Performance Practice in the Music of Steve Reich

Performance Practice in the Music of Steve Reich provides a performer's perspective on Steve Reich's compositions from his iconic minimalist work, *Drumming*, to his masterpiece, *Music for 18 Musicians*. It addresses performance issues encountered by the musicians in Reich's original ensemble and the techniques they developed to bring his compositions to life. Drawing comparisons with West African drumming and other non-Western music, the book highlights ideas that are helpful in the understanding and performance of rhythm in all pulse-based music. Through conversations and interviews with the author, Reich discusses his percussion background and his thoughts about rhythm in relation to the music of Ghana, Bali, and India, and jazz. He explains how he used rhythm in his early compositions, the time feel he wants in his music, the kind of performer who seems to be drawn to his music, and the way perceptual and metrical ambiguity create interest in repetitive music.

RUSSELL HARTENBERGER, Professor at the University of Toronto, has been a member of both Nexus and Steve Reich and Musicians since 1971. With Nexus, he created the sound track for the Academy Award-winning Full Length Documentary, *The Man Who Skied Down Everest*. With Steve Reich and Musicians he has recorded for ECM, DGG, and Nonesuch Records, and performed on the Grammy Award-winning recording of *Music for 18 Musicians*. His awards include the Toronto Arts Award, Banff Centre for the Arts National Award, a Juno nomination, and induction into the Percussive Arts Society Hall of Fame.

Music Since 1900

GENERAL EDITOR Arnold Whittall

This series – formerly *Music in the Twentieth Century* – offers a wide perspective on music and musical life since the end of the nineteenth century. Books included range from historical and biographical studies concentrating particularly on the context and circumstances in which composers were writing, to analytical and critical studies concerned with the nature of musical language and questions of compositional process. The importance given to context will also be reflected in studies dealing with, for example, the patronage, publishing, and promotion of new music and in accounts of the musical life of particular countries.

Titles in the series

Jonathan Cross
The Stravinsky Legacy

Michael Nyman
Experimental Music: Cage and Beyond

Jennifer Doctor
The BBC and Ultra-Modern Music, 1922–1936

Robert Adlington
The Music of Harrison Birtwistle

Keith Potter
Four Musical Minimalists: La Monte Young, Terry Riley, Steve Reich, Philip Glass

Carlo Caballero
Fauré and French Musical Aesthetics

Peter Burt
The Music of Toru Takemitsu

David Clarke
The Music and Thought of Michael Tippett: Modern Times and Metaphysics

M. J. Grant
Serial Music, Serial Aesthetics: Compositional Theory in Post-War Europe

Philip Rupprecht
Britten's Musical Language

Mark Carroll
Music and Ideology in Cold War Europe

Adrian Thomas
Polish Music since Szymanowski

J. P. E. Harper-Scott
Edward Elgar, Modernist

Yayoi Uno Everett
The Music of Louis Andriessen

Ethan Haimo
Schoenberg's Transformation of Musical Language

Rachel Beckles Willson
Ligeti, Kurtág, and Hungarian Music during the Cold War

Michael Cherlin
Schoenberg's Musical Imagination

Joseph N. Straus
Twelve-Tone Music in America

David Metzer
Musical Modernism at the Turn of the Twenty-First Century

Edward Campbell
Boulez, Music and Philosophy

Jonathan Goldman
The Musical Language of Pierre Boulez: Writings and Compositions

Pieter C. van den Toorn and John McGinness
Stravinsky and the Russian Period: Sound and Legacy of a Musical Idiom

David Beard
Harrison Birtwistle's Operas and Music Theatre

Heather Wiebe
Britten's Unquiet Pasts: Sound and Memory in Postwar Reconstruction

Beate Kutschke and Barley Norton
Music and Protest in 1968

Graham Griffiths
Stravinsky's Piano: Genesis of a Musical Language

Martin Iddon
John Cage and David Tudor: Correspondence on Interpretation and Performance

Martin Iddon
New Music at Darmstadt: Nono, Stockhausen, Cage, and Boulez

Alastair Williams
Music in Germany since 1968

Ben Earle
Luigi Dallapiccola and Musical Modernism in Fascist Italy

Thomas Schuttenhelm
The Orchestral Music of Michael Tippett: Creative Development and the Compositional Process

Marilyn Nonken
The Spectral Piano: From Liszt, Scriabin, and Debussy to the Digital Age

Jack Boss
Schoenberg's Twelve-Tone Music: Symmetry and the Musical Idea

Deborah Mawer
French Music and Jazz in Conversation: From Debussy to Brubeck

Philip Rupprecht
British Musical Modernism: The Manchester Group and Their Contemporaries

Amy Lynn Wlodarski
Musical Witness and Holocaust Representation

Carola Nielinger-Vakil
Luigi Nono: A Composer in Context

Erling E. Guldbrandsen and Julian Johnson
Transformations of Musical Modernism

David Cline
The Graph Music of Morton Feldman

Russell Hartenberger
Performance Practice in the Music of Steve Reich

Performance Practice in the Music of Steve Reich

Russell Hartenberger

CAMBRIDGE
UNIVERSITY PRESS

CAMBRIDGE
UNIVERSITY PRESS

Shaftesbury Road, Cambridge CB2 8EA, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India

103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of Cambridge University Press & Assessment,
a department of the University of Cambridge.

We share the University's mission to contribute to society through the pursuit of
education, learning and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9781107151505

© Russell Hartenberger 2016

This publication is in copyright. Subject to statutory exception and to the provisions
of relevant collective licensing agreements, no reproduction of any part may take
place without the written permission of Cambridge University Press & Assessment.

