance Operations: A Technologically Modern Approach to John Cage's 27'10.554" for a Percussionist

Jeremy Muller

Abstract

This essay examines the creative freedom of John Cage's work, 27'10.554" for a Percussionist *and offers a strategy for developing future realizations. The author's realization attempts to incorporate variability during performances of* 27'10.554" *using the assistance of modern technology. The score suggests a saturation of different sounds yet only specifies instrument categories, giving the performer freedom to decide on the appropriate instruments and set-up. Given the scope of the preparation, a performer must develop a very strict realization that often does not allow for variability during performance. Another issue arises in logistics: how might one assemble enough instruments, each with a large range in timbre, in order to fulfill the requirement for a seemingly infinite spectrum of sound? Perhaps one solution is the use of technology to help facilitate these difficulties. Most performances of this work that are supplemented with technology use an unwavering recorded playback. In this version, the author has created a realization that gives the computer the capabilities to make decisions and interact with the user. The technology employed here is Pure Data. It is an extremely powerful tool capable of expressing ideas algorithmically, and Pd is used as the major component to the author's realization of* 27'10.554". *With this technology, the author offers a way of interpreting the work that assimilates additional characteristics of Cage's compositional techniques. Additionally, this realization presents a solution to amassing the immense amount of sounds that Cage desires.*

Foundation for Interpretation

Many works that utilize technology will often acknowledge this inclusion by mention in the title. These references can be somewhat vague, or worse, they mention a type of media format that is obsolete. One such piece is Karlheinz Stockhausen's *Solo, für Melodie-Instrument mit Rückkopplung, Nr. 19* (1965), which calls for a performer with assistants to use 114 inches of magnetic tape to create delays with tape loops. Another example is Javier Alvarez's popular *Temazcal* (1984), which specifies the instrumentation as "maracas and tape," yet it is typically performed with audio playback on computer or compact disc instead of magnetic tape. Pieces that specify "with tape" are certainly still performed, but often on a digital format instead of the original analog. One could imagine that, without modern adaptations of the technology, the works themselves might become obsolete.

John Cage's seminal work, *27'10.554" for a Percussionist* (1956), has plausibly experienced reverse obsoletism. In the twenty-first century, advancements in technology have given musicians a vast amount of creative tools to help execute their realization. The music is virtuosic and a feat to perform, and many realizations include audio playback of some of the other parts. The physical demand is not the only difficulty; designing the sounds and set-up require a great deal of experimentation as well. Furthermore, every performance I have seen has included recorded playback; clearly, the technology available in the fifties and sixties would have made this piece unfeasible for most musicians. As technology has developed, more performances of this work are taking place. I am not suggesting that realizations without technological assistance are less convincing, as these are just as valid and acceptable to John Cage's intention. However, I am suggesting that developing a realization supplemented with technology is now more accessible to most musicians, thus opening the door for new directions of creativity with *27'10.554"*.

Cage's Indeterminacy

27'10.554" for a Percussionist is among the first solo percussion works written. Composed in 1956, it came after Cage's early percussion ensemble works that were highly structured and did not make use of chance operations. Cage had begun using chance operations as compositional techniques in the early fifties that included pieces such as *Imaginary Landscape No. 4 (March No. 2)* and *4'33"*. During the late fifties and early sixties, he composed several works that allowed variable instrumentation or duration including *Radio Music*, *Variations I-V*, and *Fontana Mix*. Likewise, *27'10.554"* offers variable instrumentation, with the exception of predetermined categories, by requiring the performer to design a large set-up before ever striking a note. Cage's compositional shift from highly structured scores to heavy indeterminism allows the performer to participate in his exploration of sound and consider the randomness

of the natural world. *27'10.554"* is an example of this shift, and Cage's vehicle for expression through chance was to elicit the imperfections of the manuscript paper on which he composed the score. Each instrumental category is given its own single staff line (which represents *mezzo-forte*), and anything appearing above the line is dynamically louder than anything below the line. Dots represent a *secco* sound while curves/lines represent a controlled, sustained sound, typically by performing a tremolo (see Figure 1). Some dots appearing in the metal category have a tail, which indicates a slow, decaying sound. Each page of the score is one minute and each second within the page is indicated numerically; thus, there are twenty-eight pages with the last page ending at 10.554 seconds.

Cage's aesthetic connected philosophy with indeterminacy. Much of his music compels the performer to take a heuristic approach and *27'10.554"* is no exception. He continued to seek out ways to remove ego from the self in order to let the compositional process happen non-discriminately.[1] To enable this, he laid out a design for using chance operations in many of his works. These designs were often implemented in several different ways:

1) Changes[2]
   : chance operations are executed before the work is created. The results create the parameters for performance. Example: *Music for Piano*, similar to *27'10.554"* where imperfections of the paper were used.
2) Indeterminacy[3]
   : chance operations take place during the performance. This is used in some works and is often dependent on the performance space and the members of the audience. Also, this is the most difficult to rehearse so certain parameters are substituted to facilitate preparation. Example: *Fontana Mix.*
3) Communication[4]
   : chance operations are executed by the performer but before the performance. The results create the parameters for performance. Examples: *c¢omposed Improvisation (for Snare Drum Alone)* and *Child of Tree.*

Evidently, *27'10.554"* was composed using chance operations during the process of creating the work. To embody Cage's other designs for alea and to create performance-based chance operations, I decided to implement this concept into my patch.

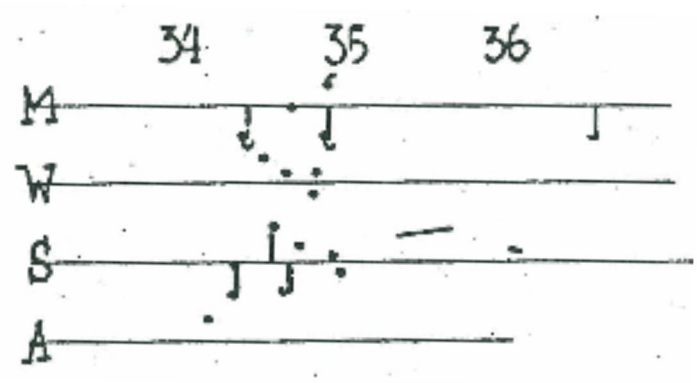

Figure 1. John Cage, *27'10.554" for a Percussionist*, page 3, 34th second.

Designing the Interpretation

One of the biggest challenges of *27'10.554"* is finding a large enough sonic palette to produce a compelling realization. The score indicates four instrument categories of *Metal*, *Wood*, *Skin*, and *Anything* but shifts responsibility to the performer to decide what and how many instruments will satisfy these rules. The *Anything* category allows for literally anything other than the previous three categories: whistles, radios, blenders, etc. Cage explains, "A virtuoso performance will include a wide variety of instruments, beaters, sliding tones, and an exhaustive rather than conventional use of the instruments employed."[5] This presents some limitations, however small they may seem. In order to attain an exhaustive use of instruments, it would benefit the performer to find instruments that have a

1 Christopher Shultis, *Silencing the Sounded Self: John Cage and the American Experimental Tradition* (Boston: Northeastern University Press, 1998), 94.
2 John Cage, *Silence: Lectures and Writings* (Middletown, CT: Wesleyan University Press, 1961), 18.
3 Ibid., 35.
4 Ibid., 41.
5 John Cage, 27'10.554" *for a Percussionist* (New York, NY: Edition Peters, 1960).

large timbral spectrum and respond with a variety of sounds when using various types of beaters. Moreover, one is limited to instruments that are within physical reach and to acoustic sounds that can be produced from these instruments. In *27'10.554"*, Cage seems to have opened the door to endless possibilities of sound for a solo percussionist, whereas in his earlier percussion ensemble works from the late 1930s and 1940s, he explicitly directed the types of instruments to be used rather than specifying only general categories.

Mercifully, Cage offers additional instructions: "This piece may be performed as a recording or with the aid of a recording."[6] Perhaps sensing the quickly changing landscape of technology but also being open to new interpretations of his work, he included this possibility in the score. He wisely avoids mentioning any type of medium (e.g. tape) that would negate variability in later performance practice as technology developed. Interpreting this statement is crucial to how I solve the problem of exhausting sonic possibilities. Rather than using a fixed playback that is the same for each performance, I created a version that uses real-time chance operations to determine sound and incorporates user input to mutate the sounds during live performance. I decided to use a limited set of instruments that allow for reasonable portability. These instruments become the foundation for all acoustic properties for my realization. I sampled each instrument and digitally manipulated the harmonic content to create a large spectrum of sounds, which become extensions of my acoustic instruments. During a performance, I acoustically manipulate my instruments by using many different sticks, mallets, and beaters to create a variety of sounds, much like I did to create their digital counterparts. The end result is that both my acoustic sounds and digitally-manipulated sounds share the same sonic foundation.

To play back these samples, I built a sequencer using Pure Data (Pd) software. Pd is a graphical programming language used primarily to operate on audio signals and processing sound.[7] A conventional sequencer contains stored information about the timing, pitch, volume, and duration of notes that can be executed autonomously. The sequencer I built follows a similar paradigm, but I added elements of indeterminacy. It keeps a separate folder dedicated to each instrumental category (metal, wood, skin, anything) that stores the information for each page of the score. This information is used to determine the timing and velocity of the note attacks. I also built a representation of the *I Ching* (explained in more detail below) to determine pitch, which in turn makes the decision of which sample to select. Consequently, pitch is mostly ignored from the MIDI files with a few exceptions: deciding whether the note from the score indicates a *secco* sound, resonant sound, or sustained sound. The flowchart in Figure 2 demonstrates the process of a particular instance of sound; this represents how a single note is interpreted from the score. MIDI information is received from the particular instrument and minute and then sent through the various stages of selection until it finally reaches the speaker.

I also have the capability of changing the sound banks in real-time. This feature enables multiple banks of samples to be loaded into the buffer, allowing for an incredibly enormous number of sounds that the computer's RAM cannot support. By taking an adaptive approach to the music, the sounds can evolve throughout the course of the performance. With an analog recording in the fifties, this would never have been possible without assigning an unthinkable amount of assistants to individual tape players. The flexibility of using Pd allows me to easily create new realizations of the piece that provide a framework to orchestrate new ideas. The most interesting and mercurial element of this flowchart is the right half—this is essentially where all of the real-time user and computer decisions take place. Conventionally, the choice of sounds for a sampler is decided in advance, and the pitch is chosen based on the actual note being played. I replaced this step by removing pitch choices and using indeterminacy to decide which sound is heard. Additionally, this patch contains banks of sounds that allow the user to easily change the group of sounds in real-time.

6 Ibid.

7 More information on Pure Data including documentation and downloading can be found here: https://puredata.info.

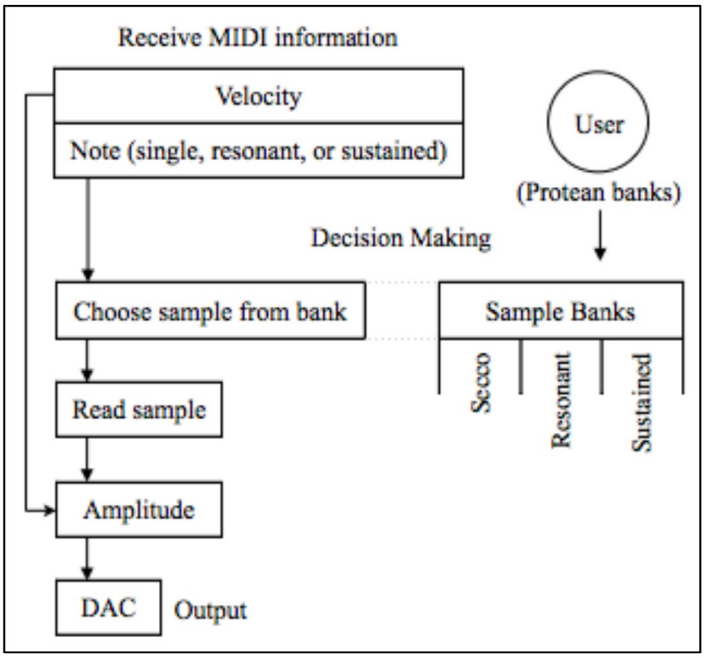

Figure 2. Flowchart of a single instance of a sound. This is the path taken each time a sound is played.

Using the *I Ching*

The actual decision-maker within the patch is a representation of the *I Ching* that I built to choose sounds. The *I Ching*, or *Book of Changes*, is an ancient compilation of Chinese texts containing sixty-four hexagrams. There are several chance methods for obtaining a hexagram from the *I Ching*, but in this case, I will only discuss the Coin Method and how I implemented this. The method involves three coins with heads (*yang* with a given value of two) and tails (*yin* with a given value of three) and a distinctive square hole in the center of the coins, as pictured in Figure 3. With a single toss of these three coins one will derive a single line of the hexagram from the possibilities, also found in Figure 3. Adding the values of the side the coin lands on (two or three) will produce only four possible results: 6, 7, 8, or 9. *Old Yin* is considered to transform into *Young Yang* while *Old Yang* is considered to transform into *Young Yin*, thus finally giving either a continuous or broken line.[8] Repeat this process until a complete hexagram from 1 of 64 possibilities is formed.[9] Each hexagram represents a divinatory meaning; however, Cage often used *I Ching* divination coins as a method for creating a hexagram, to which he then assigned each of the sixty-four to a specific parameter.[10]

This was one of many methods Cage used for chance operations and also one of the most common. Since this was such an important technique for Cage's chance operations, I intentionally decided to build an *I Ching* abstraction in my patch by using Pd's built-in *random* object as the foundation. Arguably, this is perhaps more of an achievement of philosophical accord than an exercise in probability.

8 Stephen Karcher, *How to use the I Ching: A Guide to the Ancient Oracle of Change* (Shaftesbury, Dorset: Element Books Limited, 1998), 34-35.

9 Alfred Huang, *The complete I Ching: the definitive translation* (Rochester, Vt.: Inner Traditions, 1998), 10-11.

10 John Cage, Silence: *Lectures and Writings* (Middletown, CT: Wesleyan University Press, 1961), 57-59.

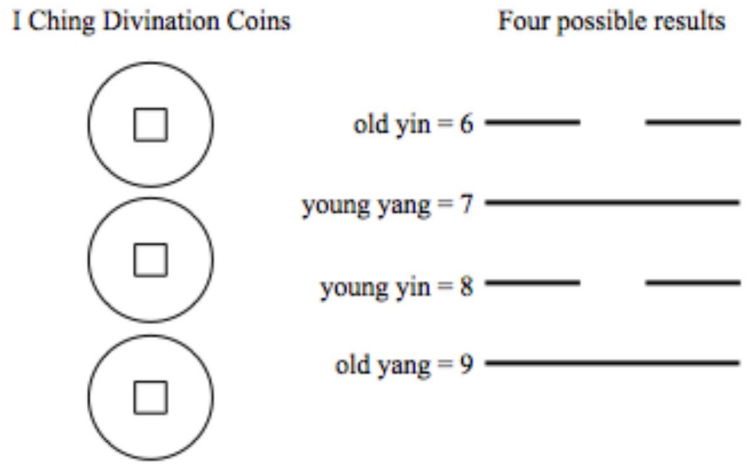

Figure 3. The Coin Method for getting results for a hexagram.

Real-time Chance Operations

Performance-based chance operations are paradoxical in that to rehearse them would reduce the indeterminate aspects, yet under-rehearsing may not subdue the subconscious influence of the performer. As a result of under-rehearsing, the performance would be based on the performer's ego rather than chance; that is, in order to regain a sense of familiarity, the performer may regress to playing comfortable "licks" and nearby instruments instead of exploring new ideas and sounds. The benefit of using a flexible framework for *27'10.554"* is that I can assimilate performance-based chance in the realization.

I constructed the virtual Coin Method by using Pd's built-in *random* object as the main building block. This object outputs a random number based on the parameter set in its creation argument—if set to 10, the object will output any number from 0 to 9. It is worth noting that these are pseudo-random numbers because they are derived from a predetermined sequence loaded at runtime and are not chosen at the time of output. One can easily represent a virtual coin tossing by creating an argument of two, which will output a zero or a one, then adding two so each value will be two or three—representing heads or tails from the coins (Figure 3). Therefore, this connection denotes a single coin, and I group them in threes in order to produce a result of 6, 7, 8, or 9. The results are filtered into a binary output to represent a continuous or broken line (Figure 4). Duplicating this object chain five more times produces a complete hexagram. Using the traditional Coin Method, as Cage did, is a rather time-consuming process, because it involves tossing the coins six different times and recording their results. The patch I built into Pd takes this linear process and compresses it by simultaneously tossing coins in order to produce the results in milliseconds.

Perhaps the most compelling aspect of using the *I Ching* for chance operations is that John Cage mapped the sixty-four possible outcomes to specific parameters. As expected, this is what I do with the results as well. Since the hexagrams are essentially a combination of various continuous and broken lines, or binary results, I can easily represent this in Pd with a zero or one. The output received from the *I Ching* patch controls the sample selection inside the instrument categories, and I reuse the patch to additionally control spatialization—in regard to where the sound occurs in space. While the *I Ching* is used to select sounds, some parameters are taken from the score: the particular instrumental category and the form of attack (*secco*, resonant, and sustained). Therefore I group related sounds so that the *I Ching* may only choose from the given category. With the current technology of available memory in most computers, it is infeasible to actually have sixty-four samples per instrument and their respective sustained sounds. To solve this problem, my patch has the ability to reload multiple sound banks into the buffer during performance. I wanted to maintain a balanced probability for each sample, so I made sure the number of sounds were able to divide evenly into sixty-four. Mapping the panning parameters was quite easy. The sinusoidal curve I use for panning signals can take a much finer grain of detail than the number of samples I use at one time. Thus, I can benefit from using all sixty-four possibilities of hexagrams from the *I Ching* without having to divide them into smaller numbers. The patch can support stereophonic and quadrophonic sound, which both take an input range from 0 to 1 and have the values 0 to 63—from 64 hexagrams—mapped accordingly.

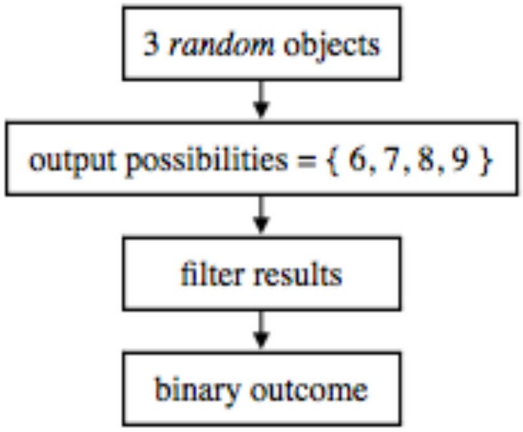

Figure 4. Flowchart for a coin toss in Pd.

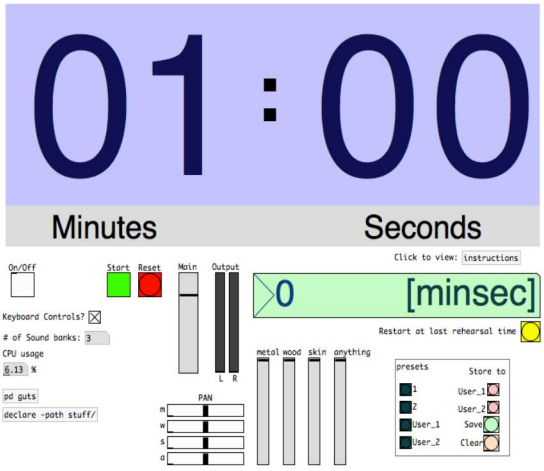

Figure 5. Interface of *27'10.554"* as seen in Pure Data.

This is certainly not a conventional sampler where specific sounds are mapped to specific notes; rather, the sounds are chosen by performing chance operations. The decisions of the computer are made during a performance, thus each execution is, in Cage's words, "virgin."[11] This adds a performance-based chance element to the work, providing a method to incorporate other compositional techniques that Cage used. The end result is that each performance consists of chance operations deciding on a sound and a location of that sound.

Designing a Time-Based Random

Many issues arise when trying to generate randomness inside a computer's memory. The computer can only generate pseudo-random numbers. This becomes somewhat predictable because the computer accesses the same array of numbers, and after rehearsing and using this patch many times, one begins to recognize these patterns. Fortunately, since I am using the same building block for my virtual *I Ching*, I am able to quickly solve this problem by fixing the building block itself—Pd's *random* object. Eventually, I found a solution to this problem by using a white noise generator, seen in Figure 6. White noise contains all frequencies, and in Pd, it is created by a series of random points between 1 and -1. This is similar to the *random* object, except the noise generator operates by continuously sending output. Using the *snapshot* object, I am able to capture the value at any given sample and use it as my random number. This is a huge improvement over the control-rate random object because my new abstraction will change even when I am not using it. This abstraction will not create any predictability that may have been present in the previous version.

11 John Cage, Silence: *Lectures and Writings* (Middletown, CT: Wesleyan University Press, 1961), 36.

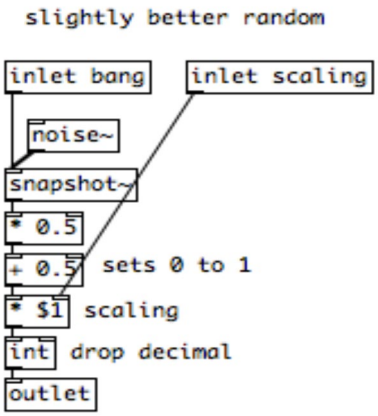

Figure 6. Abstract of the implementation of a better random number generator.

Silencing the Self

Much of Cage's music, including *27'10.554"*, is based on an inherent randomness that attempts to remove ego from the creative process. As Cage says, "Chance, to be precise, is a leap, provides a leap out of reach of one's own grasp of oneself."[12] Chance is clearly the edifice used to compose *27'10.554"*, and the randomness of paper imperfections were Cage's compositional technique. He diminished his ego from the compositional process, yet realizations of this work are most likely carefully and methodically planned and rehearsed. Furthermore, because of our intrinsic tendencies, we will subconsciously create overlaying rhythmic structures in order to remember and retain the music. As performers, we risk the danger of becoming complacent by letting the realization begin to gravitate towards a rhythmic *reminiscence*. This reminiscence pulls from deep within our own memories and regurgitates an average of the music buried inside. The beauty of realizing Cage's music is that it forces the musician to understand their own inborn and learned biases. In my realization, I wanted to add more elements of chance that created on-the-spot decisions in order to vary the piece from performance to performance. I am interested in participating in Cage's compositional process in order to have a deeper understanding of his credo. With the aid of technology, my realization has helped maintain this compositional technique by generating unpredictable results over multiple performances. Therefore, a single performance is a snapshot in time never to occur again—the only constant being the constant of change.

This entire concept stems from performances of *27'10.554"* that left me discontented with the number of sounds I used. I felt like this was only a shell of Cage's idea and not a true manifestation of it. Creating a realization of this work requires a great deal of design decisions that place one in the role of composer. However, I wanted to reduce my own bias and give up control to chance. Reducing my influence is achieved with the assistance of technology but the questions still remain: Is the computer really using chance? Is the computer really able to attain randomness? These are certainly debatable, but nevertheless, I have achieved a diminished role of influence during performance, which is another step closer to removing ego.

Limitations and Improvements

The flexibility of the application I developed allows the user to easily create a new realization so that multiple performances can be unique versions. These decisions are all made pre-performance but still encourage mutable realizations that can generate a sizable timbral spectrum not possible in an entirely acoustic performance setting.

After performing this piece many times with the assistance of my patch, I have had time to reflect on the possible limitations of the technology and how it may be improved. One of the biggest shortcomings of the technology is producing true randomness. As I described above, computers can only generate pseudo-random numbers, which are sequences of numbers that are predetermined. I am able to improve on this problem by using a time-based random that is not iterative—meaning the random numbers are generated based on when they are accessed, not by what the next number in the sequence happens to be. However, this does not solve the problem. While even the most attuned ear would most likely never recognize patterns produced from the random number generators, I am still unable to truly give up chance to the universe. However, this can be improved by using outside data—perhaps from stock market prices, weather patterns, etc. The difficulty is to decide whether or not to embed this data into the patch or to try accessing it in real-time. There are disadvantages to both: embedding will produce the same or similar results and accessing data in real-time may be too slow. But certainly these are improvements to consider for future realizations with advancements in technology.

Furthermore, why even try to simulate the *I Ching* at all? I could have easily just skipped using a virtual *I Ching* and simply used

12 John Cage, Silence: *Lectures and Writings* (Middletown, CT: Wesleyan University Press, 1961), 162.

Pd's built-in random capabilities. But developing a realization of Cage's music forces us to look inward and face our own artistic motivations. Why roll the dice or flip the coins at all? It is what we do during the preparation when we are isolated with our own judgment that determines our level of commitment and integrity to the art. Taking a chance to allow oneself to be changed is the only risk here. This is the beauty of the work. In an attempt to incorporate more chance elements, I provided a technological framework for generating unpredictability.

I originally titled my realization, *27'10.554" for a Percussionist and Computer*, but I have since decided against this. At first glance, one will notice that the computer is autonomous, making its own decisions, which lends itself to a performance of two separated entities: human and computer. Much like an adapted performance of this work where multiple performers are contributing various parts of the score (i.e. *27'10.554" for Three Percussionists*), I initially thought the technology should get its own place by mention in the title; I reasoned that it makes decisions, so I should include it as a performer. However, I no longer consider this to be the case. The technology is an extension of my realization, not a separate performer, and it only performs when I am performing. It can only act within the rules and boundaries of the world I gave it; similarly, a performer's realization of *cComposed Improvisation* or *Child of Tree* may have time brackets that set the specific boundary. Cage's *27'10.554"* allows for creativity within his credo, and emerging ideas keep the music in a continuous state of evolvement. New generations of artists play a crucial role in keeping this work in perpetual flux. With my realization of *27'10.554"* and the help of modern technology, I can also maintain the evolution of the work within my own performances.

Media Example 1.
John Cage, *27'10.554" for a Percussionist*, page 4, performed by computer realization in Pure Data.

Media Example 2.
John Cage, *27'10.554" for a Percussionist*, page 4, performed by computer realization in Pure Data.