First published 2016

A catalogue record for this publication is available from the British Library

Library of Congress Cataloging-in-Publication data
Names: Hartenberger, Russell, author.
Title: Performance practice in the music of Steve Reich / Russell Hartenberger.
Description: New York : Cambridge University Press, 2016. |
Series: Music since 1900 | Includes bibliographical references.
Identifiers: LCCN 2016025959 | ISBN 9781107151505 (hardback)
Subjects: LCSH: Reich, Steve, 1936– –Criticism and interpretation. |
Performance practice (Music)–History–20th century.
Classification: LCC ML410.R27 H37 2016 | DDC 786.8092–dc23
LC record available at https://lccn.loc.gov/2016025959

ISBN 978-1-107-15150-5 Hardback

Cambridge University Press & Assessment has no responsibility for the persistence
or accuracy of URLs for external or third-party internet websites referred to in this
publication and does not guarantee that any content on such websites is, or will
remain, accurate or appropriate.

For Bonnie, Laura, and Carla
In Memoriam
James Lee Preiss
(1941–2014)

Contents

List of figures *page* x
List of music examples xii
Foreword xvii
Preface xxi
Acknowledgments xxix

Introduction 1

1 *Drumming*, early days 9

2 Percussion and *Drumming* 29

3 The process of composing *Drumming* 33

4 *Drumming*, Part I 47

5 *Drumming*, Part II 66

6 *Drumming*, Part III 75

7 *Drumming*, Part IV 84

8 Acoustics of *Drumming* 90

9 Anatomy of a phase 94

10 Performance practice in *Drumming* 108

11 *Clapping Music* 153

12 *Music for Pieces of Wood* 168

13 *Six Pianos* 174

14 *Music for Mallet Instruments, Voices, and Organ* 181

15 *Music for 18 Musicians* 185

16 Inside rhythm 235

Bibliography 241
Index 255

Figures

0.1 Steve Reich, Pound Ridge, New York, September 3, 2015 *page* xix
I.1 Steve Reich agenda, April 5–11, 1971 3
1.1 *Drumming* rehearsal in Steve Reich's Broadway loft, 1971 10
1.2 Program for Town Hall premiere of *Drumming*, December 16, 1971 18
1.3 Ticket to Brooklyn Academy of Music premiere of *Drumming*, December 11, 1971 19
3.1 Left-/right-hand phrase groupings in Steve Reich's sketchbook 40
4.1 Cover of manuscript score to *Drumming* 56
4.2 Steve Reich and Musicians performing *Drumming*, Part I in 1973 61
5.1 Performance view of Steve Reich's *Drumming*, Part II at Town Hall, New York City, December 16, 1971 67
6.1 Performance view of Steve Reich's *Drumming*, Part III at Town Hall, New York City, December 16, 1971 80
7.1 Steve Reich and Musicians performing *Drumming* at Town Hall, New York City, December 16, 1971 88
9.1 Bob Becker and Russell Hartenberger phasing at LIVE Lab recording session, McMaster University, June 2014 104
9.2 Plots depicting theoretical conception and actual realization of *Drumming* phase 105
10.1 Russell Hartenberger playing the first attack in *Drumming*, Seibu Theater, Tokyo, 1976 121
10.2 Nexus with Toru Takemitsu in Carnegie Hall, October 19, 1990 123
10.3 Hocketing and hand alternation 126
10.4 African drumming class at Wesleyan University 149
12.1 *Music for Pieces of Wood* performed by Steve Reich and Musicians, 1975 172
13.1 *Six Pianos* performance in Koerner Hall, Toronto, April 26, 2013 180
14.1 Steve Reich and Musicians performing *Music for Mallet Instruments, Voices, and Organ*, New York City, 1975 183
15.1 Program for *Work in Progress for 21 musicians and singers* at John Weber Gallery, May 20–24, 1975 194
15.2 Steve Reich's percussion assignment sheet for *Music for 18 Musicians* 195

15.3 Program for Town Hall premiere of *Music for 18 Musicians*, April 24, 1976 199
15.4 Ticket for Town Hall premiere of *Music for 18 Musicians*, April 24, 1976 199
16.1 Beryl Korot and Steve Reich, Pound Ridge, New York, September 13, 2015 239

Music examples

3.1 Basic rhythmic pattern for *Drumming* *page* 34
3.2 “Skipping rhythm” 36
3.3 Beginnings of *Drumming* pattern 37
3.4 *Drumming* pattern with implied accents indicated 38
3.5 Metric modulation in *Drumming* pattern 38
3.6 Eighth-note sequence 41
3.7 *Drumming* pattern, first example of rhythmic notation 41
3.8 *Drumming* pattern, indicating starting point of cross-rhythm 41
3.9 *Drumming* pattern, first examples of pitched notation 41
3.10 *Drumming* pattern, with solfège 42
3.11 Development of *Drumming* pattern with pitches 43
3.12 First examples of *Drumming* notation in Steve Reich’s sketchbook 44
3.13 *Akom* bell pattern, starting on first attack 46
3.14 *Akom* bell pattern, with first attack as a pick-up 46
4.1 Timbales/bongos 48
4.2 *Drumming* pattern and *gankogui* pattern 51
4.3 *Drumming* pattern, showing shape of phrase (m. 16) 51
4.4 *Drumming* pattern with pick-ups 52
4.5 *Drumming*, Pt. I, first build-up, first attack (m. 1 in score), with count 58
4.6 *Drumming*, Pt. I, first build-up, first attack (m. 1), with count 58
4.7 *Drumming*, Pt. I, first build-up, second attack (m. 3), with count 58
4.8 *Drumming*, Pt. I, first build-up, third attack (m. 5), with count 58
4.9 *Drumming*, Pt. I, first build-up, fourth attack (m. 7), with count 59
4.10 *Drumming*, Pt. I, first build-up, fifth attack (m. 9), with count 59
4.11 *Drumming*, Pt. I, first build-up, sixth attack (m. 11), with count 59
4.12 *Drumming*, Pt. I, first build-up, seventh attack (m. 13), with count 59
4.13 *Drumming*, Pt. I, first build-up, eighth attack (m. 15), with count 60
4.14 *Drumming*, Pt. I, last measure of deconstruction (m. 139), with count 62
4.15 *Drumming*, Pt. I, final build-up, first measure (m. 141, notated in 6/4 in the score), with count 62
4.16 *Drumming*, Pt. I, final build-up, first measure (m. 141), with count 63
4.17 *Drumming*, Pt. I, final build-up, fourth attack (m. 144), with count 63
4.18 *Drumming*, Pt. I, final build-up, fifth attack (m. 146), with count 63