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New Musical Contexts for More Sustainably-Made Marimbas

Alex Smith

Abstract

This paper examines the sustainability of the marimba in light of its longstanding association with endangered natural resources. The traditional resource used in the production of marimba bars is the increasingly rare and endangered rosewood.[1] Rosewood's incorporation in the production of any American marimba requires that the resource be acquired internationally, which globalizes the production chain and greatly enlarges the carbon footprint of the production process. The consumption of rosewood for the making of marimbas and xylophones continues today since the sonic abilities of rosewood have not been matched by the alternative materials presented by the percussion community. However, these aesthetic preferences are in part the product of musicians and listeners being socially and culturally conditioned to value the idiomatic sounds of traditional materials.[2] Musicians and listeners, then, can learn to value alternative materials of more sustainably-made instruments if their sound aesthetics are cultivated in their own musical contexts. Such practice might allow for a more ethical, environmentally considerate, and creative music-making experience as composers, performers, listeners, musical instruments, and the natural resources that comprise musical instruments collaborate to invent these new musical contexts. Data are drawn from two such contexts that use instruments made with more sustainable and unconventional materials in order to show how the musicians and listeners of them value the music they make.

Introduction

This paper examines the sustainability of the marimba in light of its longstanding association with endangered natural resources. The resource most commonly used for the production of bars in marimba traditions around the world is the increasingly rare and endangered rosewood; in the Western classical tradition—the focus of this paper—Honduran rosewood (Dalbergia Stevensonii) is preferred.[3] Additionally, rosewood's incorporation in the production of any American marimba requires that the resource be acquired internationally, which globalizes the fossil-fuel dependent production-consumption chain and greatly enlarges the carbon footprint of the production process. Demand for rosewood as a material extends far beyond the music community. The visual aesthetic and physical properties of rosewood make it an ideal material for non-musical applications such as flooring, furniture, charcoal, firewood, and sculpture by indigenous and global populations alike.[4] Additionally, rosewood's endangerment might be largely attributed to habitat loss and degradation due to human causes; examples of this include deforestation as a result of shifting agricultural practices and illegal logging.[5]

Nonetheless, the consumption of rosewood for the making of marimbas and xylophones continues today since the sonic characteristics of rosewood have not been matched by the alternative materials presented by the percussion community. However, these aesthetic preferences are in part the product of musicians and listeners being socially and culturally conditioned to value the idiomatic sounds of traditional materials.[6] Musicians and listeners, then, can learn to value alternative materials of more sustainably-made instruments if their sound aesthetics are cultivated in their own musical contexts. Such practice might allow for a more ethical, environmentally considerate, and creative music-making experience as composers, performers, listeners, musical instruments, and the natural

1 Omar Carmenates, "Honduras Rosewood: Its Endangerment and Subsequent Impact on the Percussion Industry" (PhD diss., Florida State University, 2009), http://diginole.lib.fsu.edu/etd/4194.

2 Aaron S, Allen, "'Fatto Di Fiemme': Stradivari's Violins and the Musical Trees of the Paneveggio," *Invaluable Trees: Cultures of Nature, 1660-1830*, edited by Laura Auricchio, Elizabeth Heckendorn Cook, and Giulia Pacini, (Oxford: Voltaire Foundation, 2012), 314-315.

3 Carmenates.

4 Bernard Woma, phone interview by author, March 22, 2015; Carmenates, ix.

5 Carmenates, 25-32.

6 Allen, 314-15.

resources that comprise musical instruments work together to invent these new musical contexts.[7] Data are drawn from two such musical contexts for more sustainably-made instruments in the academic percussion community.[8]

The sustainability of the marimba is a part of a much larger discussion of using environmentally problematic woods for musical instruments. Over the years, authors have discussed several other examples, including the scarcity of Brazilian pernambuco for violin bows[9] and guitar woods used by American Luthiers.[10] The case of the guitar received mainstream attention after two federal seizures of Malagasy ebony and rosewood from Gibson Guitars in 2009 and 2011 due to the supposed violation of the Lacey Act.[11] In every example, the sustainability of using such woods is in conflict with the demand for the sounds they make.

The physical properties of traditional materials for musical instruments produce sound aesthetics that cannot be easily duplicated. The research of Dietrich Holz has investigated some of the inherent sonic characteristics associated with specific woods. In his article "Tropical Hardwoods Used in Musical Instruments: Can We Substitute Them by Temperate Zone?," he places the physical properties of different types of woods into equations in an attempt to show why certain species are considered superior as sound producers in a variety of musical contexts. Holz determines that tropical hardwoods, such as rosewood, padauk, Blackwood, and cocobolo, have traditionally been used for marimba bars because of their hardness and high density. He concludes that "… to maintain the timbre of the [marimba] one cannot substitute these woods."[12] Certainly, alternative materials for musical instruments will always fall short when they are held to the same aesthetic standards as traditional woods.

On the other hand, traditional woods for musical instruments are valued in part because they produce sounds that we perceive as "normal" and to which many are accustomed. Scholars like Aaron Allen in the emerging field of ecomusicology help to contextualize the ways in which musical instrument reputations are culturally and socially constructed. In his article "'Fatto Di Fiemme': Stradivari's Violins and the Musical Trees of the Paneveggio" Allen states, "The object itself … does not contain all that is special, even as musicians, craftsmen and scientists try to uncover its secrets. Rather, the value lies in its process of becoming, its life history."[13] This is to say that the marimba sound aesthetic is the product of age-old traditions of instrument craftsmanship and musical practice across musical contexts throughout the world. In the case of Western wooden-bar mallet instruments specifically, J. C. Deagan's work in the late 19th century improved upon their predecessor, the strohfiedel. Deagan incorporated Honduran rosewood, rather than the more frequently used woods such as pine, maple, and Guatemalan hormigo, on what is credited as the first orchestral-quality xylophone.[14] The sound aesthetic of Honduran rosewood on Western marimbas and xylophones, then, might be valued so strongly because it has been most commonly used.

While the academic percussion community's preference for Honduran rosewood has remained steady, in other ways, the short history of the Western marimba is one that is defined by transformation and innovation. Even before Deagan, the strohfiedel went through a similar evolutionary process in the early 19th century. The virtuoso Michael Jozef Guzikow not only innovated the instrument's design and experimented with bar materials, but he also established its musical voice as a respected sonic entity amongst regarded music icons of the time.[15] Modifications to wooden bar mallet instruments have continued until today, as makers and players investigate aspects such as tuning, range, graduation, resonator designs and materials, and bar materials such as other tropical hardwoods and synthetics. These innovations have led to the production of high quality instruments by companies within a respected and skilled industry. It is undeniable that the instruments themselves and the music they make are a source of value for the musicians and listeners that use and experience them.

Perhaps the more important point is that percussionists in general are inherently not strangers to change, newness, and experimentation; in fact these qualities are a part of our experience in relation to mallet instruments and beyond, and in ways unlike any other instrumental area. With this in mind, perhaps we as a community can approach the issues surrounding the availability of rosewood as yet another opportunity to be musical, open-minded, creative, and resourceful in the solutions we pursue. I do not claim that the experiences of musicians and craftspeople in the cases I present in this article to be better or worse than those associated with instruments made from traditional materials; however, I do suggest that they can be valued equally and in unique ways.

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7 This study considers musical instruments and the materials that comprise musical instruments as objects with agency and socio-cultural meaning. This understanding is informed by the work of Kevin Dawe, Eliot Bates, Arjun Appadurai, and Daniel Miller (see References).

8 I use the term "academic percussion" to refer to any higher education setting of Western classical percussion (collegiate percussion programs and conservatories). Though the instruments used in these settings, and their surrounding issues, are similar and may be compared to those found in other settings (professional ensembles, community ensembles, drum corps, middle schools, high schools, "world music" contexts), the focus of this paper is academic percussion due to informant pool limitations.

9 Russ Rymer, "Saving the Music Tree," *Smithsonian Magazine* 35 (2004): 52-63.

10 John Curtis, "Sustainability: An Issue Confronting Luthiers," *American Lutherie: The Quarterly Journal of the Guild of American Luthiers* 33 (1993): 40-45. For a more recent discussion, see Musicwood, directed by Maxine Trump, Helpman Productions, 2013, documentary.

11 The Lacey Act is legislature that deals with the trade in plants and animals that are illegally obtained, possessed, or sold.

12 Dietrich Holz, "Tropical Hardwoods Used in Musical Instruments: Can We Substitute Them by Temperate Zone?" *Holzforschung* 50 (1996): 121-129.

13 Allen, 314-315.

14 Carmenates, 19-20; Shannon Wood, "A Look Back, Deagan History Part 1," *Malletshop Quarterly* (January 2004): 6-7.

15 James Blades, *Percussion Instruments and their History* (Westport, Connecticut: The Bold Strummer, Ltd,. 2005), 307-309.

Since the sound aesthetics of musical instruments are in part culturally and socially constructed, musicians might be conditioned to value the sounds of alternative marimba materials when such materials are appreciated for their own distinct sonic characteristics; a more subjective aesthetic assessment might provide a starting point for learning to value the sounds they make. Denise Von Glahn, another scholar in the field of ecomusicology, teaches her students to listen to sounds and music holistically, to hear naturally occurring soundscapes, and to hear and value the music to which they listen within the context of those soundscapes.[16] When musicians and listeners of the academic percussion community apply this approach, the sounds of alternative materials for more sustainably-made instruments can be heard and valued in their own ways. Situating these instruments within new musical contexts that cultivate their sound aesthetics can further enhance appreciation for them.

The act of creating these new musical contexts can allow for strong senses of social capital between the participants of the music-making experience as they collaborate to develop the voices of these more sustainable musical objects. Social capital includes "… features of social organization such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit."[17] In the music world, I suggest that social capital between musicians and listeners is largely determined by the musicians' ability to abide by the musical values of their tradition. To provide a popular example of this, if the guitarist Jimi Hendrix played "The Star Spangled Banner" at Woodstock with an unamplified ukulele, the trust his counterculture audience had in him would most likely not have lasted the night; the values of the counterculture, which Hendrix was both a product of and simultaneously had a hand in producing, determined that Hendrix's performances would be filled with loud, heavily distorted guitar and an uncanny stage presence. Similarly, the sound aesthetics of more sustainably-made marimbas may prove problematic for musicians and listeners when used in musical contexts for instruments made with traditional materials. However, when composers and performers collaborate to cultivate these aesthetics in new musical contexts, strong social capital can exist between them and their listeners. This is the result of both their personal investment in the creation of the context and the aesthetic appropriateness of the instruments themselves. In addition to these artistic benefits, the production and consumption of musical instruments in more sustainable ways can result in multi-layered valuations of the musical context because of the ethical and environmental sensitivity musicians and listeners experience.

Through a discussion of two case studies, this paper argues that the sound aesthetics of more sustainably-made marimbas can produce unique musical contexts. These musical contexts can allow for strong sentiments of social capital between the participants of the music-making experience. The first of these cases is an analysis of a composition written for an all-Michigan, reclaimed wood marimba, referred to as the Michigandered Marimba. Qualitative data are drawn from written accounts by the associated composer and performer in order to understand their experiences developing the musical voice of this instrument. The second case is an analysis of two pieces written for handmade glass marimbas and percussion. Data for the second case are drawn from in-depth, semi-structured interviews with composers, performers, and listeners to show the ways these musicians used, experienced, and valued the unique sound aesthetics of these instruments. These two settings show that new musical contexts for more sustainably made instruments can be valuable to musicians and listeners due to the musical, environmental, and ethical benefits they offer the music-making experience.

16 Denise Von Glahn, "Sustainability and Sound: Ecomusicology Inside and Outside the Academy," *Music and Politics* 7, no. 2 (2014): 34.

17 Robert Putnam, "Bowling Alone: America's Declining Social Capital," *Journal of Democracy* 6 (1995): 65-78.

Context I: The Michigandered Marimba

During the summer of 2013, funded by Michigan State University and under the tutelage of the Michigan luthier and marimba craftsman Matt Kazmierski, Kazmierski and I constructed a low-cost, four and one-third octave "sustainable marimba" (Figure 1).

Figure 1. The Michigandered Marimba

This instrument is primarily comprised of naturally-felled Michigan woods and resources. The bars are made from Michigan sassafras in an attempt to provide a local and suitable alternative to rosewood instruments.[18] Upon the instrument's completion, I produced a short video documentary about the project, entitled *The Michigandered Marimba*, which also features the music of Michigan artists and the work of Kazmierski. In an attempt to situate the unique sound of this instrument within its own musical context, the Michigan-based percussionist Kelsey Tamayo premiered the composition entitled *The Fallen Tree*, written specifically for the instrument by a composer from St. Lawrence University, Victor Marquez Barrios. In the sections below I will draw from written accounts by Tamayo and Barrios in order to show their method and experiences creating the musical context of this instrument through the composition and performance of *The Fallen Tree*.[19]

18 My process of testing bar material alternatives to rosewood is ongoing. After a few years of experimenting with a variety of woods, it seems that domestic options might need more regular maintenance in terms of their tuning. However, more testing is needed to confirm this and other questions surrounding domestic woods for marimba bars.

19 *The Fallen Tree*, Victor Marquez Barrios and Kelsey Tamayo, Michigan State University, 2014, online video performance, https://vimeo.com/84087203.

Tap to play Video:

Victor Marquez Barrios - *The Fallen Tree*, performed by Kelsey Tamayo.

Establishing the Musical Context for the Michigandered Marimba

Composer-performer collaborative experimentation with the Michigandered Marimba's acoustic properties established the sonic palate that would be used in *The Fallen Tree.* Tamayo and Barrios began by experimenting with different mallets, extended techniques, and striking the bars and other parts of the instrument in unconventional places to discover a multitude of sounds that the instrument could produce. Those sounds were then considered in terms of how they might be repurposed into a composition. Both Tamayo and Barrios immediately observed the instrument's most striking quality. According to Barrios, "Out of the many particularities of Alex and Matt's marimba, perhaps the one that struck me the most was the dry, raw wood sound it features."[20] Tamayo articulated similar observations in relation to the instrument's properties of sustain. She also noticed that the tone was of a "light" sound quality. According to Tamayo, this lightness facilitated the ability to produce a wide dynamic range while performing on the instrument.[21]

These idiomatic sounds of the Michigandered Marimba would largely guide composition and performance. For Barrios, the instrument's "lack of resonance" was a quality that he intended to exploit, an idea he attributes to his compositional interest in the use of "… silence as a thematic element."[22] Tamayo reflects on the ways the theme of sustain was incorporated into the work:

> Sustain became an important element to the piece. Since the marimba could not sustain, we found a variety of ways to mimic it. For instance, Victor asks to "echo" a certain passage. This is achieved by repeating a note or notes in a way to hear decay.[23]

20 Alex Smith, Victor Marquez Barrios and Kelsey Tamayo, "Music Made-In-Michigan: Three Perspectives," Where Are We Now?, February 27, 2014, https://concerthub.wordpress.com/2014/02/27/music-made-in-michigan/.

21 Tamayo, "Music Made-In-Michigan."

22 Barrios, "Music Made-In-Michigan."

23 Tamayo, "Music Made-In-Michigan."

These idiomatic qualities also presented considerations for performance as well. Because of the instrument's unique material makeup and design compared to the more mainstream instruments in the marimba market today, Tamayo had to work extensively on developing a technique for playing it:

> In order to fully bring Victor's piece to life … I had to spend a lot of time developing a technique with this marimba. The bars do not have the same rebound as a conventional marimba. In many ways, I felt like I had to over-phrase passages in order for the listener to hear the larger musical idea I wanted to create.[24]

This setting is an example of the ways musical instruments in general are musically active in both musical composition and performance. In relation to this context specifically, the Michigandered Marimba's sounds largely guide the musical parameters of *The Fallen Tree*.

Composers and performers who are creatively invested in the creation of musical contexts for more sustainably made instruments can have uniquely meaningful understandings for the music they make and the instruments they play. For example, in Tamayo's account, she discusses feeling more emotionally connected with the Michigandered Marimba and having a greater understanding for its sound aesthetics than with other percussion instruments she plays on a daily basis. She attributes this to her intensive involvement in developing its musical voice.[25] This connection and understanding acquired through her experiences allowed for a greater awareness of her community's consumptive culture that might ordinarily go overlooked:

> In a sense, I was aware of the depletion of rosewood. However, as a percussionist, it is easy to turn a blind eye to the way our choices effect the environment. Our need to have access for equipment masks the effects of our consumption of materials. Many of the percussion instruments we play only have a label stating a 'generic' birthplace. Being involved with this project has made me question the origins of instruments, the people who help carve their existence, the areas of the world instruments come from, and my personal involvement with these connections.[26]

Not only does this passage represent Kelsey's heightened awareness, but it also expresses the value she places in actually using a more sustainable alternative.

Tamayo and Barrios' composition and performance of *The Fallen Tree* provide a musical context for the Michigandered Marimba. Though some of the instrument's sound aesthetic features might traditionally be considered weaknesses in comparison to rosewood instruments (ex: short resonance and lighter tone), here they are emphasized and valued; in fact, the piece is constructed with this in mind. In essence, The Michigandered Marimba has an entirely unique sound situated and cultivated within its own musical context. Because of their heightened involvement in the creative process, composers and performers that create new musical contexts for more sustainably-made instruments can gain uniquely meaningful understandings of the music they make and the instruments they play.

Context II: Glass Marimbas

During the summer and fall of 2014, the Michigan-based percussion sextet Los Banditos composed for and performed on instruments made from mostly sustainably-sourced, recycled, and reused resources (Figure 2). The focal point of the project was a pair of glass marimbas separated by a quarter-tone. Los Banditos also constructed a cajón, a copper pipe glockenspiel, and a wooden-bar auxiliary marimba. This final instrument experiments with the usage of Osage orange for the bars, one of the hardest and most dense woods in North America, which might serve as another domestic and more sustainable alternative to endangered rosewood. Lastly, Los Banditos sampled sounds from the glass marimbas to be played on a Malletkat.[27]

24 Ibid.

25 Ibid.

26 Ibid.

27 A Malletkat is a MIDI controller that is played like a percussion keyboard instrument.

Figure 2. Los Banditos

The musical context for these instruments was established by two pieces written specifically for the ensemble. *Um Quarto é Mais* is the first of these pieces written by Los Banditos for all of the aforementioned instruments.[28] The second piece, entitled *Dharmas in Solitude: For Quartertone Glass Marimbas and Interactive Electronics*, was premiered by Steve Wulff and composed by Doug McCausland. The sections below draw from in-depth, semi-structured interviews with composers, performers, and listeners associated with this musical context to show the ways these participants used, experienced, and valued the unique sound aesthetics of these instruments.

28 *Um Quarto é Mais*, Los Banditos, Michigan State University, 2014, online video performance, https://vimeo.com/112860277.

Tap to play Video:

Los Banditos – *Um Quarto é Mais*, performed by Los Banditos.

Media Example 1.
Doug McCausland – *Dharmas In Solitude*, performed by Steve Wulff.

Establishing the Musical Context for the Glass Marimbas

Once the glass marimbas were completed, the Los Banditos were immediately drawn to the timbre of the instruments. Over the course of the summer and fall of 2014, the glass marimbas were constructed and then reconstructed in several different ways to discover a method that maximized the bar sustain. In November, Los Banditos reconstructed the instruments for the final time yielding the most resonant product to date. Upon completing this last revision, all of the members of Los Banditos expressed appreciation for the glass marimba sound in terms of its resonance and uniqueness. Composer Doug McCausland expressed similar appreciation for the instruments' sonic properties:

> … the sonic nature of the glass is so interesting, and it's so almost, I mean, it's not alien because it's still related to what you would expect the marimba to sound like; but it's just different enough, just "out there" enough, that it sonically lit that mental fire … I think in a way, the piece ended up being a meditation on the sound of the instrument itself.[29]

29 Doug McCausland, interview by author, East Lansing, MI, January 20, 2014.

> Like the context for the Michigandered Marimba, the pieces for this context by Los Banditos and McCausland are composed in such a way that the sonic properties of the instruments served as musical inspiration. What is different between the two is that the unique sound quality of the glass marimbas provoked an extraordinarily enthusiastic reception by composers, performers, and listeners alike. Perhaps this is due to the glass marimbas' distinct ethereal timbre and extended resonance; it may also be due to the fact that most of the people involved with the project had never heard a glass marimba in person.

On the other hand, Joel Block, a member of Los Banditos, expressed concern for the ways the sounds of the glass marimbas were being received.

> As a music-making implement, they seem a little novel. And I think that's because I've never heard a glass marimba before. I've never heard a piece of music written for glass marimba before. So once we have music written for it, and my ears, or our ears, get adjusted to the timbre that the glass marimba produces, it will definitely sound more ... normal.[30]

In considering Block's concern, Los Banditos wanted listeners to experience more than purely timbre-related valuations of the glass marimbas at the performance of *Um Quarto é Mais*. As a result, the production of a strong musical context for the instruments became of utmost importance for Los Banditos. After experimentation with several musical ideas over the course of a couple months, the completed composition featured a soundscape of resonant, evolving sound masses constructed from independent ostinatos that could allow for multiple perceptions of rhythm and harmony. The piece also dealt closely with variations of purposing the quarter-tone tuning scheme. Los Banditos were pleased that listeners openly discussed their opinions related to the composition and performance of *Um Quarto é Mais* in addition to the glass marimba timbre.

Listener Valuations of the Glass Marimba Context

The glass marimba timbre proved to be a source of aesthetic value for listeners at the performance of *Um Quarto é Mais*. Most listeners at the premiere had never heard a glass marimba before; therefore, the most common and anticipated way in which the sound was valued was in relation to the sound's uniqueness. One of these listeners was Robert Schmit, a former percussion student at Michigan State University and member of the MSU Drumline:

> … It's so unique. There is the basic marimba, which I'm quite used to. And then hearing something that is just slightly off from that … that's still connected to what I'm used to is really, like, it was good to hear something different. I mean, I don't even know if it should be classified as a marimba because it resonates so much. Like, it has the soft roundness of the marimba I'm used to, but then, like, [it also has] the [extended resonance] and just a slightly different timbre.[31]

Listeners with some sort of connection to either the academic percussion or academic music communities, like Schmit, perhaps held these opinions due to their assessment of the glass marimba sound as unique in relation to what they were accustomed with rosewood instruments. One outsider to these communities had a quite different experience listening to the glass marimbas:

> I think the glass marimba … sounded more natural? … I'm not going to have wood around, … If I hit glass, I know what glass sounds like. It's something that I experience every day.[32]

After listening to an entire concert with pieces that involved rosewood instruments, this listener articulated that the glass marimba sound was in fact more "normal" due to her heightened familiarity with the material (e.g. drinking glasses, flower vases, or other objects). I suggest that this experience is made possible because of a lack of social and cultural conditioning in relation to the norms of musical instrument materials that the insiders of these communities are normally subjected. I also suggest that this listener's experience demonstrates the ways that aesthetic preference is entirely subjective. As the percussion community continues to experiment with alternatives to traditional materials for musical instruments, the opinions of individuals from diverse musical and non-musical backgrounds should be considered when assessing the aesthetics of those materials. It is also important to consider that the extent to which musicians and listeners enjoy the pieces that they perform and hear could have an impact on the ways the sounds of alternative materials might be received and valued.

30 Los Banditos, interview by author, Lansing, MI, July 11, 2014.

31 Robert Schmit, interview by author, East Lansing, MI, December 12, 2014.

32 Lauren Semrau, interview by author, East Lansing, MI, December 10, 2014.

When listening to *Um Quarto é Mais*, listeners were also able to value and appreciate the processes with which the instruments were crafted. Before the performance of the piece, listeners were made aware of the mostly sustainable methods and resources that were used in the making of the instruments. Knowing this, Clayton Batko, a biological anthropology major at MSU and member of the Spartan Marching Band, articulated that he enjoyed the performance visually in that he was able to look at a variety of materials to which he had assigned a previous identity (e.g. PVC pipe, water bottle, etc.) and then experience them sonically. For Batko, this idea could be applied to other instrumental areas for both environmental and aesthetic reasons:

> I think [this idea] could [work for] other instruments, because people have this one standard that they set everything against and they try to make it like that, when it's ok to make things different. Like, you have enough recycled metal that you could make other instruments like brass instruments out of recycled metal, and it might not sound the same, but that would be the beauty.[33]

Listeners such as Robert Schmit suggest that making musical instruments from alternative materials might present an interesting challenge for the music-making creative process.[34] In using more sustainable materials in the making of musical instruments at a larger scale, composers and performers might be forced to more frequently deal with their sound aesthetics in entirely new ways, requiring new forms of creative musical thought to emerge.[35]

Conclusion

The Fallen Tree, *Um Quarto é Mais*, and *Dharmas in Solitude: For Quartertone Glass Marimbas and Interactive Electronics* provide two new musical contexts for sustainably-made instruments with unique sound aesthetics. In each case, the composers and performers developed new sonic rules for these contexts by cultivating the idiomatic sounds of the instruments in creative ways. Establishing the instruments within their own contexts away from culturally and socially constructed perceptions of sound aesthetic preference allowed for high levels of social capital to exist between the participants of the music-making experience.

In highly collaborative scenarios such as these, value can exist in a variety of ways. In addition to the interconnected sound aesthetics and music of more sustainably-made instruments providing a source of value, it can also result from the collaborative environment between participants of the music-making experience as they produce new musical contexts for them. Value can also exist in the form of human appreciation for and connection to locally and more sustainably-sourced natural resources as they are used in the making of musical instruments.

While the demand for and consumption of rosewood extends far beyond its incorporation on mallet instruments, the academic percussion community still has an ecological footprint of which it should be aware and sensitive. Creating musical contexts that maximize social capital between the musicians and listeners of sustainably-made instruments with unique sound aesthetics is one way that musicians can address these concerns. Such practice requires a shift in previously established aesthetic preference and can begin to address ethical, environmental, economic, and aesthetic concerns, holding the potential for a uniquely meaningful and creative music-making experience.

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(S)HE is a Drummer: Feminism and Gender Discourse in the Modern Drumset Profession

Laura J. Brown

Abstract

Instrument specialization has long been recognized as gendered, and the gender imbalance in the field of professional drumset performance has often been viewed as one of the most potent manifestations of this phenomenon. In the male-dominated field of contemporary drumset performance, many female drummers find themselves confronted with questions about gender, not only in day-to-day conversation, but also in more public forums like interviews, magazines, or other media. The responses to these questions correspond with a variety of positions on the gender question within the professional drumset industry. Do these positions share any affinity with ideological positions in feminist theory at large?