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

4.19 *Drumming*, Pt. I, final build-up, sixth attack (m. 148), with count 63
4.20 *Drumming*, Pt. I, final build-up, seventh attack (m. 150), with count 63
4.21 *Drumming*, Pt. I, final build-up, eighth attack (m. 152), with count same as in example 4.20 (m. 150) 64
4.22 *Drumming*, Pt. I, final build-up, eighth attack (m. 152 in score), with different count 64
5.1 Original vocal part to first resultant pattern section of *Drumming* 69
6.1 Original piccolo part to *Drumming* 78
6.2 *Drumming*, Pt. III, glockenspiel deconstruction with seven attacks (m. 508), with count 81
6.3 *Drumming*, Pt. III, glockenspiel deconstruction with six attacks (m. 511), with count 81
6.4 *Drumming*, Pt. III, glockenspiel deconstruction with five attacks (m. 513), with count 81
6.5 *Drumming*, Pt. III, glockenspiel deconstruction with four attacks (m. 515), with count 81
6.6 *Drumming*, Pt. III, glockenspiel deconstruction with three attacks (m. 517), with count 82
6.7 *Drumming*, Pt. III, glockenspiel deconstruction with two attacks (m. 519), with count 82
6.8 *Drumming*, Pt. III, glockenspiel deconstruction with one attack (m. 521), with count 82
7.1 *Drumming*, Pt. IV, build-up, first attack (m. 525), with count 85
7.2 *Drumming*, Pt. IV, build-up, second attack (m. 527), with count 85
7.3 *Drumming*, Pt. IV, build-up, third attack (m. 532), with count 85
7.4 *Drumming*, Pt. IV, build-up, fourth attack (m. 537), with count 85
7.5 *Drumming*, Pt. IV, build-up, fifth attack (m. 542), with count 86
7.6 *Drumming*, Pt. IV, build-up, sixth attack (m. 547), with count 86
7.7 *Drumming*, Pt. IV, build-up, seventh attack (m. 552), with count 86
7.8 *Drumming*, Pt. IV, build-up, eighth attack (m. 557), with count 86
7.9 *Drumming*, Pt. IV, build-up, eighth attack (m. 557), with count beginning on first beat of the measure 87
10.1 *Drumming*, drummer 4, resultant pattern (mm. 110–111) 110
10.2 *Stick Control for the Snare Drummer* 128
10.3 Four sixteenth-note groups without Tabuteau phrasing 129
10.4 Tabuteau motion numbers to demonstrate forward movement 130
10.5 Paradiddles starting on different strokes 130
10.6 Hand patterning with accents and phrasing with numbers 132
11.1 *Clapping Music*, original version with phasing 155

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

11.2 *Clapping Music* pattern and *Atsiagbekor* bell pattern 158
11.3 *Clapping Music* (m. 1) 160
11.4 *Clapping Music* (m. 2) 161
11.5 *Clapping Music* (m. 3) 161
11.6 *Clapping Music* (m. 4) 161
11.7 *Clapping Music* (m. 5) 161
11.8 *Clapping Music* (m. 6) 161
11.9 *Clapping Music* (m. 7) 162
11.10 *Clapping Music* (m. 8) 162
11.11 *Clapping Music* (m. 9) 162
11.12 *Clapping Music* (m. 10) 162
11.13 *Clapping Music* (m. 11) 163
11.14 *Clapping Music* (m. 12) 163
11.15 *Clapping Music* (m. 13) 163
12.1 Early sketch for *Music for Pieces of Wood* 168
12.2 Outline of third section of *Music for Pieces of Wood* 169
12.3 Basic patterns for *Music for Pieces of Wood* 169
12.4 First sketchbook entry with numbers indicating order of build-ups in first section of *Music for Pieces of Wood* 170
12.5 Second sketchbook entry with numbers indicating order of build-ups in first section of *Music for Pieces of Wood* 171
13.1 Bob Becker's part to *Six Pianos* 177
13.2 *Six Pianos*, measure 11, old and new versions 178
15.1 First page of original metallophone part to *Music for 18 Musicians* 187
15.2 First page of original violin/cello part to *Music for 18 Musicians* 201
15.3 First page of original clarinet/bass clarinet parts to *Music for 18 Musicians* 207
15.4 Original part for pulse marimbas to *Music for 18 Musicians* 214
15.5 *Music for 18 Musicians*, section I, marimba 3, clarinets and voices: *Clapping Music* pattern (mm. 103–104) 222
15.6 *Music for 18 Musicians*, section II, marimba 3 and xylophones 1 and 2: *Clapping Music* pattern (m. 184) 223
15.7 *Music for 18 Musicians*, section IIIA, clarinets, marimba 3: *Clapping Music* pattern (mm. 200–201) 223
15.8 *Music for 18 Musicians*, section IIIB, marimba 3 and xylophone 1: variation of *Clapping Music* pattern (mm. 277–278) 224
15.9 *Music for 18 Musicians*, section IV, marimba 3, clarinets and voices: *Clapping Music* pattern (mm. 321–322) 224

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

15.10 *Music for 18 Musicians*, section V, pianos 1 and 3: *Violin Phase* pattern (m. 350); *Violin Phase* pattern (m. 1) 224
15.11 *Music for 18 Musicians*, section V, marimbas 1 and 2: articulated *Violin Phase* pattern (mm. 375–376) 225
15.12 *Music for 18 Musicians*, sections V and VI, marimbas 1 and 2: *Atsiagbekor* bell pattern (mm. 382A–B) 225
15.13 *Music for 18 Musicians*, section VII, clarinets, voices, marimba 3: *Clapping Music* pattern (mm. 486–487) 225
15.14 *Music for 18 Musicians*, section VIII, marimba 3: *Atsiagbekor* bell pattern (mm. 551–552) 226
15.15 *Music for 18 Musicians*, sections IX and X, piano 3: variation of *Violin Phase* pattern (m. 609) 226
15.16 *Music for 18 Musicians*, section IX, xylophones 1 and 2: variation of *Violin Phase* pattern (mm. 626–627A) 226
15.17 *Music for 18 Musicians*, section XI, clarinets, voices, xylophone 1: *Clapping Music* pattern (mm. 644–645) 226

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

Foreword

While I was a graduate student in 1962/1963 studying with Luciano Berio at Mills College in Oakland, I was often at the Jazz Workshop in San Francisco at night listening to John Coltrane. Several of the graduate students would bring in their highly complex twelve-tone serial scores that they did not play at all on the piano, nor was it clear they heard these scores in their head. At night, Coltrane would pick up his soprano or tenor saxophone and the music just came out. The contrast made me feel that, whatever my limitations as a percussionist or a pianist, I had to perform in my own music.

My first ensemble was formed back in New York in 1966 with composer/pianist Arthur Murphy, woodwind doubler Jon Gibson, and shortly thereafter, composer/pianist/conductor James Tenney, pianist Steve Chambers, and composer/pianist Philip Glass. I taught *Piano Phase* to Arthur by playing the basic pattern and then having him play it. I asked him to just repeat it without changing his tempo while I joined him in unison and then gradually increased my tempo so as to gradually move one sixteenth-note ahead of him. While performing, we did not need to read since we memorized the basic pattern, but we did have to *listen intently* to make sure we gradually moved from unison to one sixteenth-note ahead – not back into unison. Other pieces were added to our repertory like *Four Organs*, which did indeed involve very close reading and counting while performing.

When I was studying with Berio, I came across the book *Studies in African Music* by A. M. Jones. It contained accurate, full scores of Ghanaian drumming. After returning to New York in 1965, I attended several classes in Ghanaian drumming given by Alfred Ladzekpo at Columbia University. This eventually led to a trip to Ghana to study their drumming during the summer of 1970. This study confirmed my love for percussion, which began with my snare drum studies in 1950 with Roland Kohloff. It also confirmed the rhythmic ambiguities I had created in *Piano Phase* by using a twelve-beat pattern that was sometimes three groups of four; at others, four groups of three; and at others, two groups of six. Shortly after discovering the Jones book on African drumming, I discovered Colin McPhee's *Music in Bali*, which also made a large impression and moved me to study Balinese Gamelan with Balinese teachers in Seattle and Berkeley during the summers of 1973 and 1974. Eventually, I was to find musicians with very similar interests for my own ensemble.

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

By 1970, my ensemble gradually expanded to twelve musicians and singers as rehearsals began for my piece – *Drumming*. Some of the finest percussionists of our generation were there, including Russell Hartenberger (at the time completing a doctorate in South Indian drumming), Bob Becker (at the time completing a doctorate in North Indian *tabla*), James Preiss, Garry Kvistad, and others. It seems these fine musicians took me more seriously as a composer when I could teach them each part in the piece by playing it and then performing the gradual phase-shifting process with them as well.

By 1971, there were nine percussionists, two singers, and one piccolo player in the ensemble. The world premiere performances of *Drumming* were presented in New York at the Museum of Modern Art, the Brooklyn Academy of Music, and Town Hall in December of that year. The only musicians with printed music to read were the singers and piccolo player. The entire one-hour piece had been learned by rote and memorized by the percussionists.

Though *Drumming* was taught mostly by rote, *Music for 18 Musicians* used more written notation, especially for the strings, winds, and singers. By 1981, in *Tehillim*, we were all reading notation from beginning to end of the thirty-minute piece because of the constantly changing meters. Yet, the solidity and ease that was established earlier was maintained by continuing our frequent rehearsal schedule extending for months at a time. Also in the set-up of instruments: we always placed instruments as close as possible so as to facilitate better ensemble listening between players.

Extended rehearsal periods, together with frequent repertory performances, built an ensemble solidity, both musically and personally, which continued, with more and more new pieces, for forty years. In retrospect, I see the decision to form my own ensemble and perform in it as one of the wisest decisions of my life.