*This article draws upon positions on gender expressed by female professionals in the contemporary drumset industry and recorded in some of the major print media of the field (*Modern Drummer, Drummer, Tom Tom Magazine, *etc.) in order to demonstrate how the discursive strategies used by female performers to discuss gender often replicate those of specific branches of feminist theory, whether or not the performers themselves subscribe to those ideological camps. Specifically, I investigate how individuals and institutions in the industry rely on the same ideological language as feminist identity politics (born from cultural feminism), and I similarly show that the criticism leveled at these institutions often replicates third-wave feminist critiques of identity politics in the gender discourse at large. Finally, deploying a nominalist, performative view of gender, I uncover how regulatory gender-coded behaviors can enforce power hierarchies in the field. By uniting the micro (individual statements on gender) with the macro (feminist theory), this project situates the gender dynamics of the professional drumset industry against a theoretical backdrop, opening the possibility for the full corpus of gender theory to lend insights into day-to-day experiences behind the kit.*

> *By sectioning your group (or magazine for our matter) by gender you are automatically taking away from the medium and assuming gender to a genre […] While here in this magazine, it feels like the most political and proactive thing to do, a lot of my friends in bands (myself included) want our genders to have nothing to do with our music. And that becomes the overarching question. Why talk about gender when talking about music?*[1]
>
> -Mindy Abovitz, editor of *Tom Tom Magazine*

> *It is not enough to inquire into how women might become more fully represented in language and politics. Feminist critique ought also to understand how the category of "women," the subject of feminism, is produced and restrained by the very structures of power through which emancipation is sought.*[2]
>
> -Judith Butler, *Gender Trouble*

1 Mindy Seegal Abovitz, "Letter from the Editor," *Tom Tom Magazine* 21.

2 Judith Butler, *Gender Trouble*, second edition (London: Routledge, 1999), 5.

Introduction

The gender gap in the field of professional drumset playing has long been recognized. In the various periodicals of the drumset industry—*Modern Drummer*, *Drummer* (*iDrum*), *Tom Tom Magazine*, etc.—female performers have gained increasing attention over the last several decades as the field has grown more receptive to a balanced gender demographic. Yet still today, when interviews or feature articles train the spotlight toward female performers, rarely is the opportunity to discuss the "gender question" missed, with these public platforms serving as a locus for the expression of a wide array of gender views. Whether prompted explicitly by interviewers to address gender, or whether instead they choose to speak about gender on their own, female professionals in the industry frequently find themselves in male-dominated social situations that demand some statement on gender. We might then ask, does the corpus of commentary on gender published in the media of the field share any affinities with the discourse of feminist theory at large? Using self-expressions of views on the topic of gender published in the foremost periodicals of the professional drumset industry, this article explores how the discursive strategies of certain strains of feminist ideology (specifically separatist forms of feminist identity politics and third-wave feminist critiques thereof) manifest in the rhetoric used by female performers to discuss gender in this profession's media. The intent here is not to assign *subjects themselves* to categories, ideological movements, or labels (which would raise obvious ethical concerns), but instead to show how the language and argumentative strategies used to discuss gender in these periodicals parallels certain argumentative positions in the discourse of feminist ideology at large, especially on the issue of institutional separatism. In an effort to treat gender commentaries from a feminist theoretical perspective, this paper seeks to expand the discussion on gender in the world of professional drumset performance and to open new theoretical avenues through which outworn clichés and stereotypes might be reviewed and critiqued.

Background to Gender Correlations in Instrument Specialization

In the 2008 article "Sounds of Power: An Overview of Musical Instruments and Gender," ethnomusicologist Veronica Doubleday offers a general reminder that not only are "musical instruments […] symbolic tools used within the construction of human identities," but often "the realm of musical instruments is characterized by gender inequalities, with men dominating instrumental musicianship and technology."[3] Likewise, Ellen Koskoff has ventured to draw only one universal conclusion about the cross-cultural studies of gender surveyed in her introductory essay to *Women and Music in Cross-Cultural Perspective*: "nowhere did men and women have equal access to all musical experiences and opportunities within a given society; gender-based restrictions of some sort existed everywhere […] from the mildest, such as gently steering a young American boy away from playing the harp in the school orchestra, to the most violent."[4] The gender imbalance among professional drumset players has been long recognized as one of the more potent manifestations of the gendering tendencies that occur more generally in instrument specialization in the West. Researchers in the discipline of Music Education have devoted a great deal of energy to investigating the relationship between gender and instrument specialization in US public schools, and the fruits of this research may provide one explanation for the gender disparity at the professional level. Foundational in this line of inquiry was a 1978 study by Harold F. Abeles and Susan Yank Porter, which uncovered gender biases among parents, favoring clarinet, flute, and violin for daughters and drums, trombone, and trumpet for sons.[5] The same study also showed a general association with the flute as "most feminine" and drums as "most masculine" instrument choices among a sample of both musicians and non-musicians. Starting with this article, Porter and Abeles began a push for policy change in public schools to encourage gender-neutral participation in music activities, raising the stakes for drums with the 1979 article "So Your Daughter Wants to Be a Drummer?"[6]

Since the groundbreaking work by Porter and Abeles, many have sensed an improvement in female participation in traditionally male-dominated instruments, drums included. Angela Smith, as one example, writes in her book *Women Drummers*:

> Fortunately, the dress code and rules of conduct have changed since Viola Smith's and Pauline Braddy's early days, and women drummers are free to choose what they wear and how they act. Each generation of women drummers has built on the gains of the previous, and perhaps one day drum message boards will be free of wisecracks about drum kits not fitting in kitchens.[7]

3 Veronica Doubleday, "Sounds of Power: An Overview of Musical Instruments and Gender," *Ethnomusicology Forum* 17, no. 1 (June 2008): 29.

4 Ellen Koskoff, "Introduction to *Women and Music in Cross-Cultural Perspective*," in *A Feminist Ethnomusicology: Writings on Music and Gender* (Urbana: University of Illinois Press, 2014), 31.

5 Harold F. Abeles and Susan Yank Porter, "The Sex Stereotyping of Musical Instruments," *Journal of Research in Music Education* 26 (Summer 1978): 65-75.

6 Susan Yank Porter and Harold F. Abeles, "So Your Daughter Wants to Be a Drummer?" *Music Educators Journal* 65, no. 6 (January 1979): 46-49.

7 Angela Smith, *Women Drummers* (New York: Rowman & Littlefield, 2014), xvii.

Smith's tongue-in-cheek rhetoric aside, she speaks for a general assumption that conditions are improving for women in the industry. Yet the story is, of course, far from over. In 2009, Abeles assessed the progress made since his 1978 investigation in "Are Musical Instrument Gender Associations Changing?," a study comparing statistics from the 1978 study, a 1992 study by Delzell and Leppla,[8] and then-current (2009) statistics to see if the gender gap in instrument specialization was narrowing.[9] The results indicated little change,[10] and, moreover, suggested a kind of glass-ceiling effect: the percentage of girls playing traditionally masculine instruments actually decreased as the girls progressed through school. "How is it," Abeles asks, "that the second most popular instrument preferred by fourth-grade girls is drums (Delzell & Leppla, 1992), yet in both the Fortney et al. study and this study, only about one in five drummers is a girl?"[11]

This essay cannot answer Abeles's question. Gendering in instrument specialization remains as complex as gender imbalance elsewhere in society; social expectations, power hierarchies, sexuality and courtship, and personality all play a role in bringing gender trends into being. With the foregoing, I have suggested that the gender gap in professional drumset playing begins earlier, in the specialization tendencies of public school students. However, the possible causal relation between primary musical education and the professional field is only one element in a network of factors that affect the gendered state of the professional field. For instance, not all school music programs provide an opportunity for learning the drumset to begin with, focusing instead on band and orchestral percussion. In such cases, students wishing to play the drums must seek lessons outside school, with a family friend, local performer, music store employee, college student, or adjunct instructor at a local college or university. Some parents may feel uncomfortable sending a teenage daughter to lessons with a male teacher, and the existing gender imbalance in the field may make finding a female teacher difficult or altogether impossible. Moreover, the financial requirements of private lessons may jeopardize the participation of students from diverse class backgrounds, resulting in a demographic skewed in favor of those raised in more financially secure households. In this way, gender and class may intersect to doubly discourage participation. In sum, the gender gap in public music education explains only one factor in the highly complex web of circumstances by which the field of professional drumset performance becomes gendered.

Theoretical Points of Contention: Separatism, Feminist Identity Politics, and Critiques Thereof

Although currents of separatist feminism had existed in the earlier years of radical feminism in the United States (in groups like Cell 16), it was the advent of cultural feminism—a brand of feminist identity politics that emerged in the 1970s—that brought experimentation with separatist thinking into the mainstream currents of American feminist thought.[12] Cultural feminism became the first major current of feminism in the United States to campaign widely for the empowerment of women through alternative, female-run organizations and events. Judy Evans writes of the movement as one of women "reclaiming themselves, finding or remaking their culture, by and for themselves,"[13] and acknowledges its "generally separatist view: women must live and work apart from men."[14] Although not universal in cultural feminist thought, the separatism underlying the promotion of female institutions and spaces ensured women, through these institutions, access to positions of power and means of production. To cite the words of Coletta Reid, one of the founders of Diana Press, "the most important goal of women's businesses is to put women in a position to gain and use economic power."[15] In the music world, as Boden Sandstrom has noted, one development associated with cultural feminism was the establishment of the Michigan Womyn's Music Festival (MWMF), an exclusively female-run music festival still in operation today.[16] Other examples of alternative women's institutions include the record label Olivia Records, Diana Press, Women in Distribution, and *Quest: a feminist quarterly*.[17] As forms of separatist feminist identity politics, these cultural feminist institutions promoted themselves as a means of assembling groups of women based on shared experiences and common identities.[18]

8 J. K. Delzell and D. A. Leppla, "Gender Association of Musical Instruments and Preferences of Fourth-Grade Students for Selected Instruments," Journal of Research in Music Education 40 (1992): 93-103.

9 Hal Abeles, "Are Musical Instrument Gender Associations Changing?" *Journal of Research in Music Education* 57, no. 2 (July 2009): 127-39.

10 Ibid., 135.

11 Ibid., 136.

12 Cell 16—the most militant of radical feminist groups—advocated for a separatist, celibate lifestyle based on the ideal goal of women's complete liberation from all sex. In the words of Alice Echols, Cell 16, "in its revaluation of femininity, villainization of maleness, emphasis on personal rehabilitation, and belief in a global sisterhood, […] was the prototypical cultural feminist group." For more information on radical feminist factions, see "Varieties of Radical Feminism—Redstockings, Cell 16, The Feminists, New York Radical Feminists," in Alice Echols, *Daring to Be Bad: Radical Feminism in America 1967-1975* (Minneapolis: University of Minnesota Press, 1989): 139-202.

13 Judy Evans, *Feminist Theory Today* (SAGE Publications, Ltd., 2013), 79.

14 Ibid., 78.

15 Colletta Reid, quoted in Echols, 273.

16 Boden Sandstrom, "Women Mix Engineers and the Power of Sound," in *Music and Gender*, ed. P. Moisala and B. Diamond (Urbana and Chicago: University of Illinois Press, 2000), 292.

17 Echols, 273.

18 "Identity Politics," in *Stanford Encyclopedia of Philosophy* (Online), updated February 7, 2012, accessed May 5, 2015, http://plato.stanford.edu/entries/identity-politics/#4.

Separatist feminist identity politics have received a great deal of pushback in third-wave feminist theory. The target of much criticism of feminist identity politics is their reliance on the notion of gender realism. Gender realism, sometimes called gender essentialism, refers to the assumption that all women share some essential common trait of female-ness (biological, psychological, or otherwise) that makes them distinct—in a binaristic conception of gender—from men.[76] Indeed, as Evans writes, "cultural feminism can be seen as concerned with something called 'woman' or 'womanhood', which potentially at least forms a unity in character and characteristics, oppressed and devalued by, but also, standing in opposition to, the patriarchy: men, and the structures of domination they have made."[19] In the 1980s, writers like bell hooks and Elizabeth Spelman had already challenged gender realism on the grounds that it fails to account for the multiplicity of gender identities and experiences that arise in conjunction with race and class; they accused white middle-class Western feminists, in Spelman's words, of confusing "the condition of one group of women with the condition of all."[20] Judith Butler's critique of gender realism echoes these earlier critiques; Butler writes, "the insistence upon the coherence and unity of the category of women has effectively refused the multiplicity of cultural, social, and political intersections in which the concrete array of "women" are constructed."[21]

Yet Butler goes further by challenging the coalitional strategies of feminist identity politics directly. According to Butler, feminist identity politics *rely upon the creation of difference* by assuming a normative condition of femininess around which women can assemble, one defined in opposition to a normative, essentialized construction of maleness: "the insistence in advance on coalitional 'unity' as a goal assumes that solidarity, whatever its price, is a prerequisite for political action."[23] "The identity categories often presumed to be foundational to feminist politics, that is, deemed necessary in order to mobilize feminism as an identity politics, simultaneously work to limit and constrain in advance the very cultural possibilities that feminism is supposed to open up."[24] Thus, by assembling around some normative conception of "femaleness," feminist identity politics not only reinforce the very binaries they intend to challenge, but also run the risk of inadvertently excluding anyone not seen to "fit" into the shared identity category. A concrete illustration of this possibility for exclusion appears in an article written for *Tom Tom Magazine* by transgender female drummer Jayne Henson, who laments the transwoman-excluding policies at MWMF (more will be said of Henson later).[25]

These critiques of gender realism, and of the separatist identity politics gender realism may be marshaled to support, bring us to a brief overview of Butler's notion of gender performativity. Oppositional to the concept of gender realism is gender nominalism, a view that considers gender to be socially constructed. With a nominalist backdrop, Butler conceives of gender not as some essential, inherent property, but instead as a "compelling illusion" suggested by an aggregate of social, performed behaviors, including dress, manners of speaking, etc. As she writes,

> Gender ought not to be construed as a stable identity or locus of agency from which various acts follow; rather, gender is…instituted in an exterior space through a *stylized repetition of acts*. The effect of gender is produced through the stylization of the body and, hence, must be understood as the mundane way in which bodily gestures, movements, and styles of various kinds constitute the illusion of an abiding gendered self.[26]

For Butler, the performative nature of gender transfers gender signification from some false *a priori* identity to an individual's behavioral acts. Since gender-coded behaviors can be performed regardless of sex, Butler's theory rejects the traditional conception of essential gender categories and reveals them as "part of the strategy that conceals [...] the performative possibilities for proliferating gender configurations outside the restricting frames of masculinist domination and compulsory heterosexuality."[27] Thus, for Butler, there is no single trait that makes one masculine or feminine, but, rather, one projects masculinity or femininity through the aggregate of gender-coded behaviors performed; furthermore, traditional gender categories exist merely to maintain power structures of patriarchy and heteronormativity.[28]

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19 "Feminist Perspectives on Sex and Gender," in *Stanford Encyclopedia of Philosophy* (Online), updated November 21, 2011, accessed May 5, 2015, http://plato.stanford.edu/entries/feminism-gender/index.html#WitGenUni. For a defense of gender realism, see Mari Mikkola, "Elizabeth Spelman, Gender Realism, and Women," Mypatia 21, no. 4 (Autumn 2006): 77-96.

20 Evans, 93.

21 bell hooks, *Feminist Theory: From Margin to Center, second edition* (Cambridge, MA: South End Press, 2000), 1-2; Elizabeth Spelman, Inessential Woman (Boston: Beacon Press, 1988), 3.

22 Butler, 19-20.

23 Ibid., 20.

24 Ibid., 187.

25 Jayne Henson, "Transitive Properties: Performing Drummer," *Tom Tom Magazine* 21 [Girl Band Issue] (Spring 2015): 35.

26 Butler, 179.

27 Ibid., 180.

28 Butler, 44. "The univocity of sex, the internal coherence of gender, and the binary framework for both sex and gender are considered throughout as regulatory fictions that consolidate and naturalize the convergent power regimes of masculine and heterosexist oppression."

In sum, separatist feminist identity politics often embrace an essential femininity that distinguishes women from men, and on this basis, echoing earlier strains of cultural feminism, these separatist identity politics may be marshaled in support of female-only institutions and events designed for female empowerment. On the other hand, third-wave feminist critiques of feminist identity politics, relying on a foundation of gender nominalism, criticize feminist identity politics' construction of difference and consider the categories of masculine and feminine to be false structures to begin with, or in Butler's case illusions maintained by the aggregate of behaviors performed by an individual. It is these two positions—a separatist feminist identity politics based on essentialism and the nominalist critique thereof—that I wish to import into my discursive study of the gender dynamics operating within the world of professional drumset performance.[29]

Discourse in Drumset Periodicals: A Reflection of Feminist Perspectives

The discursive strategies of the macrocosmic feminist currents introduced above have parallels at the microcosmic level in the professional drumset industry when discussions turn to the topic of gender. The gender realist presupposition of feminine difference that underlies separatist feminist identity politics also underlies two sets of institutions in the professional drumset world: the "all-female band," and the commercial aggregate of magazines and contests devoted exclusively to female drumset performers. In the case of all-female bands, proponents often cite values that echo cultural feminism—female empowerment, freedom of expression, increased visibility, and shared experience—as benefits of such groups. For instance, Lucy Katz, in the article "On Girl Bands" for *Tom Tom Magazine*, takes pride in the label "girl band" despite its potential for essentialism and negative connotations, viewing it as a symbol of empowerment:

> […] being in [a] Girl Band and actively taking control of the means of musical production and performance allows for a type of creative self-expression that delightfully flaunts and interrupts [behavioral] expectations. "The more women rock stars there are, the less we will be seen like that", the very wise Viv Albertine once said, and she couldn't be more right. Hers is an ideal to which we should all aspire, but until that point, I embrace the idea of the Girl Band for the positive sense of shared experience and empowerment that it inspires.[30]

Katz's strategic move to reappropriate a term sedimented with mixed connotations (which she herself problematizes aptly) parallels a discursive move made by cultural feminist Mary Daly, who argued for the subversion of derogatory sexist language through proud reappropriations of some of the same pejoratives by women.[31] For Katz, visibility, shared experience, and empowerment number among the motivations for a positive appraisal of the "girl band" label. To cite a celebrity endorsement of the all-female group, pop superstar Beyoncé once described the motivation for hand-selecting her all-female backup band in terms of female empowerment: "I'm all about female empowerment. I'm all about pushing the envelope. I want to get together a group of fierce, talented, hungry, beautiful women for my band."[32]

On the other hand, female-exclusive performing groups, while promoting greater visibility for female performers and raising awareness of the gender disparity in a male-dominated professional field, can also rely inadvertently on the kind of separatist practices of constructing difference that third-wave feminists have criticized in identity politics.[33] Critical responses to all-female groups and resources reveal that female performers are divided when it comes to weighing the cost-benefit tradeoff of these institutions. Some female drumset players view all-female groups as kitschy constructions of female "otherness." Hilary Jones (The Metropolitans, Tribal Tech, FWAP, The Delphines), for instance, has expressed her marked disapproval on the pages of *Modern Drummer*:

> When I first moved to LA, the only gigs people asked me about were for all-chick bands, and I just didn't want to do that. I've always rebelled against that. I just want to be like anybody else: I want to do what I do, play the way I play, and either you like it or you don't. […] Certainly there are chick musicians I like to play with, but if it's just for that reason of being "all girl," it's not of interest to me.[34]

29 For another summary of the division between cultural feminism and nominalist discourse, see Linda Alcoff's review (pp. 405-22) of the debate between cultural feminism and post-structuralism, which she characterizes as "the identity crisis in feminist theory." Linda Alcoff, "Cultural Feminism versus Post-Structuralism: The Identity Crisis in Feminist Theory," *Signs* 13, no. 3 (Spring 1988): 405-36.

30 Lucy Katz, "On Girl Bands," *Tom Tom Magazine* (Online Blog), February 13, 2015, accessed May 5, 2015, http://tomtommag.com/2015/02/girl-bands-label/.

31 Evans, 80. "[…Daly singles out woman-hating words, some of which were once prized. Rather than employ other terms, she seeks to recall and regain women's heritage and prime by altering, some would say, inverting, their meaning and use. […] She is engaged in subverting the male linguistic project by using certain of the names of insult—hag, crone, spinster—with pride. In that sense, her politics is, I believe, a form of identity politics […]."

32 Beyoncé, quoted in Bill Milkowski, "Kim Thompson & Nikki Glaspie: Fueling Beyonce's Formidable All-Female Band," *Modern Drummer* 31, no. 2 (February 2007): 50-51.

33 See notes 23-24.

34 Hilary Jones, interview by Robyn Flans, "Hilary Jones: Grace Under Pressure," *Modern Drummer* 25, no. 2 (February 2001): 76-84, 86-88.

In an article for *Tom Tom Magazine* entitled "Gender Ain't Genre," Katy Otto (Trophy Wife, Callowhill) links the term "girl band" not only with gender but also with age, calling attention to its connotations as an infantilizing pejorative (think "boy band" for comparison).[35] And as early as 1990, a sociological study entitled "Just Me and the Boys? Women in Local-Level Rock and Roll" had reported that "a number of respondents dismissed [all-female bands] as 'gimmicks,'" suggesting that this sentiment extends both back in time and outside the chief urban entertainment centers.[36] However, this view is far from universal, as evidenced by the "female empowerment" interpretation, or by positive responses to the increased visibility of female performers in all-female groups.[37] For proponents of the all-female band as a feminist gesture, these benefits, as well as the potential to inspire future generations of girls to learn the drums, justify or outweigh the groups' inadvertent construction of difference.

A parallel situation has developed surrounding the recent establishment of all-female magazines (i.e. *Tom Tom Magazine*) and contests (the *Hit Like a Girl* campaign). While *Tom Tom Magazine*'s mission statement stresses the same empowerment and shared community values expressed by supporters of all-female bands,[38] its founding editor, Mindy Abovitz, has elsewhere characterized the magazine in explicitly political terms:

> Agitators and reactionaries don't seek disruption for disruption's sake—actually, they strive for something altogether quieter and universally inclusive: parity, identity and equal opportunity. And they're willing to shout at the top of their lungs to get it. […] five years after we took a stand against the representation of female drummers, we're still here—bigger, bolder and more powerful than ever.[39]

Clearly, Abovitz views the magazine as a necessary means for advancing toward a goal of gender equality in the industry. Yet if the terms "parity" and "equal opportunity" cause the reader to doubt the presupposition of feminine separatism in the magazine's mission, Abovitz dispels this doubt with a list of projects spearheaded by the magazine: the establishment of a drum school run by female instructors, planned workshops with female percussion celebrities, the founding of the *Hit Like a Girl* drumming contest, and educational initiatives directed exclusively at girls.[40] In a 2013 article in *Modern Drummer* entitled "You're Really Good…For a Girl," Juels Thomas (drummer/educator for DW Drums) problematized the separatist bias of initiatives of this type:

> In recent years, there seems to have been an influx of contests and magazines specifically aimed toward female drummers. While it's definitely positive to see more of an outlet for us now, there can be a fine line between reaching out to a group and segregating.[41]

The other performers Thomas quotes in her article show similar apprehensions about the cost-benefit tradeoff of all-female publications and contests. Dawn Richardson (4 Non Blondes, Mental 99, Tracy Chapman) expresses "that more visibility is better," despite having "mixed feelings about separating out women and girls."[42] Drummer Yael (the Love Project, Ugly Kid Joe, Divinity Roxx) takes a stronger critical stance toward the separation of female drummers:

> I am sure the intention of most of the females trying to inspire other girls is to have a feminist-type strategy, and they aren't looking to put anyone down, but it's all part of the game. Stop separating humans due to gender. I'm a drummer. I am female. The end.[43]

35 Katy Otto, "Gender Ain't Genre," *Tom Tom Magazine* [Girl Band Issue] (Spring 2015): 10-11.

36 Stephen B. Groce and Margaret Cooper, "Just Me and the Boys? Women in Local-Level Rock and Roll," *Gender and Society* 4, no. 2 (June 1990): 223.

37 See Burt Korall, "Diva's Sherrie Maricle: From the Female Perspective," *Modern Drummer* 27, no. 12 (December 2003): 142-44, 147, 149, 151: "At the outset, Diva was viewed merely as an appealing novelty. Now it's much more. The band makes a strong case for the coming of a new day for women in jazz. Maricle and Diva justify manager Stanley Kay's contention that being a woman is no longer a negative factor in the performance of instrumental jazz. Talent and opportunity are key. They have everything to do with who and what Maricle and Diva are—and will be."

38 "About," *Tom Tom Magazine* (online) http://tomtommag.com/about/. "We seek to raise awareness about female percussionists from all over the world and hopes [sic] to inspire women and girls of all ages to drum, all while strengthening and building the community of otherwise fragmented female musicians. […] Tom Tom Magazine is more than just a magazine it is a movement. Join us."

39 Mindy Seegal Abovitz, "Happy Birthday to Us!" *Tom Tom Magazine* 20 (Winter 2014/15): 3.

40 Ibid.

41 Juels Thomas, "You're Really Good...For a Girl" *Modern Drummer* 37, no. 12 (December 2013): 78-79.

42 Ibid.

43 Ibid.

In contrast to Abovitz's separatist approach at *Tom Tom Magazine*, Gemma Hill, editor of *Drummer* magazine, has aimed for a more egalitarian approach to gender, rather than an overt bias toward female representation, although she still finds it important to represent female performers:

> I try to include everyone equally, so I don't want to go too heavily towards the female thing. But I feel it's really important to feature female drummers because there are so many great female drummers out there, so many players that I know and who should be in the magazine. *In an ideal world, every drummer is just a drummer and it doesn't matter if you're male or female* [my emphasis].[44]

Indeed, calls for neutrality—calls to ignore or deemphasize gender differences—are common among female drumset performers. According to one interviewer, "Hilary [Jones] dislikes the term [female drummer], since 'female drummer puts her into a department separate from other drummers.'"[45] In a candid comment as part of a "Female Drummers Round Table" arranged by *Modern Drummer*, Jones responded to the question "What […] is the difference between men and women drummers?" with "Men have a penis. We don't. That's about it."[46] Similarly Cindy Blackman, when pressed by *Tom Tom Magazine*'s editor to comment on gender, remarked that, "Any drummers should look to whomever they are inspired by as their role models. I hope to inspire drummers—not female ones or male ones, but excited ones. For me, music is bigger than that."[47] To cite yet another example, in the Girl Band issue of *Tom Tom Magazine*, Sarah Grimes (September Girls) emphasized individuality over gender:

> *I'd rather that things weren't labeled, and be gender neutral*, but unfortunately we aren't really in a gender neutral world just yet. […] I'm a drummer, full stop. I happen to work hard and put in a lot of practice, maybe that's the reason I'm okay at it. One thing I take from the ["girl drummer"] label is the motivation to *shake off all labels and get recognition for being a creative individual* [my emphasis].[48]

The foregoing sample of comments is necessarily small and curated to show specific viewpoints, appearing as publicized in the circulating media of the industry. The intent is not to extrapolate broad generalizations about the relative commonality of one view or another, which would require a sophisticated statistical approach (including a more rigorously collected sample of the available data), but rather to use these subjective expressions as evidence that the ideological positions of feminism at large can be located in the discursive structures of this social group. These statements indicate that the establishment of all-female institutions in the industry, as well as the more general emphasis on "female drummers" (as opposed to "male drummers," or simply "drummers"), exemplify a kind of separatist feminist identity politics that echoes the separatist ideology espoused by some cultural feminists, and shares with this ideology a reliance on gender realism and an emphasis on alternative women's institutions. Of course, it is necessary to note that the separatist ideology of cultural feminism was directed toward not only professional institutions, but also women's private lives and, in some cases, sexual roles, and while the institutional separatism exercised by female bands, *Tom Tom Magazine*, or the *Hit Like a Girl* campaign echoes cultural feminist advocacy for women's spaces in the professional sphere, these institutions by no means advocate separatism *as a total way of life* in the sense that many strains of cultural feminist thought did. Yet, the efforts to carve the professional space of the industry into male and female spheres, and the debates over how gender and power intersect within and between these spheres, rehearse many arguments familiar to feminist discourse. Proponents of female-only institutions call upon the rhetoric of empowerment and shared experience, while critiques of separatist institutions echo the binary-dissolving and gender-neutralizing discourse common to third-wave feminist critiques of feminist identity politics' construction of difference.