Besides performing many works on tour worldwide, we made over thirty recordings. Early on, in 1974, Deutsche Grammophon recorded us playing *Drumming*, *Six Pianos*, and *Music for Mallet Instruments*, *Voices*, *and Organ*. These three pieces were then released on a three-LP (vinyl) boxed set. This recording, and many that followed, primarily on the Nonesuch label, demonstrated for all who were interested exactly how these pieces could be played as originally conceived. From the early 1970s and well into the 1980s, we were the only group to perform my music; we were creating a permanent record of how these pieces could be played at a very high level. These recordings were eventually joined by scores published by Boosey & Hawkes (and a few by Universal Edition). This finally made it possible for other ensembles around the world to start performing my music on a

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

regular basis. The recordings we made served, and still serve, as a resource for other ensembles to assess their own interpretations.

By now – 2015 – there are a large group of musicians around the world performing my music. Most of these performers that I am aware of seem to be generally familiar with a wide variety of musics, including pop music of all sorts, as well as African, Indonesian, Indian, and other world musics. They realize that the style of playing my music is often more related to these kinds of musics than to nineteenth-century European music. They also realize that my music is predominantly chamber music for larger or smaller ensembles and that the chamber music attitude of interplay between members of an ensemble is central to getting a good performance.

In Russell Hartenberger's book, you have in your hands a wealth of details of all sorts, technical and anecdotal, that no one but Russell could possibly present, given his unique combination of Western and non-Western musicianship, his scholarship, careful examination of my early sketchbooks at the Paul Sacher Foundation archives in Basel, and, most of all, his performance experience in Steve Reich and Musicians from 1971 until this day. I and other members of my ensemble have recognized Russell Hartenberger as the "right arm" of our ensemble. I can never thank him enough.

Steve Reich
October 2015

Figure 0.1. Steve Reich, Pound Ridge, New York, September 13, 2015.
Photo/portrait: Bonnie Sheckter.

Preface

As a percussionist, I spend much of my musical life in the world of rhythm and feel comfortable there. However, in 1970 and 1971, I encountered music that made me reconsider the ways I performed rhythms. I began studying West African drumming, Indian music, and Indonesian gamelan in the World Music program of Wesleyan University and was introduced to sophisticated rhythmic systems that did not use musical notation. At the same time, I began rehearsing Steve Reich's *Drumming*, a composition that challenged my learning process and my performance skills and was taught to me by rote. These parallel experiences piqued my curiosity about the way I played rhythms: What was it about the rhythm in all these musical styles that was so engaging to perform; and what could I learn from the study of these rhythms that would help in my performance of pulse-based music?

Steve Reich established himself as an innovative composer in the artistic world of the Soho district of New York City in the late 1960s. With his tape compositions *It's Gonna Rain* (1965) and *Come Out* (1966), he developed a technique that he called phasing, in which two tape loops playing identical recordings of a voice gradually moved out of synchronization with each other, creating rhythmic canons. In 1967, he composed *Violin Phase*, a piece that employed the phasing technique but with a violinist playing melodic passages against identical prerecorded lines, and *Piano Phase*, with two pianists performing acoustically and creating canons using the phasing technique. With the composition of *Drumming*, completed and premiered in 1971, Reich brought phasing to its pinnacle and, as it turned out, to its conclusion as a structural device.

Reich began composing *Drumming* in August of 1970, shortly after returning from a five-week stay in Ghana to study West African drumming. According to Reich, his visit to Ghana confirmed some of the ideas he had about composition prior to his trip. "First, the idea of phasing that I had before I went to Ghana was not something that the Africans do, and the rhythmic techniques used in African drumming are not what I do, but they are related to what I do. The important thing is that there is a tradition of *rhythmic* counterpoint in Africa." He continued, "Second, percussion is the dominant voice in African music as opposed to the Western orchestra where strings are the dominant voice. So, the message to me was there's a

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

tradition for repeating percussion patterns, you're not all by yourself; go, both in terms of the contrapuntal structure of the music and the instrumentation of the music. This is a solid, well-trodden path. There's a past and that means there's a future."[1]

Drumming is a work for nine percussionists, two female singers, whistler, and piccolo player. It is in four sections: Part I, tuned bongo drums; Part II, marimbas and singers; Part III, glockenspiels, whistler, and piccolo; and Part IV, bongos, marimbas, glockenspiels, singers, and piccolo. The piece is played without pause and takes between fifty and eighty minutes to perform. It begins with a drummer playing a single attack on a bongo. The drummer is soon joined by a second drummer, and together – in a technique that Reich calls substituting beats for rests – they add bongo attacks until a rhythmic pattern on four pitches is fully constructed. Once the pattern is built up, one drummer gradually phases by moving forward until his/her pattern is one beat ahead of the other drummer, creating a composite rhythm with an ambiguous feel. A third drummer then enters playing resultant patterns (sometimes called resulting patterns), "melodic patterns that result from the combination of two or more identical instruments playing the same repeating melodic pattern one or more beats out of phase with each other."[2] These elements of phasing, resultant patterns, changes of timbre, and the substitution of beats for rests (or the opposite technique of substituting rests for beats) are the only compositional devices used to create all four sections of *Drumming*. Reich's exiguous use of structure, pitch, melody, harmony, timbre, and rhythm made *Drumming* a pivotal work in the compositional genre known as "minimalism."

All of the composers who are generally recognized as the central figures in minimalism, La Monte Young, Terry Riley, Philip Glass, and Steve Reich, wrote works that influenced the direction of composition in Western classical music. Reich's *Drumming* is one of these pieces and has the additional significance of contributing to the establishment of percussion as a dominant voice and the use of rhythm and repetition as primary structural components in composition. As a result, performers of *Drumming*, in particular the percussionists, developed new techniques and refined older ones in order to meet the requirements of this repetitive, pulse-based music. *Drumming* is a seminal composition for percussionists; however, it also provides a template for the performance practice of all of Reich's compositions as well as other pulse-based music.

---

[1] Interview with Steve Reich (December 18, 2003); Steve Reich, "Thoughts on percussion and rhythm," in Russell Hartenberger (ed.), *The Cambridge Companion to Percussion* (Cambridge University Press, 2016).

[2] Steve Reich, *Writings on Music, 1965–2000* (Oxford University Press, 2002), p. 79.

In this book, I examine Reich's early compositions from the point of view of a performer and look at the ways a musician might think in order to play rhythms accurately and with a good sense of time. I discuss the kind of virtuosity that is required of performers of minimalist music and the ways it differs from more traditional performing expertise. *Drumming*, and other works of Reich, provided me with both the impetus and the framework for this book. With each of Reich's compositions, I discovered new approaches to the use of rhythm in a Western musical context that utilized structural concepts from non-Western music and that gave me a means by which I could begin to make sense of the rhythmic theory and performance techniques I learned in non-Western music. In conversations and formal interviews I had with Reich, we discussed his percussion training and his thoughts about rhythm in his music in relation to West African drumming, jazz drummer Kenny Clarke, rudimental snare drumming, Balinese gamelan, Indian music, and much more. He explained, among other things, how he used rhythm in his early compositions, the time feel he wants in his music, the kind of performer who seems to be drawn to his music, and the way perceptual and metrical ambiguity create interest in repetitive music.

Performance Practice in the Music of Steve Reich is a reflection of my interests in Western and non-Western music, rhythmic theory, and minimalism and will hopefully appeal to performers and scholars in these various areas. On the first page of the Boosey & Hawkes score to *Drumming* is the phrase "for percussion ensemble." *Drumming* features percussion instruments, and the non-percussionists – singers, whistler, and piccolo player – all imitate percussion sounds. This, and the fact that my primary relation to music is as a percussionist, focuses the book through a percussion lens. However, most of the relevant information has to do with rhythm in general and will be useful and of interest to non-percussionists. Western music has a sophisticated notation system that can depict complex rhythmic relationships, but performers of some non-Western music, for example, West African, Indian, and Indonesian music, bypass notation and develop other ways to perceive and perform rhythms. By examining these approaches, Western musicians can begin to internalize rhythmic concepts and improve their skills in performing pulse-based music. Reich's music provides a bridge between Western and non-Western rhythmic performance and a means to think about rhythm in a comprehensive way.

I begin the book with a discussion of the rehearsals leading up to the premieres of *Drumming* in December of 1971, the early members of Steve Reich and Musicians who participated in those concerts, and the first tours of the ensemble to Europe. I then chronicle Reich's compositional process by looking at the early sketches of *Drumming* in his personal

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

notebooks. I examine the four parts of *Drumming*, dividing each into two sections: general information and performance practice. In the performance practice sections, I outline my approach to performance and include a description of how I interpret rhythmic phrasing in *Drumming*. In the "Acoustics of *Drumming*" chapter, I describe some of the aural phenomena that are inherent in a performance of *Drumming*. I include an entire chapter on the process of phasing in which I explain the way I think when I phase and then examine phasing from a theoretical perspective. In the chapter titled "Performance practice in *Drumming*," I address general performance issues in minimalist music, including suggestions for developing the skills necessary to achieve the kind of virtuosity required in this and other pulse-based music. I then detail the rhythmic aspects and performance practice of Reich's works that immediately followed the composition of *Drumming*, including *Clapping Music*; *Music for Pieces of Wood*; *Six Pianos*; *Music for Mallet Instruments, Voices, and Organ*; and *Music for 18 Musicians*. Throughout the book, I include thoughts on rhythmic performance practice by other composers, performers, and writers who have had an influence on me, including Toru Takemitsu, John Cage, South Indian *mrdangam vidwan* Trichy Sankaran, and Africanist scholar and performer John Chernoff. From time to time, I interject pertinent comments on music by Ludwig Wittgenstein, the philosopher whose works Reich studied at Cornell University and whose words he used as text in his compositions *Proverb* and *You Are (Variations).*

Terminology having to do with rhythm and meter, including the word rhythm itself, is problematic. Perhaps John Cage was on to something when he said, "There's virtually nothing to say about rhythm for there's no time."[3] The great *mrdangam* player Palghat Raghu, a master of rhythm in South Indian music, also questioned the need to say anything about it. When the younger *mrdangam* virtuoso and Karnatak[4] music scholar, Trichy Sankaran, stopped by Raghu's house and told Raghu he was on his way to deliver a lecture on rhythm at Madras Music Academy, Raghu declaimed, "Rhythm! What's there to say?"[5]

In looking for a working definition of the two basic terms, rhythm and meter, I turned to Justin London, who wrote:

> Rhythm involves patterns of duration that are phenomenally present in music … It is important to note that these "patterns of duration" are not

---

[3] John Cage, "Rhythm, etc." in Gyorgy Kepes (ed.), *Module, Proportion, Symmetry, Rhythm* (New York: George Braziller, Inc., 1966), pp. 194–203.

[4] Karnatak is often spelled Carnatic.

[5] Interview with Trichy Sankaran (August 2, 2001).