Power and Gender Performativity: Two Insights

Nearly all of the foregoing female performers' conceptions of gender relations operated within a relatively traditional male-female gender binary, a circumstance imposed by the focus on separatist institutions. Yet Butler's rejection of the traditional categories of gender as structures that maintain the power hierarchies of male dominance and heteronormativity, and her notion of gender performativity, can enlighten a consideration of how gender relates to power in the contemporary drumset industry. Given the male-dominated demographic of the field, heightened attentiveness to the gender of a female performer, but not of a male one, might be seen as a reactionary response to behaviors that are seen to defy the traditional gender norms associated with instrument specialization. Female performers themselves may feel the need to justify the 'non-normative' disjunction between their gender and instrument choice, while male reactions to the gender of female performers may be seen as a regulatory or normalizing response to a perceived affront to 'normative' gender (and power) structures. As Doubleday has noted,

44 Gemma Hill, interview by Ciara Lavers, "Gemma Hill," *Tom Tom Magazine* 21 [Girl Band Issue] (Spring 2015): 51-53.

45 Hilary Jones, interview by Robyn Flans, "Hilary Jones: Grace Under Pressure," 76.

46 Hilary Jones, interview by Robyn Flans, "Female Drummers Round Table," *Modern Drummer* 20, no. 3 (1996): 65.

47 Cindy Blackman, interview by Mindy Abovitz, "Cindy Blackman," *Tom Tom Magazine* 3 (Spring 2010): 18-19.

48 Sarah Grimes, interview by Lucy Katz, "September Girls," *Tom Tom Magazine* 21 [Girl Band Issue] (Spring 2010): 46.

> […] male instrumental musicianship may emerge as the cultural norm, with the female instrumentalist being seen as 'unthinkable' or deviant. The very image of a woman playing an instrument may be seen as 'weird,' awkward, or laughable.[49]

Consider Butler's nominalist stance that the seeming coherence of binary gender categories in fact belies the reality that such categories are regulatory fictions used to maintain hierarchies of masculine power and heteronormativity.[50] If we accept this position, we may observe real instances of the regulating behaviors that preserve traditional gender categories, and by extension, the power hierarchies attached to them. I will illustrate this with two examples.

The first example involves the aforementioned transgender drummer Jayne Henson, who describes her experience as a drummer transitioning from male to female in the article "Transitive Properties: Performing Drummer" in *Tom Tom Magazine*.[51] At first, Henson saw the label "girl drummer" as an affirmation of her new gender identity, filling her with excitement: "I think I might have literally cried,"[52] Henson writes, remembering being called a "girl drummer" one night after a show. This initial excitement, however, soon abated:

> It wasn't long though before I realized being a 'girl drummer' carried with it a whole lot of baggage. Suddenly everything shifted in my life and how the world responded to me. I was no longer taken seriously as a musician, everyone automatically assumed I was wrong, or that I didn't know what I was talking about, I didn't know how to set up my gear or take care of it. Instead of being given compliments on my playing, I was now given compliments on my hair or outfits (not that those aren't nice too), and it was clear that the music scene was mostly interested in what I had to offer superficially.[53]

Thus, Henson witnessed a loss of cis-male status privileges as a result of her transition from male to female gender-performative modes. This testimonial suggests the outlines of a power-maintaining mechanism that protects the privileges associated with gender-normative masculinity, and it shows a direct link between a shift in gender-performative mode and the forfeiture of power benefits associated with a conventional masculine gender identity. This illustrates, concretely, what Butler means when she writes that "because certain kinds of 'gender identities' fail to conform to those norms of cultural intelligibility, they appear only as developmental failures or logical impossibilities from within that domain. Their persistence and proliferation, however, provide critical opportunities to expose the limits and regulatory aims of that domain of intelligibility."[54] Indeed, Henson's case exposes just these regulatory mechanisms: in her experience, as her mode of performative gender expression applied pressure to the domain of compulsory, binaristic gender normativity, the domain applied regulatory pressure back by rescinding her former status privileges.

A second example illustrates how the performativity of conventionally gender-coded behaviors may be regulated by socialization in a male-dominated social field. In the aforementioned 1990 "Just Me and the Boys?" study, a female drummer (respondent "Pat") gives witness to her own performance of behaviors normatively associated with both feminine and masculine gender modalities. On the feminine side, in a discussion of stage presence, the researchers note that "women's presentation of sexuality on stage seems to be built into performance requirements." Pat, then, is quoted saying, "it was expected—I dressed the part, I acted the part."[55] In other words, she performed a set of conventionally female gender behaviors, based on the presentation of female sexuality. On the masculine side, later in the article Pat reveals how a female's gender performance of conventionally masculine behavior (in her case, male sexual braggadocio) can be ill-received: "It's like [male band members] always talk about, uh, 'Did you see the girl I got hold of last night?' You know, it's like a big deal. But they don't want to hear about the guy I got hold of last night!"[56] Pat's experience, then, demonstrates how contrasting alignments of gender performance can elicit regulatory responses from male colleagues; in her case, the encouragement of sexualized female stage performance and discouragement of the conventionally male behavior of sexual braggadocio can be seen as regulatory nudges toward conventional gender tropes of the objectified female body on one hand, and 'ladylike' manners on the other.

49 Doubleday, 17.

50 Butler, 44: "the univocity of sex, the internal coherence of gender, and the binary framework for both sex and gender are […] regulatory fictions that consolidate and naturalize the convergent power regimes of masculine and heterosexist oppression."

51 Henson, 34-35.

52 Ibid., 35.

53 Ibid.

54 Butler, 24.

55 Groce and Cooper, "Just Me and the Boys," 224.

56 Ibid., 227.

Conclusions

As the foregoing has shown, the gender dynamics in the field of contemporary drumset performance replicate many of the same complexities as those in society at large. The gender gap in the profession, although narrowing, continues to result from a variety of cultural and social factors, of which the gender imbalance of instrument specialization in primary musical education is only one. In the major print media of the profession, the discursive strategies of separatist feminist identity politics—to create a sense of community around shared 'womanness' and promote female empowerment through exclusively female groups and institutions—underlie the support for all-female bands, contests, and magazines. On the other hand, skeptical attitudes toward all-female institutions in the industry, and individual calls for gender neutrality, replicate third-wave feminists' critiques of feminist identity politics, challenging the binaristic male-female separatism of such groups. Finally, when the paired lenses of gender nominalism and gender performativity are applied to individual experiences in the field, the links between gender-performative modalities and hierarchical status can be revealed, and the regulatory behaviors associated with traditional gender categories and their socialization can be exposed as power-maintaining strategies within the industry.

Where, then, do the results of this essay leave us? The goal of the present study was to show that some of the arguments happening on the ground in the drumset industry echo arguments that have already generated lively debate in the feminist discourse, and to show that discussions of gender in this industry may benefit from that discourse. Although this article has pointed out the criticisms leveled against the kind of separatist feminist identity politics that underlie all-female institutions in the professional drumset world, it would be misguided to interpret this article as an attempt to undermine these institutions, for an article of this nature could hardly have been written before the advent of *Tom Tom Magazine*, given the platform *Tom Tom* has provided for women in the field to speak about gender on their own terms. The institutions discussed here have made considerable progress toward their goals of greater visibility and empowerment for women in the field. Yet, on the other hand, this study does not wish to undercut the critiques of third-wave feminist theory by appealing to such successes, for the issues raised by third-wave feminists on the issue of identity politics have also shared parallels with practical observations made by women in the field. Rather than diving into the debate itself, this paper has sought to cast open the windows to feminist theory with the intent that the arguments therein might further enlighten how we, on the ground, behind the kit, think about gender.

The casting open of these windows reveals two important areas in which feminist theory might further be applied fruitfully to gender relations in the professional drumset industry, and in percussion performance at large. For one, aside from oblique mentions to class (in the section on gender in music education) and race (in the references to critiques of gender essentialism by hooks and Spelman), this study has bracketed out the nexuses at which class and race intersect with gender. However, the intersectionality between class, race, and gender has received voluminous attention in the feminist discourse, from the first women's movement in the nineteenth century (a sibling to the abolitionist movement), through the second wave (with its connections to the Civil Rights movement and various leftist groups), and up to the present. Failure to acknowledge this shortcoming in the present study would render it vulnerable to the same accusations made against white, middle-class American feminists by hooks, Spelman, and other feminist theorists. A critical interrogation of the multivalences of gender, class, and race within the professional drumset industry, developed in conjunction with the discourse on class and race in feminist theory at large, is an imperative next step for understanding the overlapping structures of power and prejudice at work in this field.

Secondly, the space allotted here allowed for only a cursory application of the concept of gender performativity to the contemporary drumset profession, and the usefulness of this concept for thinking about gender in this field cannot be fully grasped without a far more extensive study. How might a consideration of the professional drumset industry in terms of gender performativity benefit from ethnographic research on the ground? To what extent can subjective accounts inform the discussion of performative gender acts and the hierarchies that structure them? Since the aim of this article was of a more general nature—to indicate the most useful ways in which feminist theory can be applied to the issue of gender in the field—I have omitted any reference to my own subject position as a female percussionist (until now, of course), and I have avoided articulating whether my own experiences have either confirmed or contradicted the theoretical discussions at hand. A variety of subjective experiences collected through ethnographic research, however, could shed informative light on how the constitution of gendered selves through gendered performative acts takes place in this field.

In closing, this study makes a modest contribution to the application of feminist theory to the discourse of contemporary professional drumset performance and to the relationship between gender-performative modes and structures of power in the industry through a performative lens. The pressing need for such contributions, however meager, has been expressed.[57] By linking affinities between the microcosmic—subjective testimonials on the topic of gender—and the macrocosmic discursive strategies of feminism at large, this study has suggested ways for timeworn gender tropes to be probed from a critical new perspective, one with an established corpus of theory to back it up. Moreover, by tapping into a discourse that resides outside the academy (on the pages of commercial media), this study has provided a glimpse at how the study of gender might offer a rapprochement between academic and non-academic discourse. Of course, much work remains to be done.

57 Doubleday, 30.

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American Pannist: Ellie Mannette and the Development of Steelpan in the United States[1]

Ray Funk, Andrew Martin, and Jeannine Remy

Abstract

As the popularity of the steelpan and steelbands continues to grow in the United States and across the globe, the instrument has become a vibrant part of percussion programs from primary schools to tertiary education. In recent years the Percussive Arts Society has recognized—via induction into the organization's Hall of Fall—three individuals whose careers have been key to the growth of the steelpan in the United States: Ellie Mannette, Cliff Alexis, and Al O'Connor. Major studies on steelband focus largely on the history of the instrument in Trinidad; however, luminary Ellie Mannette has (since 1967) lived and worked primarily in the United States and the following historical narrative will attempt to map his efforts with steelpan construction, tuning, and steelpan education in the United States. Beyond calypso, exotica, politics, and social movements, the development of steelpan in America can be reduced into two primary elements: steelpans and pannists. In this way, Ellie Mannette's influence in developing steelpan scenes in the United States can further be seen in the work of his many students and apprentices and this paper will highlight some of the more accomplished Mannette trainees.

Introduction

As the popularity of the steelpan and steelbands continues to grow in the United States and across the globe, the instrument has become a vibrant part of percussion programs from primary schools to tertiary education.[2] In recent years, the Percussive Arts Society has recognized—via induction into the organization's Hall of Fame—three individuals whose careers have been key to the growth of the steelpan in the United States: Ellie Mannette, Cliff Alexis and Al O'Connor.[3] Among these celebrated figures, Ellie Mannette is a seminal member in the Trinidadian steelband movement revered for his role in the development of the instrument in the mid- to late-1930s alongside such notable figures as Winston "Spree" Simon, Anthony Williams, and a host of other steelpan pioneers. Major studies on steelband focus largely on the history of the instrument in Trinidad, the early careers of luminaries such as Mannette, and less on the globalization of steelbands and steelpan.[4] Although his work in Trinidad is tremendously important, it only represents half of Mannette's legacy. Since 1967, Mannette has lived and worked primarily in the United States. It is here that Mannette has continued his influential work, and the following historical narrative will attempt to map his efforts with steelpan construction, tuning, and steelpan education in the United States.

Beyond calypso, exotica, politics, and social movements, the development of steelpan in America can be reduced into two primary elements: steelpans and pannists.[5] Skilled individuals—steelpan performers and steelpan builder/tuners alike—rather than a unified social movement, have driven the spread and growth of the instrument throughout America. The individualized nature of steelpan in America is not, however, entirely independent. Despite their exclusivity in any given geographic region (New York for example), the lineage of pannists and steelpan tuner/builders active in America are often directly (or tangentially in the very least) connected.[6] In this way, Ellie Mannette's influence in developing steelpan scenes in the United States can further be seen in the work of his many students and apprentices, and this article will highlight some of the more accomplished Mannette trainees.

1 The authors would like to thank James Leyden, David Longfellow, and Chris Tanner for their helpful edits and insights on earlier versions of this article.

2 For a full listing of steelbands active in the United States, see https://blhaskett.wordpress.com/steelpan-research/.

3 Ellie Mannette was inducted into the PAS Hall of Fame in 2003, Cliff Alexis in 2013, and Al O'Connor in 2014, respectively. For more information, see http://www.pas.org/About/the-society/halloffame.aspx.

4 For more information on the development of the steelband movement in Trinidad, see Steven Stempfle, *The Steelband Movement: The Forging of A National Art in Trinidad and Tobago* (Philadelphia: The University of Pennsylvania Press, 1995), Shannon Dudley, *Music from Behind the Bridge: Steelband Aesthetics and Politics in Trinidad and Tobago* (New York: Oxford University Press, 2008), and Felix Blake, *The Trinidad and Tobago Steel Pan: History and Evolution* (University of Ulster Press, England, 1995).

5 One could further argue that the existence of easily obtainable sheet music for steelbands might also be viewed as a key factor in the spread of steelpan in the United States. That said, however, the authors believe that steelpans and pannists are the primary drivers of the movement.

6 For more information regarding the development of steelpan in the United States, see Andrew R. Martin, "Pan-America: Calypso, Exotica, and the Development of Steel Pan in the United States" (Ph.D. diss., University of Minnesota, 2011).

Ellie Mannette Arrives in New York

In February of 1967, Ellie Mannette left the Woodbrook neighborhood of Port of Spain, Trinidad, and moved permanently to the United States. Like many Trinidadians before him, Mannette was relocating to the immigrant neighborhoods of New York City to start a new life. Despite having risen to become one of the most respected elders of the steelband movement at the time, many of the promises made to pannists by the Trinidadian government and leaders of the Trinidad and Tobago Steelbandsman Association (later renamed PanTrinbago) were unfulfilled. Unemployment was still high and pannists still lacked opportunities for advancement in Trinidadian society.[7] A dissatisfied Mannette was ready for a change. When he left for America he carried a photo with him that dated back to the late 1930s.

This now famous photo (below) captures one of the earliest versions of metal-beating or dustbin bands in Trinidad and was taken in the backyard of what is now known as Invaders Panyard in the Woodbrook neighborhood of Port of Spain.[8]

Figure 1. Oval Boys, Woodbrook, Port of Spain, Trinidad, c. late-1930s (Ellie Mannete, second from right).[9]

> Before I left, the band had a big going away party in the panyard. It was at this party that Hamilton Jones handed the famous Oval Boys photo over to me which I totally forgot about until long after I reached the United States. In fact, it fell out of my pocket one day long after my arrival and Andy [Narell] asked me what it was so I gave it to him. Years later he gave it back to me all restored.[10]

By 1967, Mannette had established himself as a leading figure in the steelband world, and he had built a reputation as a builder, tuner, arranger, and player. Looking towards his future in America, Mannette was well aware that he would have to start anew. It was a difficult decision to head north and one that he did not take lightly. For some in Trinidad, however, Mannette was seen as abandoning his unofficial post as one of the leaders of the steelpan movement, and for others, it was a shocking personal insult.[11]

7 Jeannine Remy and Ray Funk, *Invaders Steel Orchestra: The History of a Legendary Trinidad Steelband* (Trinidad, West Indies: Jhullian Graphics Communication Limited, 2015).

8 For more information on the development of the steelband movement in Trinidad, see Steven Stempfle, *The Steelband Movement: The Forging of A National Art in Trinidad and Tobago* (Philadelphia: The University of Pennsylvania Press, 1995), Shannon Dudley, *Music from Behind the Bridge: Steelband Aesthetics and Politics in Trinidad and Tobago* (New York: Oxford University Press, 2008).

9 Photo courtesy of Jeannine Remy.

10 Ellie Mannette, interview by Jeannine Remy, July 30, 2010.

11 The story of Mannette's departure and the issues surrounding was the subject of numerous newspapers stories in the major Trinidadian newspapers. The relevant stories can be accessed via the University of the West Indies-St. Augustine Steelpan Newspaper Clippings repository using keywords. See http://uwispace.sta.uwi.edu/dspace/handle/2139/17577.

Nearly five decades later, Mannette has only returned to his Trinidadian homeland once to receive a set of awards. His absence and reluctance to come home is a complicated issue with much of the tension stemming from his treatment by Trinidadians upon leaving and the perceived value of his accomplishments. The debate was ugly and public, and in a recent interview with Christine Gibson in *American Legacy*, Mannette recounted the heated exchange. In 1967, the Trinidad government published an editorial in a Trinidadian newspaper that claimed Mannette as a pariah. "They said I came to the United States to sell my birthright for 30 pieces of silver' and I'm 'nothing but a Judas.' And that was very unfair. I came to promote the culture of the island, to teach it and spread it around the world."[12] Angry, supporters of Mannette, such as Clyde Boothman who was the manager of the Invaders Steel Orchestra at the time, fired back an open letter posted in the *Trinidad Guardian* newspaper attacking the narrow mindedness of his fellow countrymen.

> Could a country's culture be sold? It may be spread to far distant lands, but it still will remain the child of the country that gave it birth. With respect to Ellie's sale of his birthright, I presume the writer feels he must continue to give it away without any compensation whatsoever, as has been done the last decade.[13]

Trinidad has a long history of airing out grievances in public, and the case of Mannette leaving for America was no different.[14] However, in this case, the cut was deep and neither side was quick to forgive, as Mannette notes, "For 33 years, I never spoke to them, and they never spoke to me."[15]

The messiness of the fallout aside, what may have been perceived as Trinidad's loss and America's gain has amounted to the advancement of steelpan on a global scale. For nearly fifty years, Mannette has lived in the United States and gone on to revolutionize many aspects of steelpan construction. Ellie Mannette took on a new life in a new country, and through his dedication to the art of steelpan construction and tuning, he became one of a select handful of steelpan pioneers responsible for converting America into a nation of steelbands.[16]

Throughout the 1960s to 1980s, if someone outside of New York City had a set of steelpans, there was a strong likelihood that Ellie Mannette built or tuned the instruments. In addition to building and tuning, Mannette embarked on an exhausting schedule of workshops and training sessions. Mannette has always seen his mission as an educational one, teaching anyone interested the art of building and tuning steelpan, and as Mannette protégé Emily Lemmerman notes, "My training with Ellie was infused with the mantra: "Continuing the Legacy, Setting the Standard." I understand the courage and vision it took for him to share his legacy with his students, and I would be failing him if I didn't pass on my skills to the next generation of craftsmen."[17] As a result, Mannette was instrumental in creating an industry of builders and tuners in America that did not exist prior to his arrival. This new generation of steelpan builders and tuners are now responsible for making many of the steelpan instruments available in North America. Moreover, in the last twenty years, Mannette has directly trained a growing number of tuners and builders, first at West Virginia University in Morgantown and then in his private facility. In addition to his work at West Virginia University, Mannette established a steelpan manufacturing company called Mannette Steel Drums, Ltd. in 1992 and has since mentored dozens of apprentice steelpan builders and tuners at the private commercial facility in West Virginia.

12 Christine Gibson, "Best Tuned Pan," *American Legacy* (Summer 2010), 16.

13 "Judas of Pan" *Nation* (Trinidad), May 27, 1960.

14 The history of public criticism dates back to the nineteenth century and is commented upon first by anthropologist Alan Waterman. For more information, see Alan Waterman, *African Patterns in Trinidad Negro Music* (PhD diss., Northwestern University, 1943).

15 Gibson, 16.

16 Other American-based steelpan pioneers include Cliff Alexis, Andre de la Bastide, Steve Laurie, Larry Snider, Al O'Connor, Phil Solomon, Patrick Arnold, Hugh Borde, Neville Jules and many others. For more information, see Andrew R. Martin, Ray Funk, and Jeannine Remy, *Celebration in Steel: Forty Years of the Northern Illinois University Steel Band* (Northern Illinois University Press, forthcoming 2017).

17 "Q&A: Emily Lemmerman, Pan Builder," *Pan Magazine*, May 4, 2015, accessed May 20, 2015, http://www.pan-mag.com/education/qa-emily-lemmerman-pan-builder.

The Narell Family

Ellie Mannette's future in America began innocuously, and when he first came to the country, his path was unclear. In 1967, America's need for Mannette was the vision of one man, a social worker on the lower eastside of Manhattan named Murray Narell. Time and again, Mannette has readily admitted that if it were not for the efforts of Murray Narell he would not have made the move from Trinidad to the United States in 1967.[18] For this fact alone, it is worth discussing Narell's work in New York making "beaters out of beats!" and how it led him to Mannette.[19]

Murray Narell worked as a Youth Director at the lower eastside settlement houses for the Educational Alliance in Manhattan, New York.[20] The lower eastside settlement houses originally serviced the Jewish immigrant community in the early twentieth century and aided immigrants with the transition from life in the old world to life in the new world. However, the community changed over time with the addition of African-American and Puerto Rican immigrants, and the Educational Alliance transformed into a broader community-based social services organization. Narell's primary job was running several diversionary programs for inner-city school kids on the lower Eastside of Manhattan to keep them off the streets and away from crime. Andy Narell recalls the type of kids that were the focus of the programs. "He [Murray] mostly worked with Black and Puerto Rican kids who were in gangs in the early 60s."[21] Murray Narell first heard steelpan via a steelband from St. Thomas performing in New York several years earlier. Enthralled by the sound and story of steelband, Narell set his sights on starting steelbands at the lower eastside settlement houses.

Later in 1960, Narell found his chance to form a steelband with the arrival of a young foreign exchange student from Antigua named Rupert Sterling. Learning of Sterling's background in steelpan, Narell encouraged the Antiguan to start making steelpans. Sterling made steelpans during the day and led bands during the evening. By 1966, Narell's Educational Alliance steelband program at the lower eastside settlement houses had grown significantly and with more than a dozen steelbands performing throughout the city the program had become, for a time, *the* major consumer of steelpans in New York.[22] As time went on and the successful program grew larger, other steelpan builders were needed to supply the growing needs for instruments, and seeing Sterling's excessive workload convinced Narell that someone more accomplished was needed to fill the position.

Through his work with the Educational Alliance steelbands and the Steel Bandits (a small steelband combo formed by brothers Andy and Jeff Narell), Murray Narell became obsessed with getting the best sound out the steelpans. This led him to add another tuner, Vincent Hernandez, to the roster. Realizing that the best tuners and builders were in Trinidad, Narell, on the advice of Hernandez, went looking for Ellie Mannette.[23]A steelpan pioneer in his own right, Hernandez was among the many people who were of the opinion that Ellie Mannette was the best tuner in Trinidad. Murray Narell made several trips to Trinidad in the early 1960s and made connections with several leading steelpan builders/tuners including Ellie Mannette, Bertie Marshall, Rudolph Charles, Tony Williams and George Goddard.[24] Cliff Alexis recalls, "the first time I met Andy's father was when he was pushing pan for Invaders during carnival in the early 60s."[25] Murray Narell was genuine in his pursuit of steelpan knowledge and his willingness to listen, learn, and participate in all aspects of steelband and Carnival won over many Trinidadian pannists.

Jeff and Andy Narell made their first trip to Trinidad in 1966 with their band the Steel Bandits aboard the Grace Line cruise ship *Santa Rosa*. The Steel Bandits had been invited to perform as guests for the National Music Festival at Queen's Hall in Port of Spain. The band performed as part of the opening program for both the Panorama semifinals and finals. By this time, Murray Narell, who accompanied the young Narell brothers on the trip, was quite educated in terms of the skills of various Trinidadian pannists, and he knew he wanted Ellie Mannette. Murray Narell and the Steel Bandits went to the Invaders Steel Orchestra panyard, met Mannette, and started negotiating with the pannist to bring him to New York permanently. By this time, Mannette considered Murray Narell a friend; yet, coaxing the pannist into moving to New York took a considerable amount of effort beyond the conclusion of the meeting.

18 Andy Narell, email message to Jeannine Remy, March 18, 2009.

19 Raymond Erickson, "It's Not Just Saturday Nights Any More at Hunter," *New York Times*, April 9, 1967, 111.

20 For more information on the Educational Alliance, see http://www.edalliance.org/.

21 Andy Narell, email message to Jeannine Remy, June 11, 2009.

22 See A. Myrna Nurse, *Unheard Voices. The Rise of Steelband and Calypso in the Caribbean and North America*, (New York: iUniverse, 2007).

23 Cliff Alexis, interview by Jeannine Remy, March 30, 2003.

24 Andy Narell, interview by Jeannine Remy, June 12, 2009.

25 Cliff Alexis, interview by Jeannine Remy, March 30, 2003.

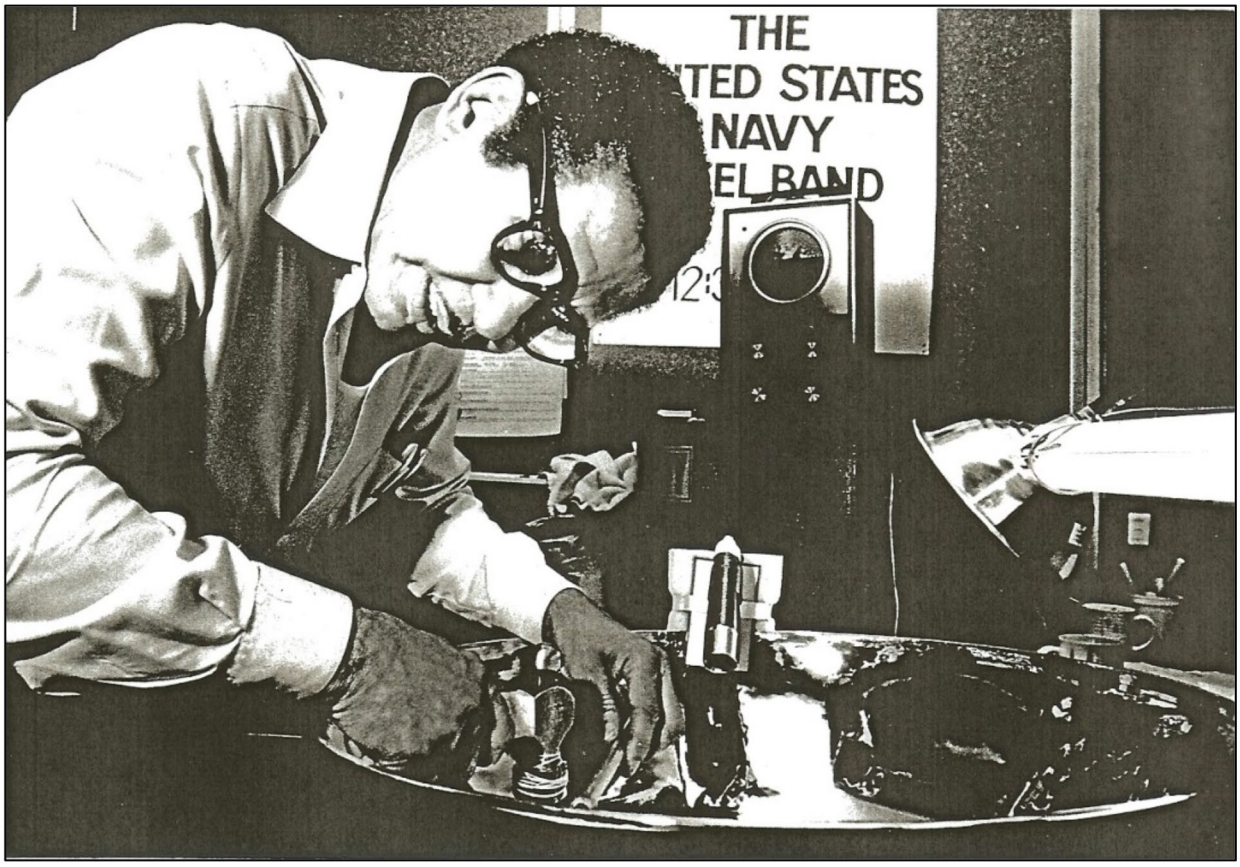


Figure 2. Mannette Tuning for the US Navy Steel Band, 1960.[26]

Moving to New York was a first for Mannette: however, he was no stranger to the United States having visited and worked in the country several times during the late 1950s and early 1960s. Beginning in 1957, Mannette built steelpans for the US Navy Steel Band based in Puerto Rico, and after he built the first batch of steelpans, the steelband often hired Mannette to join it on the road to tune instruments while it traveled throughout the continental United States.[27] Mannette was fascinated by the United States, yet he did not jump at the chance to emigrate. Rather, he showed a good deal of reluctance due in no small part to the fact that Mannette had experienced various forms of racism while traveling in the American South during the early 1960s, and he was not eager for the prospect of enduring more.

26 Official Navy photo taken in 1960. Courtesy of Franz Grissom.

27 The US Navy preferred to use the spelling "steel band" instead of the more common "steelband" when naming or referring to the US Navy Steel Band.

Figure 3. Ellie Mannette and Murray Narell.[28]

In 1962, Mannette was in Charleston, South Carolina tuning the steelpans for the US Navy Steel Band when he experienced his first real taste of American racism. He was hassled on a bus for refusing to sit in the back, thrown out of a "whites only" store, and also forced to leave a beach for wandering out of a "colored" designated area.[29] Though painful, Mannette often recounts one particular incident in 1962 that occurred while he was dining with US Navy Steel Band members. "The people at McDonald's would not serve us. When one of the guys asked why, they said it was because they had a black guy with them. The fellows got so mad they started flipping tables over in McDonald's and they were all kicked out."[30] To the members of the US Navy Steel Band, Mannette was not just a skilled craftsman but a friend, and they viewed him as an equal. Their support of Mannette from the late 1950s to the 1990s (the US Navy Steel Band disbanded in 1999) is a testament to their respect of Mannette as a person and his work with steelpan.[31]

28 Photo courtesy of Jeff Narell.

29 See A. Myrna Nurse, *Unheard Voices. The Rise of Steelband and Calypso in the Caribbean and North America*, (New York: iUniverse, 2007), and Ellie Mannette interview by the US Navy Steel Band (recorded by Bob Boyer), September 29, 1979.

30 Ellie Mannette, interview by Jeannine Remy, July 30, 2010.

31 This is based on interviews with dozens of US Navy Steel Band members. For more information, see Andrew R. Martin, *Military Might, Melodious Music: The US Navy Steel Band 1957-1999* (University of Mississippi Press, forthcoming 2016).

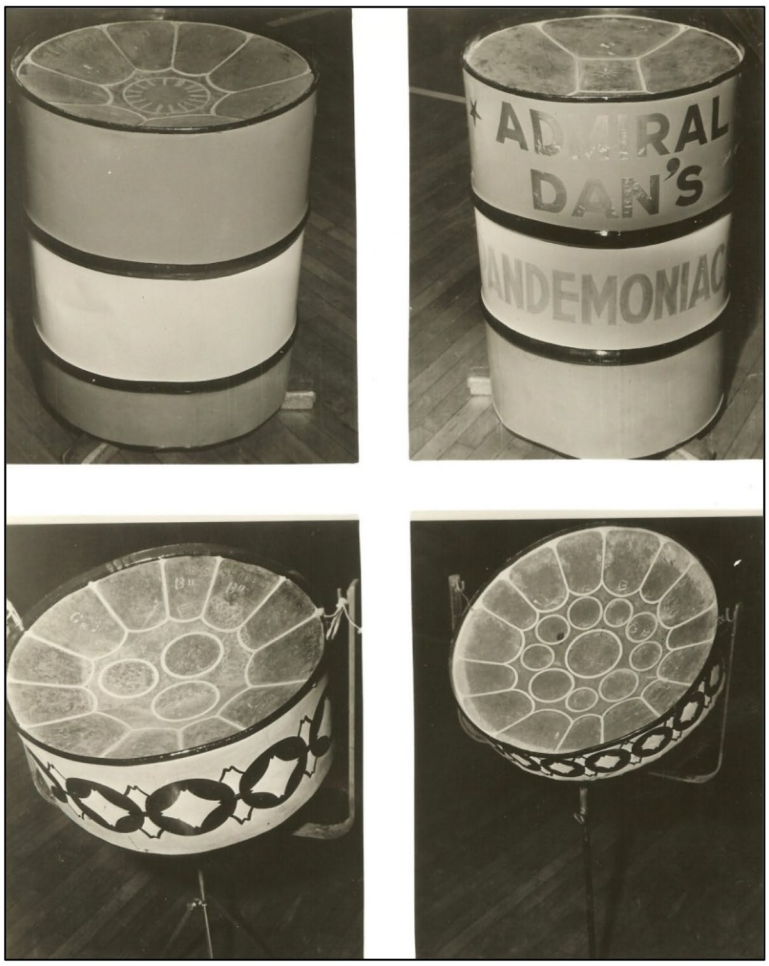


Figure 4. Mannette steelpans built for the US Navy Steel Band, 1957.[32]

The support of the US Navy Steel Band, however, did little to quell Mannette's apprehension about returning to the United States to build steelpans for Murray Narell in 1967. In the end, Mannette's reluctance was no match for Narell's persistence; the latter was on a mission to bring the best steelpan tuner he could find to New York City. Once Mannette got to know this man from New York, he saw that Narell's interest in steelpan was genuine. For Mannette and Narell, the plans were in motion, and upon returning to New York, Murray Narell went to work arranging Mannette's paperwork for immigration. Mannette's prior work with the US Navy Steel Band had earned him more than just respect from the US Military. In fact, Admiral Dan Gallery and Chief Musician Charles Roeper arranged for Mannette to receive a special H-1B visa—a special classification for foreign individuals with "highly specialized skills."[33] According to the US Immigration Department the 'H-1B Non-Immigrant Work Visa' may be issued for applicants seeking work in a "Specialty Occupation" which requires the skills of a professional.[34] Because Mannette held the coveted H-1B Visa he was able to work in America and receive payment from government organizations with relative bureaucratic ease.

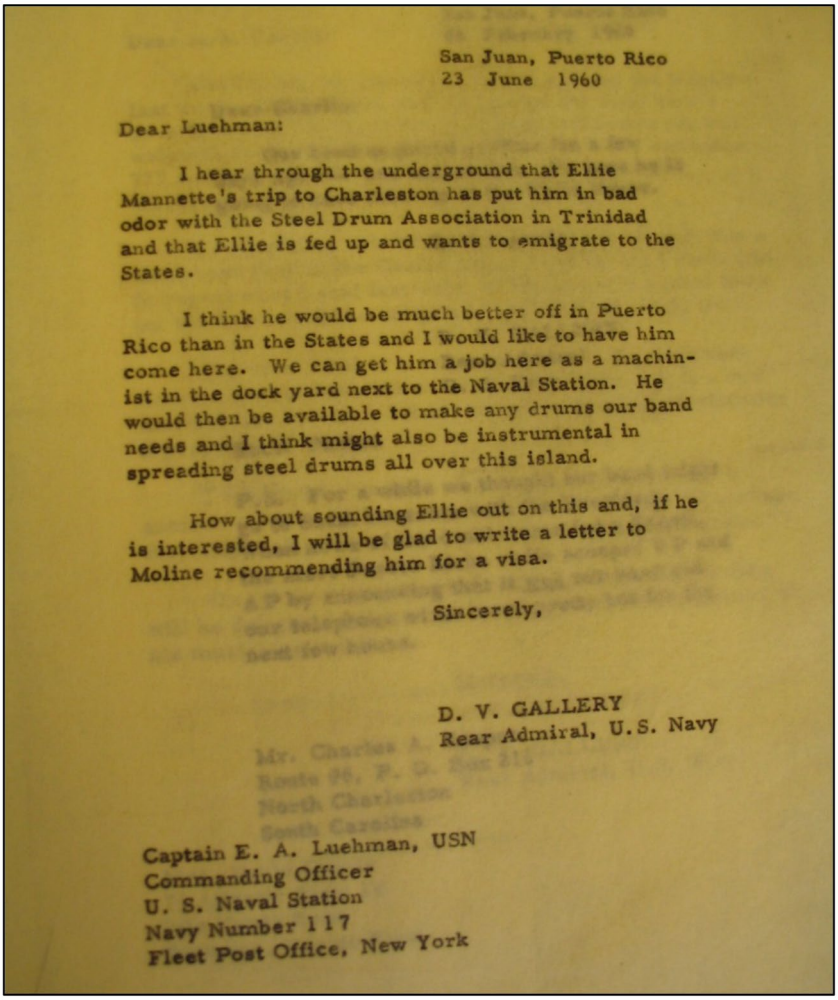
32 Official Navy photo, 1957.

33 Andrew R. Martin, *Military Might, Melodious Music: The US Navy Steel Band 1957-1999* (University of Mississippi Press, forthcoming 2016), 42.

34 The H-1B Non-Immigrant Work Visa may be issued to applicants seeking temporary work in a "Specialty Occupation" which requires the skills of a professional. "Specialty Occupations" include: accounting, computer analysts, programmers, database administrators, web designers, engineers, financial analysts, doctors, nurses, scientists, architects and lawyers. The petitions are submitted by employers based on their need for the non-US.-resident employee. H1-B Visa holders must possess a minimum of a bachelor's degree. However, requisite experience can substitute for education, depending on the individual case;" accessed July 12, 2010, https://www.usimmigrationsupport.org/h1b-work-visa.html.

Finally, a few months after his return to New York from the 1966 Music Festival in Trinidad, Murray Narell received word that he had succeeded in convincing Mannette to relocate to New York. Mannette agreed with one major caveat, "Murray finally persuaded me to come with the promise that if I didn't like it I could go right back to Trinidad."[35] Mannette had a desk job with the Shell Oil Company during the day and Narell suggested that the pannist write Shell Oil Company and ask for a 9-month leave of absence. He did so and the company granted the leave of absence hedging that, despite his talents, Mannette would be back in a few short months. After nine months had passed, Shell Oil in Trinidad sent Mannette a letter saying that his job would be terminated if he did not return home to Trinidad.[36] Mannette ignored the initial letter and, not long after, another letter more threatening than the first arrived to his New York apartment. Mannette never responded, as he had decided to remain in America.

Mannette arrived in New York on 9 February 1967, and he later remembered his wonder coming from Trinidad. "When I got to New York my eyes opened big and wide. I was mesmerized by the grandeur of the size of the airport, the highways, and the city."[37] Upon his arrival, Mannette stayed with the Narell family and briefly worked out of their home. According to Andy Narell, "He [Mannette] built instruments for us and then my dad found him work building pans for Community Centers and schools. But Ellie needed a better place to work so my dad rented a commercial space a few blocks away on the same street."[38]



San Juan, Puerto Rico
23 June 1960

Dear Luehman:

I hear through the underground that Ellie Mannette's trip to Charleston has put him in bad odor with the Steel Drum Association in Trinidad and that Ellie is fed up and wants to emigrate to the States.

I think he would be much better off in Puerto Rico than in the States and I would like to have him come here. We can get him a job here as a machinist in the dock yard next to the Naval Station. He would then be available to make any drums our band needs and I think might also be instrumental in spreading steel drums all over this island.

How about sounding Ellie out on this and, if he is interested, I will be glad to write a letter to Moline recommending him for a visa.

Sincerely,

D. V. GALLERY
Rear Admiral, U.S. Navy

Captain E. A. Luehman, USN
Commanding Officer
U. S. Naval Station
Navy Number 117
Fleet Post Office, New York

Figure 5. Letter from Admiral Daniel V. Gallery to Captain E.A. Luehman, 1960.[39]

35 Ellie Mannette, interview by Jeannine Remy, July 26, 2010.

36 Ibid.

37 Ibid..

38 Andy Narell, email message to Jeannine Remy, March 18, 2009 and July 20, 2010.

39 Admiral Daniel V Gallery, letter to Captain E.A. Luehman (*Papers of Admiral Daniel V. Gallery*, Special Collections Division, Nimitz Library, United States Naval Academy, Annapolis, Maryland, June 23, 1960).

The Narell family played a large role in Mannette's early career in New York, and their family band (the Steel Bandits) and steelbands of the lower eastside settlement houses were his main steelpan clients. The work of Mannette was noticed almost immediately, and in April of 1967, the Steel Bandits gave perhaps their highest profile concert at Philharmonic Hall as part of Pan-American Week. The *New York Times* noted that steelpan had "rarely been played with such finesse and musicianship."[40] The quality of the Mannette's steelpan tuning came in for praise as the reviewer commented, "The set of tuned pans played by the Steel Bandits produces a rather full-ranged, fluttery, gently percussive melody and harmony structure with an amazingly accurate pitch**.**" This was the first public acknowledgment of the quality of Mannette's instruments in a major American newspaper, though it would not be the last.[41]

Mannette was an influential presence for the Narell brothers, and he has remained a source of advice and inspiration for the past forty-seven years. Interestingly, their relationship in the 1960s was not one of teacher/student, as Mannette was not an instructional teacher per se, recalled Andy Narell. Rather, Mannette was more of an inspirational leader to the Narell brothers and steelpan faithful.

> Ellie didn't spend much time with us playing. When he first came to New York he showed us some of the rhythmic strumming they were doing in Trinidad (the guitars and double seconds). ... Ellie has had a profound influence on everybody who loves the sound of his instruments, and has followed the development of his sound. In that sense, it would be almost impossible to overstate his influence. His work, concept, and the sound of his instruments are inseparable from the music I play.[42]

As the 1960s came to a close, the Educational Alliance steelband program at the lower eastside settlement houses continued to gain momentum, and Mannette was busy tending the instruments. In addition to his demanding building and tuning schedule, Mannette performed regularly around New York in a steelband he formed in 1967. Mannette formed the steelband with Trinidadian Lennox Ling, who himself immigrated to New York around the same time. The two men had a history that reached back to their homeland as Mannette had previously made steelpans for Ling's steelband, Mayo Starlift, in the small village of Mayo in the south of Trinidad. Mannette's reputation as a pannist preceded him in the West Indian neighborhoods of New York, and it was not difficult to convince local pannists to join his new band.[43] Called the Hummingbirds, the steelband practiced at Mannette's house in Queens. The arrangement was made in part through Mannette's charm and with the aid of a friendly building manager who loved steelpan and allowed the band to practice in the basement of the building rent free.[44] The Hummingbirds steelband played a repertoire of calypsos, Caribbean favorites, and Top 40 hits.

In the summer of 1969, Mannette and Murray Narell arranged a series of eleven free outdoor steelband concerts held in parks and other locations throughout the five boroughs of New York. Some of the concerts featured the Steel Bandits, some featured the Hummingbirds, and others featured both bands. Shortly thereafter, the Hummingbirds ceased performing and the steelband broke up. For Mannette, the Hummingbird's demise was a minor issue, as he was never focused on being a performer and gravitated more to steelpan building, tuning, and education. With a renewed focus on the latter, Mannette moved forward with a concentration on the areas that would be his forte for the next four decades.

Movin' On Up (from the Lower Eastside)

Ellie Mannette worked with Murray Narell (and Narell's successors at the Educational Alliance) for approximately five years (1967-72), and his duties encompassed building and tuning steelpans in addition to starting and managing the numerous small, student-based steelbands.[45] His success was apparent, and the number of steelbands under his care grew quickly. This ever-expanding number of steelbands kept Mannette very busy, and the near constant building and tuning of steelpans led him to contract other tuner/builders to aid his efforts. Eventually, Mannette found himself leading a platoon of tuner/builders including Patrick Arnold, Vincent Hernandez, Mickey Enoch, Rudy King, Kim Loy Wong, and others.[46] With multiple tuners came various methods for tuning and questions of consistency among the steelpans at the lower eastside settlement houses. Mannette realized that managing a team of builder/tuners untrained in his own personal methodology was problematic. By 1972, Mannette assessed the situation as untenable and began shifting his focus to other projects.

40 Robert Shelton, "Steel Bandits Play Musicianly Concert," *New York Times*, April 16, 1967, 68.

41 This is based on an analysis of newspapers available on online historical newspaper databases such as LexisNexis and the historical New York Times.

42 Andy Narell, email messages to Jeannine Remy, March 18, 2009 and July 20, 2010.

43 Lennox Ling, interview by Ray Funk, April 13, 2009.

44 Ibid.

45 The exact number is not clear, though documents from the Educational Alliance archive list at least twelve; however, the oral history of the program suggests there are possibly many more. The archive is held as part of the Educational Alliance files at the Center for Jewish History, 15 West 16th Street, New York, 10011.

46 Ibid.

James Leyden

After three years of work, Mannette's steelbands in lower Manhattan caught the attention of education administrators in the New York school system in 1970. Officials from the New York City Board of Education were on hand for a performance of the all-girl Blandettes and were greatly impressed by the band; one suggested that Mannette become certified to work for the Board of Education—a requirement for artists to work in the school system—and start steelbands in the New York schools. Mannette quickly achieved certification and began working for a number of the New York City public schools in 1970.[47]

Building on his work in New York City schools, Mannette's reputation as a pannist and educator spread throughout the far reaches of New York State, eventually reaching the upstate areas of Rochester and Albany. In upstate New York, Mannette's work came to the attention of composer and music educator James Leyden—a key person in Mannette's life who would collaborate with the pannist for several decades. A former Marine pilot during WWII, Leyden worked in New York as a freelance singer, arranger, and conductor, performing with such notable artists as Lionel Hampton and the Glenn Miller Orchestra. He was also an accomplished composer and arranger writing Broadway musicals and commercial jingles.[48] Leyden eventually left New York City, settled in Chappaqua, New York, and became a music teacher. Leyden fell in love with steelpan after visiting Trinidad in the late 1960s, years before meeting Mannette, and he acquired a small set of steelpans in approximately 1970.[49]

Leyden met Mannette in 1971 and was fascinated with Mannette's approach to tuning steelpans. Conversely, it was Leyden's wealth of musical training and inquisitiveness that proved a key influence on Mannette, leading directly to significant developments with his conceptualization and ability to tune and build steelpans. "[Leyden] wanted me to tune some drums he acquired from a music store. I tuned them, which at that time was by ear. Jimmy informed me, very diplomatically that, though the instruments sounded better, they were not in concert pitch. I had absolutely no idea what he was talking about!"[50] It was Leyden who convinced Mannette to move away from tuning with a circular chromatic pitch-pipe and to instead use a stroboscopic tuner. Mannette was reluctant to embrace the technology telling Leyden that "I don't think I like that machine. I feel more comfortable with my ear and pitch-pipe."[51] The pair continued to work together, experimenting with the concept of centering notes and placing harmonic overtones.[52] Slowly Mannette began to warm to the new technology and, won over by the benefits of such devices, he embraced the new methodology.

In the early 1970s, Leyden hosted Mannette in Chappaqua numerous times, and the pannist was a natural, working closely with Leyden's students. Mannette and Leyden collaborated for several years, and Mannette accompanied Leyden's school steelband at a marquee performance at the National Music Educators National Conference (MENC) in Albany, New York in 1974. Leyden's steelband, Calliope's Children, played a concert of calypsos, American pop tunes, and classical material. Mannette was introduced to the audience as the creator of the modern steelband, and the band closed the concert performing the last section of Handel's *Water Music,* which received a standing ovation. As Leyden notes, "A classical piece played by steel drums was 'something special' back in the early 70s"[53]

Mannette worked with Leyden from 1971-77, and during this time, the two developed new concepts of steelpan tuning as well as several new note pattern/layouts for the various steelpan sets for lower-voiced instruments. These innovations include a chromatic "circle of fifths" lead steelpan, in which the notes are reversed (counter-clockwise instead of clockwise) for left-handed pannists; this arrangement would later prove popular among many US Navy Steel Band members.[54] According to Mannette, "I suggested that we reverse the existing pattern, create a left hand lead, and see how the left handed students would adapt to it."[55] Without the bonds of tradition that often plagues steelpan innovation in Trinidad, Mannette was free to experiment with any and all aspects steelpan, and he did so with a pedagogical angle in mind.[56]

47 Kaethe George, "Interview with Ellie Mannette," *Percussive Notes* 28, no. 3 (1990): 34.

48 Jane Blanksteen, "Chappaqua hears the Music of Drums," *The New York Times*, May 8, 1977 and James Leyden, interview by Ray Funk, March 29, 2009.

49 Leyden does not remember the exact date but thinks it is 1970. James Leyden, email message to Andrew Martin, November 21, 2014.

50 A. Myrna Nurse, *Unheard Voices. The Rise of Steelband and Calypso in the Caribbean and North America*, (New York: iUniverse, 2007), 181.

51 Ibid.

52 James Leyden, email message to Andrew Martin, November 21, 2014.

53 Ibid.

54 In order to ensure that they continued to buy lead steelpans from Mannette and not Antiguan pannists, many of the US Navy Steel Band tenor steelpans were oriented as left-handed C-tenor instruments. For more information, see Andrew R. Martin, *Military Might, Melodious Music: The US Navy Steel Band 1957-1999* (University of Mississippi Press, forthcoming 2016).

55 James Leyden, email message to Jeannine Remy, July 28, 2010.

56 Despite a lack of uniform standards in steelpan construction in Trinidad, a left-hand lead described above is something not done in Trinidad. Kim Johnson, interview by Andrew Martin, February 19, 2011.

With top quality instruments developed by Mannette, Leyden's high school band Calliope's Children became well-known for their performing prowess and recorded an album called *Harvest* in 1974, toured Romania in 1976, and toured Russia and Poland in 1977. "We were quite a novelty," Leyden recalled.[57] Upon returning from their tour in 1977, an exhausted Leyden retired from public school teaching, and following his departure, Calliope's Children steelband was disbanded. Mannette and Leyden would reconnect in Oregon in a matter of a few short years; however, in the meantime Mannette continued making steelpans for steelbands in the New York area.

Perhaps the most notable of these is the Lancaster Carnival Kids Steel Orchestra, founded by John Marone. The band is one of oldest continuing high school steelband programs in America dating back to 1976 and has, to this day, continued to purchase all of their steelpans from Mannette. Lancaster's steelband competed in one of the first high school steelband festivals in America during the mid-1970s with other bands in the area such as Symphonic Steel (from Dundee Central High School, Dundee, New York), Calliope's Children, and Jamestown's Steel Band (Jamestown, New York).[58] To this day, there are a number of schools throughout New York State that started with Mannette's tutelage and his steelpans in the 1970s and continued to call on him for tuning for many years.

Steelpan East, Steelpan West

In late 1972, Mannette resigned his position at the Educational Alliance and exchanged the stability of working primarily in New York City for the adventure of travelling throughout America. He would not have another institutional home until 1992, at which time he joined the staff of West Virginia University in Morgantown, West Virginia. Mannette's work with the Educational Alliance steelband program and James Leyden in the 1970s represents only a small fraction of his overall activity, and throughout the decade of the 1970s, Mannette spent a great deal of time on the road as the individuals and institutions eager to start steelbands were located farther and farther from New York City. Mannette did not drive himself and relied on public transportation—mostly bus—to travel the far reaches of the continental United States.[59] Mannette often lived with friends or patrons and only stayed in a given location for as long as it took to build and tune the steelpans. In meeting countless new people and musicians, Mannette was constantly learning to build better instruments and tune them to the best of his abilities.