Cambridge University Press & Assessment
978-1-107-15150-5 — Performance Practice in the Music of Steve Reich
Russell Hartenberger
Frontmatter
More Information

> based on the actual duration of each musical event … but on the *interonset interval* (“IOI”) between the attack-points of successive events. By contrast, meter involves our initial perception as well as a subsequent anticipation of a series of beats that we abstract from the rhythmic surface of the music as it unfolds in time.[6]

I find London’s comparison appropriate in defining these terms in both a Western and non-Western musical context. Terms such as “the attack-points of successive events,” “perception,” and “anticipation” figure prominently in my analyses of rhythms in Reich’s music as well as my examination of the structure of West African bell ostinatos. However, performers use the words time, beat, pulse, feel, and other rhythmic references with an understanding among themselves what these expressions mean. Throughout this book, I use these terms the way they are generally understood by performing musicians. In my discussions with Reich, and in my examination of his own sketchbooks, I found that he also uses rhythmic terms in this way.

Since 2008, Reich has been depositing his sketchbooks,[7] manuscripts, agendas, photographs, recordings, instruments, and correspondence in the Paul Sacher Stiftung (PSS) in Basel, Switzerland, and I have made several trips to the archive to examine these materials. Reading through Reich’s sketchbooks from 1969 through 1976, I found that he was very methodical in his notation – often writing out complete sketches for a compositional idea when one might think an abbreviated format would be enough to establish the process, and invariably including repeat signs with every measure or group of measures in which he wanted repetition. Of particular interest to me was Reich’s Sketchbook [3],[8] which covers the period of his trip to Ghana, including his partial transcriptions of the African drumming pieces he was taught and, most importantly, his development of the rhythmic pattern for *Drumming*. In this sketchbook, Reich experiments with hand patterning to achieve rhythmic phrasing within a twelve-unit cycle, writes fragments of the basic *Drumming* rhythmic pattern indicating the implied cross-rhythms in the pattern, tries out different pitch combinations, considers what kind of drums to use, and begins the development of the marimba section of the piece. He even speculates on the number of people that will be required for *Drumming* and lists the names of possible performers.

---

[6] Justin London, *Hearing in Time*, 2nd ed. (Oxford University Press, 2012), p. 4.

[7] Reich calls them notebooks, but in the Steve Reich Collection at the Paul Sacher Stiftung (PSS), they are classified as *Skizzenbücher* or sketchbooks.

[8] Sketchbook [3], February 14, 1970–April 29, 1971 (Steve Reich Collection, PSS, Basel). Reich wrote the beginning and ending dates of his entries on the front of each sketchbook, but he did not number them. I have numbered them chronologically starting with the first sketchbook in the PSS.

Reich's sketchbooks also provide interesting tidbits of information and read almost like a diary. He wrote notes to himself commenting on his own ideas and contemplating their validity. He often included references to particular holidays such as Lincoln's birthday, Christmas, or New Year's Day. Reich's week-at-a-glance agendas list his activities in remarkable detail, especially since the datebooks themselves are small enough to fit in the pocket of a jacket. Even with narrow blocks of space for seven days over two pages, Reich was able to include concerts, meetings with friends (e.g., Phil Glass, Michael Snow, Phil Lesh, Richard Serra, Sol LeWitt, Robert Rauschenberg, Mark Rothko, Roy Lichtenstein, Earle Brown, Morton Feldman), phone calls, appointments, and other daily activities. In the front of his agenda from 1968, the first one registered in the Sacher archive, are two definitions from the 1966 edition of the Random House Dictionary: "Procession: '1. The act of moving along or proceeding in orderly succession or in a formal and ceremonious manner, as a line of people, animals, vehicles, etc.' Process: 'a continuous action, operation or series of changes taking place in a definite manner.' "[9]

In Reich's well-known essay "Music as a Gradual Process (1968),"[10] he wrote that the process to which he is referring is not the process of composition but "rather pieces of music that are, literally, processes." He continued, "The distinctive thing about musical processes is that they determine all the note-to-note (sound-to-sound) details and the overall form simultaneously."[11] For me, *Drumming* represents several gradual processes. The process of learning *Drumming* was one that took place gradually over a period of nine months, and the performance process of *Drumming* can last an hour or more. The process of phasing is a very gradual one that takes a short amount of time but feels much longer. Reich's compositional process took place over the better part of a year, while my analysis of the rhythmic aspects of *Drumming* has taken much longer. An outgrowth of that analysis is the ongoing process of using *Drumming* as a means for discovering how to play music with accurate rhythms and a good sense of time. Along with this is the process of trying to establish a rhythmic pedagogy that is useful to Western music performers. Finally, the process of examining *Drumming* as a basis for an understanding of what makes a rhythm intriguing and what makes music rhythmically engaging to play has helped me develop my performance skills and my interpretation of pulse-based music. All of these processes have been gradual and are ongoing ones.

---

[9] Reich agenda, 1968 (Steve Reich Collection, PSS, Basel), p. [2]. Reich did not include page numbers in most of his sketchbooks or agendas; all references to page numbers I use are my own pagination beginning with the first page of each sketchbook or agenda.

[10] The essay was first published in the catalogue to the exhibition, *Anti-Illusion*: *Procedures/ Materials*, Marcia Tucker and James Monte (Whitney Museum of American Art, New York, 1969). It is included in Reich's books, *Writings about Music* (The Nova Scotia College of Art and Design, 1974), pp. 9–11, and *Writings on Music*, pp. 34–36.

[11] Reich, *Writings on Music*, p. 34.