In addition to his work with primary and secondary school steelbands, Mannette also built and tuned instruments for several colleges and universities. During the late 1950s and 1960s, several short-lived, small steelbands started up at different institutions in the United States. Some were started by expatriates from the Caribbean and several of these were founded at the behest of folksinger and, strangely enough, steelband advocate Pete Seeger. During the lost years of his media blacklisting, Seeger spent a substantial portion of 1955-1969 performing folk music on tour at universities throughout America. While on campus, Seeger often gave lectures, held instrument workshops, and stayed for extended residencies at host institutions, and during these, he advocated for steelbands.[60] Seeger helped start steelbands at Cornell, UCLA, USC, and Michigan State University, though none of the above bands survived more than a few years.[61]

One of the first university steelbands that Mannette worked with was at Howard University in Washington, D.C. The steelband there was formed in 1961 by exchange students from Trinidad and Tobago and was called "The Trinidad Steelband;" the pannists had notable experience with a variety of well-known Trinidadian steelbands such as Starlift Steel Orchestra, Silver Stars Steel Orchestra, Symphonettes Steelband, and West Side Symphony Steel Orchestra. The steelband was not directly affiliated with Howard University but, interestingly, in 1963, the band gained the sponsorship of the Texaco Oil Company who gave the band members full tuition scholarships to attend Howard University. The Trinidad Steelband played a variety of engagements in and around the Washington, D.C. metro area, and in the early 1970s, they enlisted the skills of Mannette to build new steelpans and tune their existing instruments.[62]

As Mannette continued to broaden his network of steelbands throughout the East Coast in the 1970s, Murray Narell and his family, including Andy and Jeff, moved to Oakland, California in 1970. Andy Narell noted the family focus on steelpan did not change with the cross country move. "As soon we got there, my father arranged for a meeting with the Oakland Parks and Recreation Department to propose starting a steelband program with me teaching. They went for it. I got my driver's license the morning of my 16th birthday and went to work later that week… Jeff came out a few months later and he also started working in parallel programs at different centers in Oakland."[63] To start the steelband programs in California, Murray Narell needed steelpans and once again called upon Mannette, who headed west to build the instruments and stay with the Narell family.[64]

57 James Leyden, email message to Andrew Martin, November 27, 2014.

58 Ibid.

59 Mannette did, in fact, drive in Trinidad as a young man but relinquished his license once he immigrated to the United States in 1967. Ellie Mannette, interview by Jeannine Remy, July 26, 2010, and Dave Lonfellow, email message to Ray Funk, May 22, 2015.

60 For more information regarding Pete Seeger and his work with steelbands, see Andrew R. Martin, "A Voice of Steel through the Iron Curtain: Pete Seeger's contributions to the *American Steel Band Movement*," American Music 29, no. 3 (Fall 2011), 353-380.

61 For more information regarding the development of steelpan in the United States, see Andrew R. Martin, "Pan-America: Calypso, Exotica, and the Development of Steel Pan in the United States" (Ph.D. diss., University of Minnesota, 2011).

62 Ron Emrit, email message to Ray Funk, May 25, 2015, and Ron Emrit, email message to Ray Funk, April 10, 2007.

63 Andy Narell, interview by Andrew Martin, August 18, 2008.

64 Andy Narell, email message to Jeannine Remy, July 29, 2010.

This was a busy time for Mannette and orders for new instruments and calls for tuning old ones had the pannist booked months in advance. During this same time period, Andy Narell, now a young adult, was busy establishing his own professional career as a solo pannist. Though he was based primarily on the West Coast, Narell would occasionally travel back to New York to get his steelpans tuned by Mannette.[65] Narell recalled staying with Mannette at his home during these visits out of necessity, noting that the pannist, "would let me stay on the couch for a couple of days while I hung out and waited for Ellie to finish my pan. It was the only way to get an instrument from Ellie in those days—show up and camp out."[66]

The 1970s also saw Mannette renew his relationship with the US Navy Steel Band. Because of his transition from Trinidad to the United States in the late 1960s, Mannette temporarily stopped tuning steelpans for the US Navy Steel Band beginning in 1966. However, the band moved headquarters to New Orleans from Puerto Rico in 1973, and beginning in 1976, Mannette reconnected with the US Navy Steel Band and was brought to New Orleans two to three times per year to tune the steelpans and make replacement instruments.[67] The US Navy Steel Band used several tuners throughout its history including Cliff Alexis, James "Bassman" Jackman, and Phil Solomon; however, Mannette was a favorite of the band and their partnership lasted on and off for nearly four decades. Former US Navy Steel Band member Dennis Jansson remembered Mannette's strong work ethic and commitment to process.

> I was the guy who would pick up Ellie at the bus/train stations and pretty much took care of his logistics while he was in town... . It was a great time (1978-82) because Ellie would work all day at the band room then come home and after a little supper he would talk about pans and Trinidad until the wee hours. Then he was up again at six in the morning and out the door again. Incredible human being! Right before I left the steelband in 1982, I came home one day and saw what looked like the back of my house was on fire. It wasn't. Ellie had made me a pair of seconds and was annealing them in the back yard. He gave me those pans and I still play them today.[68]

Mannette appears to have never again experienced the same degree of racism that soured him on the American experience during the early 1960s, yet, these bus rides were not without their problems. Jansson recalled one particular incident when, while picking Mannette up from the bus station in New Orleans, the two men discovered that the pannist's suitcase full of special steelpan-making hammers and tools had been stolen. Undeterred, Mannette demanded that Jansson drive him to a local hardware store near the Algiers Naval Base where Mannette bought all new hammers. Still angry, Mannette took the hammers back to the base, ground them down to exact proportions using tools from the base's machine shop and then proceeded to build and tune the US Navy Steel Band's steelpans.[69]

Southern Hospitality: The George Family of Perry, Georgia

Bill King was a junior high school teacher at East Rome Junior High School in Perry, Georgia and had been fascinated with steelpan since first hearing steelbands while stationed in the Caribbean during his military service. King acquired a few sets of steelpans from unknown makers in the Caribbean and, in 1981, King decided he wanted to start a steelband in earnest and hired Mannette to build twelve steelpan sets for his steelband. With thirty-five students in two classes learning steelpan on the existing subpar instruments, King was delighted to have Mannette build new steelpans and tune the old instruments. An excited King boasted, "Mannette is so interested in promoting the music of steel drums [*sic*] as an art form, that he was willing to come and construct the instruments."[70]

While working on the steelpans for Bill King in Georgia, Mannette met the George family. Joseph and Inez George adopted twelve children and were inspired to form a large family steelband after a vacation in the Caribbean. Inez George called on Mannette who, over the course of multiple trips to Georgia, built an entire set of instruments for the large family steelband.[71] The George family steelband was called the Steel Bandits, taking the name of the former Narell family band that had broken up over a decade earlier in 1970. The Georges were an ambitious family and the new iteration of the Steel Bandits performed throughout the American South, the National Academy of Recorded Arts and Sciences (Grammys) in 1992, and the White House at the request of President Ronald Reagan, all while showcasing Mannette's steelpans to a large radio and television audience.[72]

65 For more information on Narell during this time period, see Andrew R. Martin, "Pan-America: Calypso, Exotica, and the Development of Steel Pan in the United States," 299.

66 Andy Narell, email message to Jeannine Remy, July 29, 2010.

67 Andrew R. Martin, *Military Might, Melodious Music: The US Navy Steel Band 1957-1999* (University of Mississippi Press, forthcoming 2016).

68 Dennis Jansson, email message to Jeannine Remy, July 31, 2010.

69 Ibid.

70 Jim Penney, *Rome News-Tribune*, February 15, 1981, p. 3-B.

71 Ibid.

72 Susan Bloodworth. "The Steel Bandits to steel the show at PCC concert," *Lakeland Ledger*, April 2, 1993, p. 1-W.

Even more important than the exposure was the relationship Mannette forged with Kaethe George, an older daughter of Joseph and Inez. Kaethe was never a member of the Steel Bandits; however, she was a college-educated woman who became Mannette's business manager, and they had a complex personal relationship.[73] Their relationship became essential for Mannette's financial health and continued for over a quarter century. Kaethe George ran the business side of Mannette's steelpan ventures—handled orders, arranged transportation for Mannette and his steelpans, made sure he was well-paid for his workmanship—and looked to preserve his legacy by writing a number of articles about Mannette in newspapers and scholarly journals.[74] By taking care of the administrative aspects of the business, Kaethe George freed Mannette to focus exclusively on creating, building, and tuning superior quality instruments. Mannette and Kaethe George created a formal partnership called Mannette Touch in 1982 and continued to work together until George's untimely death in 2013.[75]

Despite spending a great deal of time working in Georgia, Mannette never permanently relocated to the area. However, it was here that Mannette first began mentoring students and disciples interested in learning the art of tuning and building steelpans. Mannette's students found it easier to come to Georgia in order to study with the master, creating a temporary—not to mention unlikely—apprenticeship model. One of the first would-be steelpan apprentices to seek out Mannette in Georgia was David Gettes, who had previously experimented with making single note steelpans. Mannette was impressed with Gettes's work, much of it self-taught, and agreed to take him on as an apprentice.

> [O]ne day I called Ellie, explained that I had a set of seconds and asked if I could drive to Georgia and let him see and tune them. I took about 25 of the little cans I had tuned with me. I'll never forget the light in the sky as I approached Perry Ga. It was so eerie and I sensed something very meaningful or special was about to unfold.
>
> When I arrived at the George [family] compound, Kathy George greeted me and told me Ellie would be down in a little while. I set up my little pans in their driveway and when Ellie came down he started laughing loudly as he approached. "Kathy, what is this, this boy is mad, look at this, this reminds me of me." I demonstrated the pans with my make shift mallets and that's how everything with Ellie began.
>
> I spent the next several days and nights there and watched Ellie work. He would start around noon or 1pm but go very late like, 1 am-2 am etc I had never seen anything so interesting as Ellie tuning, and Ellie saw that I was completely captivated and in awe. Ellie asked me if I thought I could build a pan and being naïve I said of course. He replied, 'this is the most difficult instrument in the world to build, you have no idea." He basically challenged me and I took the bait.[76]

As Gettes recalls, the process of apprenticing with Mannette was anything but formal and did not end when Gettes left Georgia to set out on his own. Gettes initially started apprenticing with Mannette in the mid-1980s, and he formed his own steelpan manufacturing company in Pennsylvania in 1989.[77]

> As I became more advanced, Ellie would send me drum tops and I would sink, shape, grove, and do some prep work and mail back to him. He would draw on the drums with markers and send back to me with instructions about what was good what needed work etc. Eventually he would buy the drums from me and finish them and that was how the whole apprenticeship thing grew.[78]

73 See A. Myrna Nurse, *Unheard Voices. The Rise of Steelband and Calypso in the Caribbean and North America*, (New York: iUniverse, 2007).

74 Some of the articles include Kaethe George, "Interview with Ellie Mannette," *Percussive Notes* 24, no. 4 (August 1986): 34, 36, 38; Kaethe George, "Ellie Mannette: Training Tomorrow's Steel Band Tuners," *Percussive Notes* 32, no. 5 (October 1994), 31-32; and Kaethe George, "Creating Steel Band's Newest Voice," Percussive Notes 35, no. 3 (June 1997): 12-13.

75 Ray Funk, Andrew Martin, and Jeannine Remy, "Mannette's Manager Passes On," *Trinidad Guardian*, June 18, 2013; see http://50tt.guardian.co.tt/entertainment/2013-06-17/mannette%e2%80%99s-manager-passes.

76 David Gettes, email with Ray Funk and Andrew Martin, May 31, 2015.

77 Ibid.

78 Ibid.

Mannette also drew a small number of Trinidadians in search of steelpan knowledge to Georgia in the 1980s. Ansel Joseph grew up near Invaders Steel Orchestra panyard in Port of Spain, and as a young child, he idolized Mannette. He boasted, "I used to carry Ellie's lunch for him when he worked at Acme Engineering on lower Richmond Street in Port-of-Spain."[79] Joseph had been living in Toronto, Canada when, in the early 1980s, he, too, came to Georgia to work with Mannette.[80] Over the course of two years, Joseph worked for Mannette as a builder and rough tuner of instruments. Joseph was an experienced builder and tuner of steelpans for years prior to his apprenticeship but saw his time with Mannette as an advanced course. He felt Mannette was the master and was there to learn Mannette's approach, "how you choose the blows, how to do the least amount of hammering to make a note go into pitch. He's a real genius."[81]

Marc Svaline visited Mannette in Georgia to purchase instruments and formed a long-term relationship with the pannist. Svaline was a high school teacher from Pennsylvania who, with the help of Mannette's instruments, went on to build the Washington High Steelband into a leading program of its type in the United States. In addition to his school steelband program, Svaline formed a steelband music publishing partnership with James Leyden called Hillbridge Music to publish steelband music of all kinds.[82] During his time in Georgia, long-term apprentices like Gettes and Joseph were the exception, and most steelpan disciples coming to study with Mannette only stayed for brief periods of time. Working with these apprentices became an education for Mannette, as he learned how to teach the art of building and tuning steelpan—a skill that would become his prime focus for a better part of the proceeding decades.

West Coast Steelpan Workshops

Despite his frequent sojourns across America tuning and building instruments, Mannette focused a majority of his efforts on the East Coast (primarily in New York and Georgia) during the 1980s. However, Mannette was able to make a significant impact on the steelband scene on the West Coast beginning in the mid-1980s via his old friend James Leyden through the legendary Haystack summer steelpan workshops. As noted previously, James Leyden relocated from New York to Oregon in 1977. He arrived with his Mannette-made steelpans in tow and set about forming a steelband in the Portland area. An optimistic Leyden was hoping to start Oregon's first serious steelband program in Portland; however, a different opportunity presented itself in the early-1980s when Adair Hilligoss, Creative Arts Coordinator for the Vancouver, Washington school district, invited Leyden to conduct a series of steelpan workshops with his instrumental music teachers and staff.[83] Their success led to the formation of steelbands in four of the schools in the school district, each outfitted with steelpans made by Mannette. Building on this success, program director Hilligoss arranged a highly successful tour that saw the bands performing in Joyo, Kyoto—Vancouver's Sister City in Japan.[84]

Another opportunity arose in 1984 when Leyden was asked to create a steelband workshop as part of the Portland State University Haystack Summer Arts Camp held in the small coastal Oregon town of Cannon Beach. Eighty miles west of Portland on the Oregon coast, Cannon Beach has long been a summer tourist destination (similar to Door County, Wisconsin where the Birch Creek steelband camp is held each summer).[85] As part of this new steelband summer program, Leyden convinced Mannette to teach a multi-week steelpan building workshop. The program proved successful and became a seminal part of Mannette's summer plans for several years. As Leyden recalls, "A reasonable number of people attended, and we pounded on steel barrels and played on the [steel] pans I borrowed from the Vancouver schools for the occasion."[86] Year after year into the late 1980s, the program's reputation continued to grow, and the number of attendees continued to increase. The Haystack steelpan workshop also gave Mannette a chance to renew his relationship with Andy and Jeff Narell, who were recruited to teach and participate in the program. After several years of success, the steelband program at Haystack outgrew the facilities at Cannon Beach, and Portland State University eventually withdrew its funding in favor of other arts programs. Regardless, because of Mannette's teaching, a steelpan revolution had begun on the West Coast, and the Haystack program inspired many attendees to carry Mannette's legacy forward and pursue careers in steelpan.

79 Ansel Joseph, interview by Jeannine Remy, June 26, 2009.

80 Outside of the Caribbean, large populations of Trinidadian expatriates can be found in Toronto, New York, and London. For more information of the diaspora and distribution of Caribbean immigrants across the globe, see Philip Kasinitz and Judith Freidenberg-Herbstein, "The Puerto Rican Parade and West Indian Carnival: Public Celebrations in New York City," ed. Constance Sutton, and Elsa Chaney, *Caribbean Life In New York City: Socio-cultural Dimensions* (New York: Center for Migration Studies, 1987).

81 Ibid.

82 For more information, see http://www.hillbridge.com/index.php.

83 A. Myrna Nurse, *Unheard Voices. The Rise of Steelband and Calypso in the Caribbean and North America* (New York: iUniverse, 2007), 184, and James Leyden, email message to Andrew Martin, November 21, 2014.

84 Ibid.

85 Portland State University has used the town as a base for various summer arts camps since 1969.

86 Nurse,184.

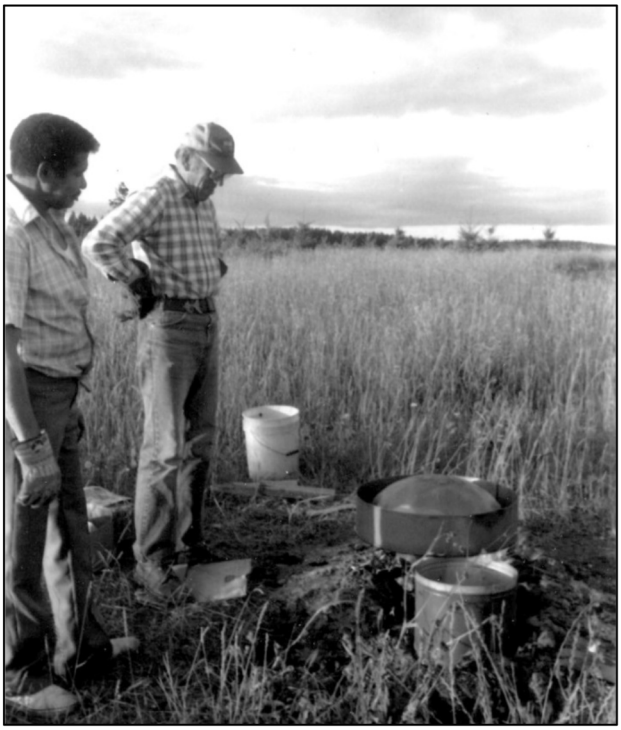


Figure 6. Ellie Mannette and James Leyden building steelpans, Oregon, circa early-1980s.[87]

Tom Miller met Mannette at the Haystacks steelpan workshops and spent four summers there from 1985 to 1989. Miller recalled, "My first summer I actually took the construction class and made my first and only pan. Not the most successful venture. I recall Ellie suggesting I focus on playing the instrument more than building."[88] The workshops and Mannette's teaching changed Miller's life and launched one of the most successful steelpan careers of American-born players. In addition to his playing and teaching, Miller founded and manages the media/publishing company Pan Ramajay, which issues steelband recordings and sells steelband sheet music.[89] Miller eventually became an instructor for Mannette and Leyden at the Haystacks steelpan workshops and would, in time, become the faculty coordinator and instructor of the steelpan workshops after Mannette moved the location of the workshop to Morgantown, West Virginia in 1992. In recent years, Miller has started a separate summer workshop in Denver called Pan Ramajay Summer Steel Drum Fest.[90]

Another former Mannette student of note from the Haystack steelpan workshops is Dennis Martin, who first developed an interest in steelpan after seeing an episode of the children's television show *Mr. Rogers' Neighborhood* in which steelpan builder Phil Solomon (by way of his workshop in Pittsburgh) demonstrated how steelpans are built.[91] Martin attended the Haystack program for the first time in 1984, became infatuated with the steelpan, and returned the next summer. When Mannette mentioned his need for shop space to build steelpans periodically while on the West Coast, Martin stepped in and volunteered the use of his personal workshop space. Martin became one of Mannette's apprentices, and they worked closely together when Mannette was on the West Coast. With Mannette's blessing, Martin founded a steelpan company called Rhythmical Steel, which has since gone on to become one of the major manufacturers and tuners for steelpan in the American Northwest.[92] In more recent years, Martin and Rhythmical Steel have invested considerable time and effort creating a unique line of hand and power tools tailored specifically for steelpan makers. This includes Martin's pioneering creation of a series of power tools that allow steelpan makers to sink a steelpan in approximately thirty minutes—traditionally a multi-hour affair with the conventional 4-pound hammer.[93]

87 Photo courtesy of James Leyden.

88 Tom Miller, email message to Ray Funk, April 12, 2009.

89 For more information, see http://www.ramajay.com/.

90 Ibid.

91 "Mad Feelings—#1694," *Mr. Roger's Neighborhood*, WTPT Twin Cities Public Television, St. Paul, MN: WTPT, October 19, 1995.

92 For more information on Rhythmical Steel, see http://rhythmicalsteel.com/.

93 Sharon Miller, interview by Ray Funk, May 6, 2010.

West Virginia University, University Tuning Project, Mannette Steel Drums, Ltd.

His work in the Pacific Northwest, Georgia, and New York notwithstanding, the 1980s further saw Mannette spending considerable amounts time working in Arizona and California. Mannette's endless travelling effectively ended, however, with a serendipitous phone call from Phil Faini of West Virginia University in Morgantown, West Virginia in 1992. Mannette's involvement with West Virginia University was the vision of Faini, who at the time was Professor of Percussion at West Virginia University. A world music specialist, Faini formed an interest in African music early in his career and, beginning in 1968, built a major collection of traditional African drums. Faini used his diverse collection of drums to perform various African-based musical styles with the West Virginia University percussion ensemble. In 1969, Faini led the West Virginia University percussion ensemble on a nine-country tour of Latin America, which included a stop in Trinidad. While in Trinidad, Faini met steelpan legend Tony Williams, recalling that "[I] had the opportunity to visit the panyard of the Pan Am All Stars [Steel Orchestra]. They were wonderful hosts. We ate and drank that night and had a great time mingling with all the musicians."[94] The visit to Trinidad impacted Faini greatly and he set about planning to acquire a set of steelpans at West Virginia University, a plan that would take several years to become reality.

Faini and Mannette met for the first time in 1990, at which time Faini purchased a basic set of steelpans for West Virginia University. The pair was further brought together by Mark Ford (who, at the time, was Professor of Percussion at Eastern Carolina University) as part of a steelband workshop being held at Eastern Carolina University.[95] It was there that Mannette and Faini discussed the possibility of creating a permanent position for Mannette at West Virginia University. Things progressed further when Mannette came to West Virginia University later that same year to tune its steelpans, and Faini once again broached the subject of the pannist moving to Morgantown. Inspired by the success of Cliff Alexis, who joined the Northern Illinois University School of Music as a staff member seven years prior in 1985, Faini invited Mannette to be a fulltime artist-in-residence at West Virginia University for the 1992-1993 academic year.[96] "I asked him if he ever thought of settling down and teaching at a university. He said he had had some offers but none had ever come through. I asked him if he would like to teach at West Virginia University if I could get him a position. He said he would give it a try."[97]

Looking towards Northern Illinois University and their staff steelband tuner Cliff Alexis as a model, Faini knew that creating a university-level staff position for Mannette was the only way to ensure long-term funding for the position.[98] In 1992, West Virginia University officially founded their World Music Center in order to house the world music ensembles. The center had a marked emphasis in African drumming and dancing, Taiko drumming from Japan, and steelband. Faini later told the student newspaper, "I think West Virginia University is really on the cutting edge with this. We've been envied by a lot of other major universities in the program that we have."[99]

By late 1992, Faini was Interim (soon-to-be permanent) Dean of the College of Creative Arts at West Virginia University and hired Mannette as an artist-in-residence and Director of Steel Band Studies within the World Music Center. Mannette worked with Director of Percussion studies Tim Peterman to design a curriculum for the pannist to teach, and what evolved from this collaboration was a public/private partnership called the University Tuning Project. According to Mannette, the project was designed to train students in the entire process of steelpan construction, "if a student finds he is interested in building, he will take the drum all the way through grooving or beyond and then start another."[100] Mannette was allotted one storage room and hallway space for steelpans in the basement of the Creative Arts Center—which also housed the School of Music—on campus, and the constant intersection of students made this an ideal space for any novice to start learning the process of building and tuning steelpans.

The idea of a public/private partnership served Mannette and West Virginia University well from 1992 to 1999. Through the auspices of the University Tuning Project, Mannette would receive orders for steelpans via his company Mannette Steel Drums, and the student apprentices of the university would aid the pannist in building and tuning the instruments. However in 2000, West Virginia University and Mannette forged a different relationship as the manufacturing of instruments was moved off-campus to a warehouse in Morgantown several miles away. With this new warehouse space, a different commercial sponsorship was formed between Mannette and the university. As a result, what had been the University Tuning Project became Mannette Steel Drums, Ltd.

94 Phil Faini, email message to Jeannine Remy, August 18, 2009.

95 Ibid.

96 Ibid.

97 Ibid.

98 At Northern Illinois University, Al O'Connor specifically created the steelband tuner position as a university staff position rather than an adjunct professor or artist-in-residence. This way, the position would be part of the staff union and insulated from fluctuations in funding. For more information on the Northern Illinois University Steel Band, see Andrew Martin, Ray Funk, and Jeannine Remy "Celebration in Steel: Forty Years of the Northern Illinois University Steel Band" (Northern Illinois University Press, forthcoming 2017).

99 Leeann Ray, "World music program envied by others," *Daily Anthaeneum*, May 1, 2006. http://www.da.wvu.edu/show_article.php?story_id=22777.

100 Kaethe George, "Ellie Mannette: Training Tomorrow's Steel Band Tuners," *Percussive Notes* 32, no. 5 (October 1994), 31-32.

In addition to his steady work of building steelpans for steelbands world-wide, Mannette continued to explore new possibilities for steelpan design. During the 1990s, Mannette developed a new set of steelpans built at the behest of Andy Narell called the Quaduet. The four-piece instrument has a range from Ab2 to F6; the two front steelpans of the quad set have the standard note placement of a double second while the back two steelpans carry extended lower notes. "With the Quaduet," Mannette explained to Terry Joseph of the *Trinidad Express*, "the player will no longer have to alter the key of songs that have a very wide range, or transpose from original notes where an octave expires."[101] Mannette explored the metallurgy of the instrument with scientists who sought him out. He worked first with Northern Illinois University physics professor Thomas D. Rossing on a steelpan acoustics study that became portions the book *The Science of Percussion Instruments*, published in 2000.[102] Mannette also served as a steelpan consultant for a team of metallurgical engineers at the University of Texas at El Paso. Research team leader Professor Lawrence E. Murr, director of UTEP's Materials Research Institute, was pleased with Mannette's support and willingness in allowing older sets of Mannette-made steelpans to be cut up and analyzed. According to Murr, "Mannette was real excited [about the project], because he was always interested in having somebody do legitimate science on the steel drum [*sic*]."[103]

In 2005, Chanler Bailey became the President and CEO of Mannette Steel Drums, Ltd. as Mannette took a more advisory role.[104] In 2008, Mannette Steel Drums, Ltd. reorganized under the name Mannette Musical Instruments with a staff that includes tuner/builders Chanler Bailey, Rob Davis, Keith Moone, Eric Fountain, and CEO Ron Justice.[105] In order to continue his activity in steelpan education separate from the steelpan company, Mannette founded the Ellie Mannette Foundation in 2005 as a nonprofit organization that promotes steelpan education and research.[106]

Teacher, Students, Apprentices

Begun in 1992, the University Tuning Project proved a great success, and as Professor Faini noted, "The rest is history. He [Mannette] liked it here, and I was able to get him a permanent position on our staff. It has been a great relationship. The students all loved him."[107] One of the first students to intersect with Mannette at the University Tuning Project was Chris Tanner who, long before becoming a respected pannist and director of the Miami University steelband, was an impressionable undergraduate at West Virginia University intrigued by Mannette and steelpan.

> Having Ellie Mannette working in a room in the basement of the CAC [Creative Arts Center] was nothing short of amazing. Here was a genius, a living legend, a major innovator in pan, right in our midst! It was nothing to go down to his workroom during your lunchtime, for example, and sit and watch him work. While there, invariably Ellie would chat with you, or show/explain what he was doing in tuning a pitch, or in shaping a pan. It was incredible.[108]

Like many of the students impacted by Mannette's tutelage, Tanner's passion for steelpan would eventually become a vocation. Beyond passion for the art form, however, a number of other students, such as Glenn Rowsey, learned that they could get work-study money from the university simply (so it seemed) by going downstairs to Mannette's workshop and sinking steelpans.[109] Rowsey became fascinated by steelpan and eventually apprenticed under Mannette for several years. What started as a way to earn a little extra money instead ostensibly changed the lives of people like Rowsey forever, and it is here, in the small details, that we so often see the broad ranging influence of Mannette.[110]

101 Terry Joseph, "Ellie Mannette Invents New Pan for Soloists," *Trinidad Express*, June 4, 2000, 9.

102 For more information, see Thomas D. Rossing, *Science of Percussion Instruments* (World Scientific Press: Singapore, 2000).

103 Corrina Wu, "Musical Metal, Science catches up with the shimmering sound of steel drums," *Science News*, October 10, 1998, http://www.sciencenews.org/sn_arc98/10_10_98/bob2.htm.

104 Bailey himself was a Mannette protégé and West Virginia University graduate who began studying steelpan in 1990 and progressed through the ranks of Mannette Steel Drums, Ltd.

105 For more information on the organization of Mannette Steel Drums Ltd., see "Augusta Systems Investment Analysis," *West Virginia Jobs Investment Trust Board*, June 30, 2007, 52-58, http://www.legis.state.wv.us/legisdocs/reports/agency/J02_FY_2007_92.pdf.

106 For more information, see http://www.mannetteinstruments.com/#!dr.-mannette-75-years-of-innovation.

107 Phil Faini, email message to Jeannine Remy, August 18, 2009.

108 Chris Tanner, interview by Andrew Martin, August 17, 2007.

109 Sinking a steelpan is the process by which the top of the steel barrel is stretched to create enough space for the notes. The process is usually accomplished with a sledge hammer or pneumatic hammer and the steel barrel surface is pounded in order to stretch the metal into a concave shape. To see the process in action, see Glenn Rowsey https://www.youtube.com/watch?v=dWEHZDw05j0 and https://www.youtube.com/watch?v=uL8HFdkl_D4.

110 George, 32.

Mannette's affiliation with West Virginia University and the University Tuning Project supplied a wealth of talented and eager students for the pannist to mentor, many of which have gone on to become leading steelpan builders, tuners, performers, and educators in the American steelpan scene. For example, Chris Tanner earned undergraduate and graduate degrees at West Virginia University prior to founding the Miami University steelband at Miami University of Ohio in 1994. The Miami University steelband has since become a leading program in the American steelband scene and performs regular concerts on-campus and in the Cincinnati area. The band's concerts often feature prominent guest artists from across the globe, and the Miami University Steel Band has, in addition to touring throughout America, recorded four studio albums to date. Tanner is also an accomplished steelpan pedagogue; his how-to guide for starting school steelband programs called *The Steel Pan Game Plan* (2007) is an excellent resource. Additionally, he has taught workshops throughout the United States from Florida to Alaska and is constantly in demand as a consultant for steelband programs at schools.[111]

Mannette's disciples have further made their mark in Eastern Virginia through a program called the Rhythm Project. Started in 1996 as part of the Virginia Arts Festival, the Rhythm Project has become an ever expanding effort to reach youth through year-round activities involving steelpan in several elementary, middle, and high schools in the Tidewater area of Virginia. Eight individual steelbands, each representing a local school or city, feed their best players into an award-winning premiere band called the All-Stars. From its humble beginnings, the Rhythm Project (which hosts the annual Virginia International PANFest, started in 2003) has been directed by pannists with degrees from West Virginia University.

Figure 7. Festival of Steel, Roanoke, West Virginia, 2011. Andy Narell (left), Ellie Mannette (second from right), David Longfellow (right).[112]

Current Rhythm Project director, Dave Longfellow, led the West Virginia University steelband from 2002 to 2006 and was an accomplished jazz pannist prior to becoming the director of the Rhythm Project. According to Longfellow, a network of percussion graduates from West Virginia University is steadily building steelpan programs along the Eastern Seaboard from Virginia to Charleston, South Carolina:

> [Former director] Anthony Hailey came through the Hampton Roads area (Norfolk, Portsmouth, Hampton, Newport News, Virginia Beach - Virginia) in the late 1990's and got hired with the Virginia Arts Festival (where I work now) to develop the Rhythm Project program. He came through the West Virginia University steelband program with Ellie. He later hired Ben Meyer (also a West Virginia University pan-player) after he got his masters from [Miami University of Ohio with Chris Tanner] and came down here to help with the Rhythm Project. Anthony left and they hired Sophia [Subero] and Ben [Meyers] took over as director. Then Ben left and they hired me. Ben is now down in the Charleston, South Carolina area teaching in public school with nothing but steelpans.[113]

111 Chris Tanner, *The Steel Band Game Plan: Strategies for Starting, Building, and Maintaining Your Pan Program* (Lanham, Maryland: Rowman & Littlefield Educational, 2006).

112 Photo courtesy of David Longfellow.

113 Dave Longfellow, email message to Ray Funk, July 7, 2010. Ben Meyer has since been joined in South Carolina by another West Virginia University steelpan graduate, Ian MacMichael. For more information, see http://lincoln.ccsdschools.com/directory/academic_arts/ian_macmichael/.

Some West Virginia University steelpan graduates explore other career paths before returning to a vocation with steelpan. One such example is Tom Berich who pursued arts management for several years following his education at West Virginia University only to eventually settle in Bloomington, Indiana, where he now actively performs on steelpan and runs Pan USA, a company that brokers steelpans and steelpan equipment.[114]

As Mannette's vast web of students and apprentices continues to spread across America, the pannist has unexpectedly found himself travelling extensively as a guest artist—something he never anticipated upon accepting the position at West Virginia University back in 1992. For example, Mannette served as a guest artist on three different occasions for Chris Tanner and the Miami University steelband in Ohio.

Tanner insists that it is essential for his students and the public to experience Mannette and hear him lecture on the history of steelpan and the steelband movement in Trinidad.[115] Even in his eighties, Mannette continues to travel America lecturing on the history of steelband, the evolution of the instrument, and steelpan construction and tuning. More recent guest artist appearances include the Rhythm of Spring concert with the University of Southern Mississippi Steel Band in April 2009, the 2010 Percussive Arts Society Indiana Day of Percussion at Vincennes University, and the 2013 Great Lakes Pan Festival in Chicago.

Perhaps Mannette's most lasting legacy in the American steelpan scene is witnessed through the work of his many apprentice tuners and builders. Over the years, numerous students have trained via the University Tuning Project and Mannette Steel Drums, Ltd. and many have gone on to work throughout America and the world with ever-increasing success. Mannette's first notable apprentice to work on his own was Alan Coyle, who had just completed a Master's degree at West Virginia University in the Spring of 1993 when he came under the tutelage of Mannette. Coyle initially approached Mannette's workshop to "bang around"—just like a lot of the percussion majors did at the time. What was initially planned as a short stay, only a few months, lasted five years, and Cole remained under Mannette's tutelage with the University Tuning Project until 1998. In 1999, Coyle started Coyle Steel Drums in Pensacola, Florida and has since become a well-known steelpan manufacturer and tuner. According to Coyle, "I owe a great deal to Ellie for teaching me this craft. His methods and approaches are a major portion of the techniques we use. He laid the basic foundation that we've built upon."[116] Since the early 1990s, a select few of Mannette's most dedicated and talented apprentices learned the art of tuning and building steepan to a degree that approached the skill of the master, and Coyle is one such apprentice. According to Mannette, "He [Coyle] decided to stay on with the University Tuning Project and can now construct every one of the voices—most even better than I can—and that is the way it should be."[117]

114 For more information, see http://www.indianasteelpan.org/.

115 Chris Tanner, email message to Andrew Martin, November 23, 2014.

116 Alan Coyle, email message to Ray Funk, August 22, 2009.

117 George, 32.

Figure 8. Concert Poster Miami University Steel Band, 2004 (photo from 1998).[118]

118 Photo courtesy of Chris Tanner.

Figure 9. Andy Narell, Anthony Hailey, Ellie Mannette, Rob Davis, Billy Sheeder, and Glenn Rowsey in Virginia Beach, Virginia, circa 2002.[119]

As of today, Mannette's small crop of former apprentices work full-time tuning an increasing percentage of steelbands found across America. Following Coyle, Darren Dyke began his apprenticeship with Mannette in 1995 before moving to Austin, Texas in 2002. Dyke, along with Emily Lemmerman and Billy Sheeder, make up a trio of former Mannette apprentices called Barracuda Steel Drums (named after Mannette's famous "Barracuda" lead steelpan from the 1940s), which formed in 2004 when Lemmerman and Sheeder left Mannette Steel Drums, Ltd. and joined Dyke in Austin, Texas. With more than sixty school steelbands in the area, the trio is very active around Austin; however, like their mentor before them, Dyke, Lemmerman, Sheeder, Rowsey, Coyle, and other Mannette apprentices roam America and the globe tuning and building steelpans. Alan Coyle is approaching his goal of tuning in all 50 states;[120] Dyke is noted for building and tuning steelpans for Andy Narell and the Parisian steelband Calypsociation; in addition to her work building and tuning steelpans in America, Lemmerman tunes for steelbands in the Caribbean, Europe, and Trinidad (most notably for the Skiffle Bunch steelband); Rowsey tuned steelpans in Trinidad for Carnival 2015 and has recently found himself tuning instruments in faraway places such as Alaska; and Sheeder is constantly on the road tuning for bands throughout the United States and Trinidad.

Summer Workshop, Reborn

Starting in the summer of 1994, Mannette started an annual summer workshop held at West Virginia University. Initially, the workshop was intended to duplicate the Haystack workshops held during the 1980s. Unlike the Haystack workshops, however, the WVU workshops attracted a wider range of students, one interested in a variety of steelpan-related issues such as teaching, performance, building, and tuning. Mannette taught tuning and building himself, and another former Mannette student, Marc Svaline, taught steelpan performance. The first class consisted of approximately sixteen music educators from the area surrounding Morgantown interested in adding steelpan to their school music programs. Now called the Festival of Steel, the Mannette summer steelpan workshop in Morgantown has grown to become one of the leading steelpan summer events in the country.[121]

The success of Mannette Steel Drums and the University Tuning Project had a lasting impact on the summer steelpan workshops in Morgantown, and as Mannette's reputation spread, enrollment at the summer steelpan workshop increased in direct proportion. With long-time business manager Kaethe George working tirelessly behind the scenes, the summer steelpan workshops in Morgantown took on a degree of celebration; that is, celebrating steelpan and Mannette himself. The "Golden Anniversary" for the creation of the 55-gallon drum steelpan was marked in 1996, and the workshop would reflect Mannette's contributions as George would later assert: "Ellie marks 50 years with original songs, tomorrow's tuners and a new instrument".[122] To this end, the 1996 summer steel-

119 Photo courtesy of Glenn Rowsey, see http://panrowsey.com/bio/.

120 Glenn Rowsey, interview by Ray Funk, May 24, 2015.

121 Other major summer steelpan workshops include the Virginia International PANFest, Pan Ramajay Summer Steel Drum Festival, and the University of Delaware Steel Band Festival to name just a few.

122 Katethe George, "Ellie Mannette's Golden Celebration 1846-1996," *Pan-Lime* 3, no. 4, 1.

pan workshop featured a large faculty with Andy and Jeff Narell and two legends from Trinidad: Ken "Professor" Philmore and Ray Holman.[123] According to Philmore, "I play the instrument Ellie Mannette invented. The guy who invented the piano, the violin they're dead now. So we are lucky to have Ellie alive talking about how it started with him because he is rare gold."[124] In later years, Tom Miller, Robbie Greenidge, Liam Teague, and Alan Lightner have joined the faculty in addition to those mentioned above.

When Mannette envisioned the rebirth of the steelpan workshops in Morgantown, he did so with an ear towards including and catering to music educators of primary and secondary schools.[126] With this target audience in mind, the Festival of Steel has always featured a music educator's forum in which primary and secondary school teachers from various parts of the country had a chance to discuss and compare notes on teaching steelpan. As the Festival of Steel evolved over the years, so, too, did the variety of workshops including master classes, lectures, rehearsals, performances, and individual sessions such as "Literature for Your High School Program," "Care and Maintenance," "World Rhythms for Kids," "Construction Overview," "Tuning Overview," "Success with Community Programs," and "Carnival Forum." What started as a small event in 1994 grew beyond the expectations of Mannette and West Virginia University as student enrollment continued to grow each year. By 2005, over 100 steelpan enthusiasts from around the United States—not to mention an increasing number of international participants—made the trek to Morgantown for a week of lessons, workshops, and concerts. [126]

After sixteen years of success, the Festival of Steel summer workshops stopped in 2008 with the weight of the economic recession in the United States. Determined to not let such an important resource die, longtime Festival of Steel faculty member Tom Miller revived the steelpan workshop tradition in Denver in 2010. Meanwhile, in 2012 and after a four-year break, the Morgantown steelpan workshops were once again held, this time under the direction of Dave Longfellow.[127] Mannette is still involved with the Festival of Steel in Morgantown, though on a significantly reduced level, and gives talks on steelpan history in addition to his advisory role.

Awards, Honors, and Homecoming

In 2008, Mannette retired from his position at West Virginia University, and well-wishers from far and wide rallied to give the sage of steelpan a grand sendoff. In spring of 2008, a special concert was held in Mannette's honor that featured three steelbands full of current and former students, apprentices, and mentees (including both Narell brothers), all coming together to honor the pannist.[128] Throughout the course of his life, Ellie Mannette's unique role in the development of steelpan in Trinidad and America has not gone unrecognized. Beginning with his selection as a member of the legendary TASPO (Trinidad All-Steel Percussion Orchestra) in 1951, Mannette has received a steady stream of awards and honors throughout his life.[129] In 1976, Mannette was recognized in absentia by the government of Trinidad and Tobago for his role in the development of the steelband movement. He was presented with the Hummingbird Silver Medal for "his loyal and devoted service to the Republic of Trinidad and Tobago in the sphere of Steelband Innovation" at an official reception held at the office of the Consulate General in New York City.[130]

Mannette gained widespread exposure among national and international arts and cultural organizations through his work at the University Tuning Project and Mannette Steel Drums Ltd. In 1993, the Trinidad and Tobago Folk Arts Institute honored Mannette with a gala event in New York City.[131] In 1999, Mannette received the National Endowment for the Arts National Heritage Fellowship, one of America's highest honors for a master of the traditional arts.[132] In 2004, Mannette was inducted into the Hall of Fame of the Percussive Arts Society for his lifelong contributions to the field of percussion.[133]

123 "Festival of Steel" booklet and promotional information (1996).

124 "Icon Group," *Luck: Webster's Quotations, Facts and Phrases*, ICON Group (2008), 349.

125 James Leyden, "Letter to the Editor," *Pan-Lime* 3, no. 9, September 3, 1996.

126 Elaine McMillion, "Festival of Steel comes to Morgantown," *Daily Anthaeneum*, July 12, 2006, http://www.da.wvu.edu/show_article.php?story_id=22990.

127 For more information, see http://www.festivalofsteel.org/home.html.

128 "WVU concert to honor steel drum pioneer Ellie Mannette," *WVU Today*, April 1, 2008, http://wvutoday.wvu.edu/n/2008/04/01/6660#sthash.bsFyO2mG.dpuf.

129 For more information on Ellie Mannette's involvement with TASPO, see Kim Johnson, "When Steelband took London by Storm," *Caribbean Beat Magazine*, no. 113 (January/February 2012), http://caribbean-beat.com/issue-113/when-steelband-took-london-storm#axzz3bKyNEJkN.

130 For more information, see the National Awards Database, Office of the President of the Republic of Trinidad and Tobago, https://otp.tt/trinidad-and-tobago/national-awards-database/.

131 "Two Cultural Heroes of Trinidad to be honored in New York," *New York Amsterdam News*, March 20, 1993, 9.

132 For more information, see http://arts.gov/honors/heritage/fellows/elliott-ellie-mannette.

133 For more information, see http://www.pas.org/About/the-society/halloffame.aspx.

In October of 2000, Mannette returned to Trinidad after an absence of 33 years, his first visit home since 1967. Despite the fact that his well-publicized arguments with agents of the Trinidadian steelband movement were twenty years in the past, Mannette braced for an icy reception. Much to his surprise, as soon as he stepped off the plane onto the tarmac, Mannette was welcomed by a huge

Figure 10. Hillary Clinton and Ellie Mannette, circa 2000.[134]

Figure 11. Mannette Receiving the Key to the City of Port of Spain, 2000.[135]

134 This photo is undated and was courtesy of Kaethe George.

135 Photo courtesy of Roberto Codallo.

Figure 12. Ellie Mannette Homecoming, 2000. Standing: Carl Prout, Hugh "Dasheen" Hackett, Shorty, Ralph Peterkin, Clyde Woods, Sam, Alton Hall, Ronald Dennis, C. Spencer, Ramrick Pariag, Cuthbert George. Sitting: George Wiltshire, James Inniss, Ellie Mannette, Francis Wickham. Kneeling: Solomon "Kapaul" Phillips.[136]

banner that read: "The Nation Welcomes the Return of Ellie Mannette."[137] For one whirlwind week, Mannette was whisked across the country. He gave lectures, held meetings with steelpan researchers and government officials, was the subject of a short film, and visited his former home—the Invaders Steel Orchestra panyard. Normally understated and stoic, Mannette was overwhelmed with the response and was overcome with emotion on a number of occasions throughout the week.[138]

In a matter of days, Mannette was bestowed four more prestigious awards from various organizations in Trinidad. Pan Trinbago (the international steelband governing body) president Patrick Arnold presented Mannette with an "Appreciation Award" for his contributions to the art form at the World Steelband Festival held at the Jean Pierre Sports Complex in Port of Spain.[139] President of the Republic of Trinidad and Tobago Arthur N. R. Robinson presented Mannette with the Chaconia Medal—the nation's highest honor.[140] In recognition for his years of steelpan innovation Mannette was awarded an honorary Doctor of Letters (DLtt) from the University of the West Indies at St. Augustine, Trinidad.[141] Towards the end of his sojourn home, Mannette was presented with a key to the city of Port of Spain in an emotional ceremony. "Tears filled my eyes," said Mannette. "I had no idea that after all the years I spent away from Trinidad and Tobago, that the Government would still treat me with so much respect. I sat there and just began to cry. Every time I go to these types of events, I remember the struggles I and all the others went through for pan."[142]

136 Photo courtesy of Jeannine Remy.

137 Christine Gibson, "Best Tuned Pan," *American Legacy* (Summer 2010), 16.

138 Terry Joseph, "Ellie Mannette – Journey to Roots," *Trinidad Express*, October 29, 2000.

139 Ibid.

140 For more information, see the National Awards Database, Office of the President of the Republic of Trinidad and Tobago, https://otp.tt/trinidad-and-tobago/national-awards-database/.

141 Joesph.

142 Ibid.

Rounding out Mannette's visit back to Trinidad was the Invaders Steel Orchestra Elders Association Awards Banquet held in Woodbrook at the Invaders Panyard. Jeannine Remy attended and chronicled the entire event and was struck by the amount of reverence Mannette received from the most accomplished pannists in the country. As Remy recalls, "The amount of people who came out for this homecoming event was unbelievable. These steelpan aficionados who walked into the panyard were all somehow connected to Ellie..."[143] Mannette's patron from West Virginia University, Phil Faini, was also on hand to observe firsthand the depth of emotion that Mannette's visit evoked. "I felt I had to accompany him back on this journey to his roots. There he was in the sixties as a prophet without honor in his own country. He went away and did the work (and no one knows how hard this man works daily) and it has been truly enlightening to see the regard in which he is still held here after this long absence. We were all so proud of him, and he was just beaming there sitting on the podium... . He was like the founding father coming home. It was wonderful to see the respect and reverence he was accorded."[144]

Conclusion

In almost a half-century living in the United States, Ellie Mannette has outfitted hundreds of steelbands with instruments and tuned the steelpans of hundreds more. He has built some of the finest steelpans cherished by leading pannists across the globe and inspired countless others to devote their professional careers to the tuning and construction of steelpans. "The reason I became a tuner" notes Darren Dyke, "was because other than Ellie, I won't let anyone else in this world touch my pans with a hammer!"[145] The above study's exploration of Mannette's career in America is, despite the best attempts of the authors, not exhaustive, and surely there are many names of individual steelpan builders, tuners, pannists, and steelband programs impacted by Mannette's work that are not mentioned. This is, no doubt, a testament to the breadth of his influence and ever expanding web of Mannette-trained apprentices and students. Mannette's many contributions to the development of steelband in Trinidad are as significant as he, no doubt, one of several pioneering pannists responsible for the genesis of the steelband movement. However, while his stature will never diminish in Trinidad, Mannette's tireless efforts and contributions to the development of steelpan and steelband education in America are equally important accomplishments and form a legacy that will live on for future generations.

143 Phillip Faini, email message to Jeannine Remy, August 18, 2009.

144 Joseph and Ibid.

145 Darren Dyke, interview by Andrew Martin, November 6, 2010.

Table 1. Ellie Mannette's Influence on Tuner/Builders and Steelbands in the United States.[146]

Apprentice Tuner/Builders	Steelbands
David Longfellow	Lower Eastside Settlement Houses
Tom Berich	Steel Bandits (Narell's and George's)
James Leyden	Horace Greeley High School
Chris Wabich	UC Berkeley
Dave Berry	University of Georgia
Wheeler Matthews	Jacksonville State University
Alan Coyle	Oberlin College
Chanler Bailey	Howard University
Darren Dyke	West Virginia University
Glenn Rowsey	Abilene Christian University
Billy Sheeder	University of Florida
Emily Lemmerman	Miami University
Rob Davis	University of Washington
Eric Fountain	Minnesota State University Moorhead
Keith Moone	Indiana University
David Gettes	Coastal Carolina University
Cal Stewart	Calliope's Children Steelband
Dennis Martin	Lancaster Carnival Kids Steel Orchestra
Tom Miller	Symphonic Steel, Dundee Central High School
Marc Svaline	Jamestown's Steelband
Michael Coolen	Oregon State University
Dave Beery	UC Long Beach
Michael Carey	
Gary Gibson	
Tim Peterman	

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146 This chart/listing is not intended to be complete and only represents a sample of the steelbands and tuner/builders trained and steelbands started by Ellie Mannette. Moreover, the tuner/builders listed apprenticed with Mannette for varying lengths and the degree to which they learned the art steelpan tuning/building, too, varies greatly. The authors would like to think Janine Tiffe for her help compiling this list/chart. For more information, see Janine Tiffe, "Ellie Mannette and his Impact on Pan in the United States" (paper given at the *International Conference and Panorama*, Port of Spain, Trinidad, August 5, 2015).

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Cognitive Principles for Teaching the Marching Percussion Ensemble[1]

Dave S. Knowlton

Abstract

This article draws on principles of educational psychology as a theoretical basis for supporting teaching strategies in the area of marching percussion. To this end, this article considers Reimer's (2008) views that (a) theoretical frameworks in music education should expand to include a broader array of disciplines and (b) the "practice [of music education] without theory is blind" (p. 193). In the first part of this article, a theoretical framework is developed. In the second part of the article, teaching strategies are described. The article concludes with implications.

Introduction

Marching percussion sections usually are associated with colleges, universities, high schools, and middle schools; or they are related to community youth organizations that have educational missions, such as non-profit organizations that sponsor indoor drumlines and drum and bugle corps. Marching percussion, then, is *inherently* an educational activity. In several ways, though, the milieu of marching percussion often contradicts the inherent connection to education. Because the marching activity is historically tied to military traditions, for example, teaching often manifests itself in the form of directions and orders. A leader, sometimes even given a military title like "drum sergeant," orders other performers through a command—"keep your inner beats down." As a result, the performers change their behavior through neither thought nor contemplation. Even as the marching activity has left behind some of its historical military roots and moved toward artistic and pageantry-based approaches to performance, the directive approach to teaching has remained and is not always recognized as insufficient. We cannot fully blame instructors for this lack of recognition of pedagogical failure. After all, instructors often are not professionally-trained educators; rather, they often are organizational graduates who were successful performers. Still, successful performance skills (e.g., being an expert performer on snare drum) do not necessarily translate into knowing how to teach and help student performers learn (e.g., ensuring the snare drumming skills of others).

Percussionists who specialize in the marching activity, then, must have more than performance skills; to fulfill the mission of the organizations for which they work, marching percussion instructors must be well-versed in solid educational principles. The purpose of this article is to provide a substantive theoretical framework for addressing teaching and learning within the context of marching percussion. Then, this article explicates teaching strategies that are consistent with the framework.

Theoretical Framework

The description of one-way directives from an instructor to performers is based on the Educational Psychology view of behaviorism, which calls for "explicit directives and positive modeling" of performance skills (Taylor, 2006, p. 231). A behaviorist view of learning requires only correct behaviors from student performers, who follow the instructor's directives or imitate a model performer. Focusing solely on correct behaviors ignores the need for percussion students to develop strong thinking skills. Yet, thinking skills within the domains of music will be essential as performers move to more mature ensembles and experience increased demands on their skills (Blocher, Greenwood, & Shellahamer, 1997). In fact, "[t]he ability to generate and use mental representations efficiently is the hallmark of expert performers" (Davidson, 2006, p. 216-217). Unfortunately, even when some percussion literature references performer thinking, that thinking is immediately shunned and connected back to behaviorist-types of learning: "[T]he musical ideas originating in the mind of the percussion student will not be adequately communicated without attention to proper technique" (Mixon, 2002, p. 54). An essential theoretical base of this article is the view that the teaching of marching percussion must evolve away from behaviorist tradition, which leaves the student performer as a passive recipient of teaching, and toward cognitive innovation, which allows performers to become active participants in the learning process and allows teachers to become "diagnosticians of musical thinking"

1 Editor's Note: This article was originally published in 2010 in the PAS Online Research Journal, a webpage that has been replaced by this publication. It is re-printed with minor changes to format.