Throughout this book, I refer to Steve Reich by his last name, although I feel a bit awkward doing this since I have known him for over forty-five years and consider him a close, personal friend. In addition, the so-called minimalist school of composers is unusual in that all the main characters are generally known, at least to other musicians, by their first names: La Monte (Young), Terry (Riley), Steve (Reich), and Phil (Glass). I think this is not only because all of these musicians have become recognized in their lifetimes as significant composers in the history of Western music, but also because their music and their personalities relate to a wide audience that includes fans of popular music, rock, and jazz. However, for the purposes of this book, I will call the composer of *Drumming* "Reich." The pronunciation of his last name seems to be a matter of concern for a lot of new music connoisseurs. A few years ago, I was walking down a street in Toronto when a young man stopped me and said, "I recognize you; you play with Steve Reich. Can you tell me how to pronounce his name?" It is pronounced as if it were spelled Reish: rye – sh.

Acknowledgments

I would like to thank several people who helped me through the research, writing, and publishing processes. Kate Brett and Fleur Jones at Cambridge University Press provided encouragement and guided me through to the completion of this book. In addition, I extend a special thanks to Keith Potter whose advice on various versions of the manuscript has been of tremendous help.

Steve Reich's sketchbook music examples and writings, copies of manuscripts, agenda entries, concert programs, as well as several photographs that I used in this book are all part of the Steve Reich Collection, Paul Sacher Stiftung (PSS), Basel. I am grateful to the ever gracious Tina Kilvio Tüscher for her assistance in accessing these materials. I am deeply indebted to Matthias Kassel, curator of the Steve Reich Collection, who supported my project from its early stages and was of immeasurable assistance in making the resources of the archive available to me. I am fortunate that my wife's sister, Sandy, and her husband, Gabriel Eckenstein, live in Basel, a pleasant twenty-minute walk from the PSS. They and their children, Nicolas and Georgia, have been most generous hosts for my family and me during my weeks of research in the archive.

I would like to thank Laurel J. Trainor, Michael Schutz, Dan Bosnyak, and David Ogborn from McMaster University in Hamilton, Ontario, for their help with the phasing research. A special thanks to Garry Kvistad and his staff at Woodstock Chimes® for their assistance with many aspects of this project. Thanks to Jonathan McCaslin for sending me a recording of the interview with Kenny Clarke. I also appreciate the patient help given to me by the librarians at the Faculty of Music, University of Toronto, in researching for this book.

My musical colleagues are my extended family, and I am fortunate to have two such groups. All the members of Nexus – Bob Becker, Bill Cahn, Michael Craden, Robin Engelman, Garry Kvistad, and John Wyre – have been musical inspirations throughout my life. Many members of my other musical family, the musicians in Steve Reich and Musicians, have contributed their thoughts and ideas to this book in addition to adding to my enjoyment of playing Steve Reich's compositions over the years.

This book, of course, would not have existed if it were not for Steve Reich. His compositions and his approach to music-making were a turning point

in my life, and my indebtedness to him is immeasurable; I treasure his friendship as much as I love his music.

I am blessed with a wonderful and talented family, all of whom have contributed to this book. My daughters, Laura and Carla, both of whom are far superior writers than I, have advised me all along the way. My deepest thanks, however, goes to my wife, Bonnie Sheckter, who essentially co-wrote this book. She handled all my computer-related issues, took photographs, created the cover illustration, and generally provided all the technical and moral support I needed to do research and writing.

Sources of copyright material

I thank the following publishers and institutions for kindly granting permission to quote musical examples:

Chapter 11, "Clapping Music" excerpted by permission of the publishers from "*Clapping Music*: A Performer's Perspective," in *The Ashgate Research Companion to Minimalist and Postminimalist Music*, Keith Potter, Kyle Gann, and Pwyll ap Siôn (eds.) (Farnham: Ashgate, 2013), pp. 371–379. Copyright ©2013.

Music examples in Chapter 4, "*Drumming*, Part I"; Chapter 5, "*Drumming*, Part II"; Chapter 6, "*Drumming*, Part III"; and Chapter 7, "*Drumming*, Part IV are from the score to *Drumming* by Steve Reich.

Copyright ©1971 by Hendon Music, Inc.

Revised Copyright ©2011 by Hendon Music, a Boosey & Hawkes Company.

International Copyright Secured. All Rights Reserved.

Reprinted by permission of Boosey & Hawkes, Inc.

Music examples in Chapter 15, *Music for 18 Musicians*, are from the score to *Music for 18 Musicians* by Steve Reich.

©1978 by Hendon Music, Inc.

Reprinted by permission of Boosey & Hawkes, Inc.

Music example 10.4 in Chapter 10, "Performance practice in *Drumming*," is from David McGill, *Sound in Motion: A Performer's Guide to Greater Musical Expression*, p. 73, ©2007. Reprinted with kind permission of Indiana University Press.

Music example 10.2 in Chapter 10, "Performance practice in *Drumming*," is from George Lawrence Stone, *Stick Control for the Snare Drummer* (Boston: Stone Percussion Books LLC, 2009 [1935]).

The following musical examples are under joint copyright:

Music examples in Chapter 11, "*Clapping Music*," are from the score to *Clapping Music* by Steve Reich.

©1972 by Hendon Music, Inc. for the U.S.A.
Reprinted by permission of Boosey & Hawkes.
Worldwide rights except the United States are held by Universal Editions.
Clapping Music by Steve Reich.
Copyright ©1980 by Universal Edition (London) Ltd., London/UE 16182.

Musical example 15.10 in Chapter 15, *Music for 18 Musicians*, is from the score to *Violin Phase* by Steve Reich.

©1967 by Hendon Music, Inc. for the U.S.A.
Reprinted by permission of Boosey & Hawkes, Inc.
Worldwide rights except the United States are held by Universal Editions.
Violin Phase by Steve Reich.
Copyright ©1980 by Universal Edition (London) Ltd., London/UE 16185.