(Elliott, 1995, p. 75). Three aspects of cognitive teaching are emphasized within the strategies that will be presented in the second part of this paper. Those aspects include the importance of flexible mental models, language as a thinking tool, and reflection.

Flexible Mental Models

Cognitive research suggests that mental models are essential components of helping students understand how to execute any physical task (Morrison, Ross, & Kemp, 2000). If true, then marching percussion instructors must teach in ways that help students construct internal models of various aspects of percussion performance. Focusing on mental models shifts emphasis away from teaching and toward learning. To believe that we can *teach* performers to play in ways that are technically proficient, musically expressive, and communicative is a disservice; we only can help performers develop a mental model that will support their *learning* of concepts that are essential to being a well-rounded marching-percussion performer. Good performance begins in the mind's eye of the performer.

By pointing to mental models as a key cognitive approach to teaching, I am suggesting that instructors must help performers "share elements of creativity with the mind that forms the work of art" (Copland, 1972, p. 42). These minds include those of other performers, instructors, arrangers, judges, and audience. One key aspect of sharing creativity is flexibility in thinking (Brookfield, 1987). Performers who can think flexibly are more likely to develop stronger performance skills than performers who think rigidly. Because of the clear connection among creativity, flexible thought, and musical performance (see, for example, Boyd, 1992; Finney, 2003; Hargreaves, MacDonald, & Miell, 2006), the notion of flexible mental models becomes even more important. Any pedagogically-useful approach toward helping performers develop appropriate mental models, then, will require performers to think in flexible and creative ways.

Language to Promote Learning

Marching percussion performers must learn to use language in order to develop appropriate mental models that will help them perform. That is, the mental model in a musician's brain will only take that musician so far toward developing performance skills. Performers must learn to articulate their mental models in order to improve performance (Morrison, Ross, & Kemp, 2000).

In some respects, the old adage of "if you can sing it, then you can play it" is consistent with this cognitive view and thus has a psychological foundation. Gordon (2007) has made clear connections among audiation, performance, and thinking. When performers are singing a passage of music, they are using language to share their mental model of how that music should sound; often, in fact, vocalizing a passage of music can actually help the performer form a mental model of how that music should sound. Said differently, the reciprocity among language, thought, and performance is undeniable and must be the basis of sound teaching (Byrne, 2006; Morrison, Ross, & Kemp, 2000). Importantly, Elliott (1995) might disagree with both Byrne and Morrison, Ross, and Kemp. Elliott would note that verbal constructs actually interfere with musical performance, and thus hinder musical growth—a point that seems to be directly rejected by others (see, for example, Gruhn, 2005). In spite of Elliott's prominence in music education, this paper adopts the perspective that generating language serves as a type of impetus toward learning within a marching percussion ensemble.

If the words of the performer are necessary for strong music education, then it should be clear that the type of one-way directives that were described earlier in this paper are counter-productive to performer learning. When instructors dominate the instructional situation through teacher-centered explanations, performers are deprived of the opportunity for cognitive learning. Indeed, cognitivists believe that discussion leads to learning (Brookfield & Preskill, 1999), and this concept can be traced to the view that "private speech" (e.g., people talking to themselves as a means of problem solving) serves as a means for human beings to refine (Piaget, 1962) and create (Vygotsky, 1986) their own mental models. Shifts must be made toward performers talking about music and performance techniques. Importantly, for learning to occur, the performers must be using *their own* words and language that is comfortable to them. In short, a performer's own words are indicative of that performer's own thinking (Thomeczek, Knowlton, & Sharp, 2005).

Reflection

As has been argued, performers in marching percussion ensembles must form and articulate their mental models of performance techniques and musical concepts. Forming and articulating mental models are necessary for a cognitive approach to learning, but they are not sufficient. A cognitive perspective on teaching and learning also must involve processes that heighten performers' awareness of their own learning through the development of flexible mental models and language. This idea of performers becoming aware of their own thinking and their own approach to learning is best labeled as "supervisory musical knowledge" (Elliott, 1995, p. 66) or the metacognitive perspective (Lin, 2001). A cognitive approach is based on performers thinking about an aspect of performance (e.g., I am playing an open roll) or a musical concept (e.g., the nature of musical expression); the metacognitive approach shifts toward performers considering themselves as performers and music learners (e.g., What is my own level of confidence and awareness in playing this open roll? What techniques for producing musical expression am I not comfortable with?). The metacognitive perspective provides performers with tools to support reflection, and reflection is a necessary part of musical learning from a cognitive perspective (Byrne, 2006; Pogonowski, 1989).

Instructional Strategies for Marching Percussion

In the previous section of this paper, a cognitivist approach for the teaching of marching percussion was defined in terms of three broad constructs—the development of mental models, using language to support learning, and reflection. This section of the paper operationalizes these constructs in the form of strategies for teaching marching percussion. This section is organized around strategies for prompting performers to think about execution, ensemble, and general effect. Using execution, ensemble, and general effect as an organization for this section is purposeful. Such an organization does seem to lay parallel with a view of music as a creative endeavor,

as Hickey and Webster (2001) suggest the need for musicians to think from a person, process, product, and place perspective. Furthermore, a focus on execution, ensemble, and general effect seems to match closely a common approach for judging marching percussion. To best implement the strategies, music instructors must aim to find "a balance between [teacher] guidance and [student] exploration" (Byrne, 2006, p. 310). While this article values this type of balance, it errs more toward notions of student exploration. Indeed, "guiding students toward artistic and creative achievement seems to call for a music teacher-as-coach, adviser, and informed critic, not teacher as proud mother, stern father, or know-it-all big brother" (Elliott, 1995, p. 234). Table 1 enumerates the specific strategies that are described within this section of the paper.

Thinking about Execution

Execution refers to the individual performer's interactions with the musical instrument. Execution is mechanical, with focus on stick heights, the amount of turn in the wrist, the degree of tension at the fulcrum, independence among the hands, and so forth. Mental model development is essential toward improving a student performer's execution (Woody, 1999). In fact, the more fine motor skills required of a task, the more essential a mental model becomes (Morrison, Ross, & Kemp, 2000). Specifically, a mental model that promotes execution is one that will help a student performer consider the relationship between the thoughts required to execute a physical sound (music cognition) and that performer's own control over those thoughts (metacognition). One strategy that will be particularly useful in promoting thought about execution is discussion. In general, discussion is a radically under-utilized teaching strategy (Brookfield & Preskill, 1999). This section advocates discussion that comes in "short bursts." Such discussion creates interaction that goes back and forth from a performer to instructor and even among performers. The pacing of this type of discussion helps avoid social loafing, which can be a problem in some ensembles (Atik, 1994). Using discussion to teach execution requires a careful consideration of integrating a counting system and asking convergent and divergent technique questions.

Counting System

Some research suggests that it is the inexperienced music teacher who focuses on rhythm and demonstrates for students how to count specific musical passages (Goolsby, 1996, 1997). Yet, sequencing of instruction is important to music learning (Gordon, 2007); and particularly in marching percussion, rhythmic accuracy is the basis of execution. Importantly, then, counting rhythms using a system that focuses on rhythmic accuracy will be most useful. Two systems fill this criterion. The first is the traditional western counting system (e.g., 1 e & a, 2 e & a); the second is the Takadimi system as described by Hoffman, Pelto, and White (1996). Two considerations can help make the use of a counting system more cognitivist and produce more learning. First, it is not the instructor who should be counting the rhythms. Rather, it is the student performer who should be counting the rhythms. Second, asking performers to count rhythms should be integrated into brief interactions where the students work together to determine how to count a rhythm and how to physically execute what has been counted. Sometimes this collaboration can be achieved during the flow of a rehearsal by simply asking students to count a passage in unison. Other times, though, instructors might need to ask one student to count and then ask others whether or not the counting was correct. By asking students to engage in collaborative counting, an instructor is helping students form their mental model of a given passage of music.

Table 1. Teaching approaches aligned with cognitive strategies

Marching Percussion Perspective	Cognitive Strategy Used
Execution	Counting Systems in Collaboration Convergent Technique Questioning Divergent Technique Questioning
Ensemble	Cognitive Modeling of Listening and Awareness
General Effect	Communication model Heuristics

Convergent Technique Questions

Requiring student performers to respond to technique questions is more cognitively substantive than telling performers about technique. Consider the following illustrative questions that could be asked to ensemble segments as a means of helping performers develop a mental model of technique:

- Snares, you need to keep your inner beats lower. Is that best achieved through wrist motion or finger control?
- Tenors, what is the height of rise in count four of measure 31?
- Bass drums, what part of your arm should be providing the motion within the stroke?
- Keyboards, on what part of the accidental bars should you strike?

Clearly, when an instructor asks questions like these, that instructor has a "correct" answer in mind. Student performers can respond to such questions briefly and with a few words, or even a single word. Admittedly, correct, short, and direct answers only elicit lower-level thought. Still, by phrasing the instruction in the form of a question, the instructor is eliciting more thought from the performers than would be elicited through simple directives (Byrne, 2006). Importantly, even when asking these lower-level questions, instructors should phrase them in ways such that answers are about the mechanics of performing, not answers of "yes," "no," or other non-musical answers.

Divergent Technique Questions

Instructors should not spend substantive time in engaging student performers in dialogue where students are responding to convergent questions that are close-ended and have one correct answer. Such questions only check students' knowledge and basic understanding. Divergent questions, on the other hand, are more open-ended and allow student performers opportunities to analyze and evaluate elements of execution by responding to questions. Analysis and evaluation allow for higher levels of thinking than do questions that only examine knowledge and understanding. Therefore, instructors can base questions on a short performance by a member of the ensemble. This strategy will elicit discussion on a more substantive level. For example, ask an experienced player to perform a passage of music, either from the show or from a warm up. Based on the demonstration by the performer, instructors can ask for brief comments from others about the various techniques and approaches used. The instructor should guide the discussion through questions. The questions should be open-ended: What did you notice about her wrist turn? What did you notice about stick heights? Beating spots?

These more open-ended questions should provide non-judgmental opportunities for student performers to think in physical terms that are deeper. For example, instructors might help performers better conceptualize the movement of the drum stick as a "rebound." Furthermore, instructors might begin helping students understand the connection from technique (e.g., describing stick height in inches) to musical content (stick height has an influence on dynamics). While time consuming, the "case for encouraging more descriptions and interpretations of musical interactions between pupils and teachers and between pupil and pupil is strong" (Finney, 2003).

Promoting Ensemble Awareness

While execution deals with a performer's mental model of a single stave (i.e., the horizontal musical line), ensemble awareness deals with a performer's understanding of the relationship among staves (i.e., the vertical score). Simply defined, ensemble awareness is a performer's recognition and understanding of the various musical elements occurring within (and across) the ensemble. These elements might include balance, blend, compositional intent, dialogue, and voice leading. Pogonowski (1989) has noted that student performers often do not exhibit high levels of ensemble awareness: Students sometimes can "sit through an entire rehearsal and only be aware of their own parts" (p. 10). Instructors, then, must be well-versed in cognitive strategies for helping performers think more broadly as they construct a mental model of the ensemble.

Ensemble awareness is essential toward the goal of student performers achieving a "peak experience" as described by Maslow (1987) or "flow" as described by Elliott (1995). Boyd (1992) came to the conclusion that a peak experience can occur only when the performer "is totally in the 'here and now.' It is a time of complete concentration [and a] way of thinking [indicated by] the coming together of the conscious and the unconscious" (p. 159). Through a cognitive approach to teaching ensemble awareness, instructors can help student performers become "totally absorbed in the music" (Boyd, 1992, p. 160). Both Morrison, Ross, and Kemp's (2004) approach to teaching interpersonal skills and Bandura's (1977; Bandura & Jeffery, 1973) Social Learning Theory can work in tandem to create a five-step outline that provides student performers with the opportunities for absorption, as described by Boyd (1992). The absorption, however, is achieved actively because the student performers come to understand how to use language to talk themselves through a musical idea. Each phase of the model is listed in Table 2.

Table 2. Phases of the ensemble awareness model

Model Phase	Description
#1: Select Passages for Analysis	Instructor selects passages for analysis
#2: Instructor models Ensemble Awareness	Instructor uses metaphor, connections to pop culture, and audiation
#3: Performers Describe Instructor Analysis	Performers explain the instructor's modeling from phase #2
#4: Performers Analyze Musical Passage	Performers analyze a passage of music in ways that are similar to the instructor's analysis from phase #2
#5: Performers Reflect	Instructor prompts performers to review the process of this model

Phase #1: Identifying Two Passages for Analysis

To prepare for rehearsal, instructors should identify sections in the score that can serve as the basis for analysis within this model. Passages should illustrate both various ensemble elements that are written into the score (e.g., dialogue, textures created through combinations of instruments) and opportunities for strong ensemble performance (e.g., musical phrasing and expression involving more than one segment of the ensemble). By considering passages that illustrate both written and performance elements, student performers will be exposed to broad notions of ensemble awareness.

Phase #2: Instructor Modeling of Ensemble Awareness

Using one of the sections identified during phase one, the instructor serves as a model during an ensemble rehearsal. The purpose is to model a personal understanding of the ensemble elements within the musical score. Analysis should begin by having the ensemble perform a passage of music that was identified in Phase #1. After the performance of the passage, the instructor should point out the various ensemble elements that are inherent to the score or the performance. The exact ways that the instructor uses language to point out the elements of the passage may vary; still, three specific approaches might be particularly congruent with this paper's theoretical frame.

First, when modeling ways to articulate an understanding of ensemble awareness, it is cognitively useful to make connections to the types of music that the performers listen to regularly. For example, instructors might compare an aggressive passage of music to a Metallica song or a lighter passage to an Alicia Keys ballad. These types of comparisons are cognitively useful because they help performers connect new content (the chart that they are learning) with familiar content (the music that they commonly listen to).

Second, Lakoff and Johnson (1980) suggest that metaphors are inherent to our lives. People think in metaphor so naturally that they often do not even recognize that their thoughts are metaphorical. Therefore, while offering an analysis of the passage of music, metaphors can be useful. Crescendos might be described as "a racecar revving its engine at the starting line." Legato passages might be explained in terms of a "gentle breeze blowing through flowers." By modeling ensemble awareness through metaphor, instructors are helping student performers connect the music to other aspects of the performer's life.

Third, singing multiple voices from the score as a single line of music might help student performers understand the various ways that the ensemble is constructed. For example, in a section of dialogue between, say, bass drums and tenor drums, an instructor might sing the rhythmic parts as a single line while pointing at the bass drums during their contribution and then pointing at the tenor drums during theirs. This helps students hear and see the relationships among the ensemble voices. In explicating strategies for teaching execution, this paper advocated a mechanical counting system; conversely, when modeling ensemble awareness, more expressive approaches to vocalizing the music might be suitable (Dalby, 2005). To this end, instructors of more advanced drumlines might use a system of "diggi," "dugga," "dats," and "gocks." While commonly used in practical settings, this system of rhythm audiation has been theoretically under-explored.

Phase #3: Students Develop a Mental Model for Describing Ensemble Awareness

Engage members of the ensemble in a short discussion about the analysis that the instructor just performed during Phase #2 of this model. A simple prompt can begin this discussion: "I have been talking about the music for three or four minutes. What have I been 'doing' in that talking? What was my purpose?" Using this broad question as a starting point, instructors can guide the student performers toward the goal of identifying the strategies for building an understanding of ensemble (e.g., singing, making connections to popular music, and generating metaphor). The point of identifying the strategies is to help students form a mental model of *how* to analyze a passage of music in the marching percussion genre. Through forming this mental model, the performers are preparing themselves to overtly analyze music from an ensemble perspective.

Phase #4: Performers Analyze a Musical Passage

Once instructors have modeled a means of developing an awareness of ensemble (Phase #2 of this model) and student performers have shown understanding of that means (Phase #3 of this model), student performers should offer their own analysis of a passage of music. This performer analysis begins with a performance of the second passage of music that was identified during phase #1 of this model. Using that passage as an object of analysis, instructors can guide the performers through creating their own analysis. Specifically, instructors should help performers sing ensemble passages, create metaphors, and connect the score to other music with which they are more familiar.

My experiences suggest that performers will have a tendency to revert to a very narrow and safe focus in their attempts to analyze. This narrowness and safety typically manifests itself in a couple of ways, but each way can be solved through sound teaching. The first way that performers demonstrate narrowness and safety during analysis is by choosing metaphors that are trite and expected or to simply use the metaphors that the instructor modeled during Phase #2. Instructors must help the performers expand their use of metaphor as a means of pushing the performer thinking beyond the level that the performers might find comfortable.

The second way comes through performers emphasizing their own parts when they sing a passage of music. For example, when a, say, snare drummer volunteers to sing a passage of music, it is likely that she/he will emphasize the snare part while singing. One way that an instructor can guide the performer's focus back on an ensemble perspective is by asking other segments of the ensemble to play the passage and then ask a member of the non-playing segment of the ensemble to sing what she/he heard.

Phase #5: Reflection on Learning

Not to be overlooked are opportunities for ensuring that performers understand the ensemble-awareness process. Performers must recount the previous four phases of the model. Importantly, as an instructor guides performers through reflecting on this model and its use, emphasis should continue to be placed both on the performers' understanding of how to think about marching percussion ensembles and what the performers have learned about the specific passage of music that was being analyzed. This emphasis on "how" increases performers' metacognitive thinking. It helps performers learn "how to" learn about ensemble. In short, performers are generating their own understanding, which can be connected to learning music in various settings (cf., Knowlton, 2007).

Thinking about General Effect

General Effect (GE) focuses on the romantic perspective, rather than on the classical perspective. Primarily, GE deals with various factors that promote and hinder communication from the ensemble to the audience. GE inherently relates to program pacing, imagination, creativity, aesthetics, artistry, emotion, intellect, and entertainment value. Certainly, excellence in performance (i.e., execution, technique, and ensemble clarity) is valued; but it only is valued to the extent that the audience finds that level of excellence within specific moments of the program.

Because the concepts that comprise GE are abstract and ethereal, instructors sometimes struggle to help performers understand and value the notion of GE. "The essence of music is communication" (Sawyer, 2006, p. 53), and music communication can be understood as philosophical and spiritual existence (Andsdell & Pavlicevic, 2006)—abstract and ethereal, indeed. GE can be taught best using models of communication from disciplines such as speech, rhetoric, and writing. Some scholars have rejected the use of traditional communication models when dealing with music. One reason for this rejection is because musical communication is defined in terms of "the 'spark' which occurs when the performance gives rise to a response," and traditional models perhaps can be inadequate to portray the performance-to-response interaction (Hargreaves, MacDonald, & Miell, 2006, p. 18). For many purposes, though, traditional models of communication can serve as the basis of useful instructional strategies (Juslin, 2006); and teaching marching percussion may be one such purpose.

As one example of such a model, Kinneavy's (1980) communication triangle helps students of rhetoric consider themselves as writers, an audience as receivers, and the message as substance. Kinneavy's model can be adapted well as a tool to teach about GE within marching percussion. An overview of this adaptation is described in Table 3. To put this notion into language that is common within marching percussion, the audience will receive both a "what" (the content of the program) and a "how" (the means through which the performers deliver that content). To teach about effect, student performers need to consider both the "what" and the "how."

Table 3. Application of communication models to teaching about GE

Aspect of the Model	Instructional Strategies
Show as Message	Developing flow charts of the program
Performer as Communicator	Discussion about (a) program flow chart and communication intentions (b) the relationship between kinesthetics and GE concepts
Audience as Receiver	Correlate moments from the program with audience's physical and psychological reaction; judge the judge

Show as Message

In terms of the "what," the performers must understand the musical works that are being performed. Elliott (1995) has suggested that there are five dimensions of a musical work that students must understand—interpretation, design, traditions of the musical practice, expressions of emotions, and musical representations. This article, however, offers language that is more indicative to marching percussion. Namely, the performers must understand the emotional, intellectual, and aesthetic intent of the musical content. It is this triad of intent that can result in effect. To teach these elements, instructors might consider introducing the substance of the show to performers during ensemble rehearsals. Perhaps some of this content can be taught only in terms of one-way information transfer from the instructor to students. For example, the instructor might need to explain the historical significance of, say, *The 1812 Overture*, or the cultural significance inherent to the music of the Beatles. Still, using the framework of this paper, instructors should help student performers learn about the message of the show in more substantive ways.

Common GE rhetoric deals with "moments" within a show. Instructors can assist students with developing a flow chart of the show's moments: Such a flow chart could identify delicate moments, impacts, and resolutions. Perhaps the chart could also identify the performer's favorite and least favorite parts of the show. Building upon the student-generated chart, instructors can guide students into considering the foreshadowing (e.g., passages that build in volume and momentum) into these moments and the resolutions out of these moments. Within these considerations, the performers must deal with questions about whether the foreshadowings and resolutions might be deemed as "expected" or "surprising." In this way, instructors are helping student performers form a mental model of the show in common GE terms—mood, moments, impacts, and resolutions.

The Performer as Communicator

To change the focus of the performers from "what" to "how" is to shift the performer toward a consideration of themselves as musical communicators. For many performers (not to mention instructors), tension exists between the need for a uniform and regimented ensemble and musical communication, which is unique and idiosyncratic (Davidson, 2006). This tension makes it even more important that instructors help performers come to understand themselves as communicators.

Strategically, instructors should allow open-ended and extensive discussion about individual performers and the collective ensemble as communicators. After all, both the "mental state" and "concerns" of a performer can have an impact on the ability of the performers to communicate the music in meaningful ways (Hargreaves, MacDonald, & Miell, 2006, p. 16). Even more directly related to the theoretical framework of this paper, such discussions allow performers to think in terms of a "community of practice," and framing performers as a community that is concerned with self-interest can have a relevant role in musical communication (Barrett, 2006, p. 261). Furthermore, because music has a "floating intentionality" (Cross, 2006, p. 30), it is incumbent upon the performers to develop a shared understanding of the ways that they intend to communicate. Consistent with the framework of this paper, the intentions will be realized more easily if the performers reach a clear understanding of those intentions through peer-to-peer discussion.

Two specific topics for discussion can be beneficial in helping performers understand themselves as communicators. First, instructors can require learners to make connections back to the flow chart that was referred to earlier in this section of the paper. Given the mood, levels of impact and resolution, and other factors, performers can make conscious decisions about the intentions of their communications. These connections and intentions should be discussed during rehearsals. Second, instructors can encourage discussions about the kinesthetic aspects of performance, including drill moves, body work, and visuals. Kinesthetics correlate to various, yet specific, levels of energy; and energy is related to emotion. Furthermore, Davidson (2006) has noted that physical movement might be important to musical expression. If these connections are true, then when performers consider their own kinesthetic contributions, they are considering the emotions that they communicate and the range of expression that they are attempting.

Audience as Receiver

Instructors can help student performers correlate the moments of the show that they have identified in their flow charts with reactions that should be expected out of the audience. This correlation can be developed by allowing the performers to consider two simple questions: The first question can be stated thusly: What moments within the show will be most comfortable (or least comfortable) to a typical audience member, whether a Friday-night-football fan, seasoned marching percussion listener, or music judge? When performers explore audience members' potential comfort levels, those performers are possibly learning about the connection between performance and reaction. To help students think about this question, a second question can be posed: "What do you want to see the audience do during this section of the show?" After all, "the specific link between the performance event and the response [is] the defining property of communication" (Hargreaves, MacDonald, & Miell, 2006, p. 3), and this link should "produce physical and other behavioral responses" from an audience (p. 12). Common answers include providing a standing ovation and cheering, but by helping the student performers expand the acceptable answers—swaying, for example—instructors can encourage performers to think in new ways about the potential impact of their performance. In short, performers are using visualization to create a mental model of the audience.

Sometimes, having performers envision behaviors of an audience can be an activity that is too abstract for it to be meaningful. One strong proxy for an audience is a judge's tape. While any music tape might be useful, GE judges often view themselves as the ultimate audience member. Therefore, one strategy might be to engage performers in meta-judging (i.e., judging the judge). Gearing discussions around judge's tapes can be useful in terms of providing student performers with a real audience member's thoughts about a performance. While listening to the tape, performers can be encouraged to take notes or even answer questions about the tape. Perhaps instructors might want to tailor the questions to their own context, but the following list provides numerous illustrative examples:

- What did the judge not acknowledge at some point during the performance that you wanted him/her to acknowledge?
- What comments did the judge make that you do not understand?
- What did the judge acknowledge that shows that we are communicating clearly?

Perhaps at other times, simply asking the performers to take notes about their observations and divide those notes into "movements" from the performance can be more useful than asking the performers to respond to specific questions. Discussions might focus on having performers acknowledge the things that the judge noticed that could be built upon and to discuss what the judge was missing when that judge was making comments on negative things within the performance.

Implications

This article has presented a theoretical framework and cognitive strategies for teaching the marching percussion ensemble. On the surface, this paper has implications for the administration of marching percussion programs. Instructors must be trained to teach soundly; and, as this paper has argued, sound teaching may be antithetical to typical pedagogy within marching percussion programs. Therefore, those responsible for administration of marching percussion programs must provide professional development opportunities for instructors.

Even more, this paper has implications for future research. Traditional empirical investigations are needed as a means of validating the usefulness of the approaches that this article has put forward. But as Reimer (2008) has noted, perhaps those in music research define research too narrowly. Case studies and phenomenological approaches might be useful to provide data about the attitudes of instructors and performers within a cognitive teaching situation. Such research could also help researchers learn about performer thinking and performer responses to the strategies presentation in this article.

Beyond implications for research, this article offers implications for teaching. Clearly, a number of caveats might be appropriate for instructors who attempt to apply the strategies presented within this paper. First, these strategies are not meant to serve as denotative and one-size-fits-all recipes. They merely are illustrative, and instructors should develop fluidity in applying them to meet the needs of a specific ensemble. For example, more mature ensembles might be able to learn from the strategies, while less experienced ensembles might experience cognitive overload without some adjustment on the part of the instructor.

Second, it should be clear that the approach described in this paper is quite time consuming. Often instructors respond to strategies like the ones presented in this paper with a concern about time management—more time in contemplative discussion means less time in chop building and music performance. Such comments represent fair concerns if one simply watches the clock in the short run. In the long run, however, simply having performers "moving their hands" does not increase their competence as a percussionist or performer. Percussion is primarily a mental phenomenon. Strategies that do not cognitively engage performers are sub-par.

In sum, cognitive strategies can become an aspect of a useful teaching cycle that not only helps student performers learn, but also provides the instructor with insights about the students' ideas and thoughts. In response to these insights, instructors can further adapt their teaching approach. Teaching and learning become more of a reciprocal relationship not simply based on one way communication from the instructor to the student. As a result, the strategies can lead to a way of thinking that shifts the culture of pedagogy within marching percussion.

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