Multiples of the same:  
a semiotic study of Steve Reich’s Counterpoint series

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MULTIPLES OF THE SAME:
A SEMIOTIC STUDY OF
STEVE REICH’S COUNTERPOINT SERIES

by

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ABSTRACT

Steve Reich’s only long-term set of compositions – the so-called Counterpoint series, which currently includes Vermont Counterpoint (1982), New York Counterpoint (1985), Electric Counterpoint (1987), and Cello Counterpoint (2003) – traces an arc through the final two decades of the twentieth century and into the twenty-first. This timeframe was one of great technological development, which is reflected in these works’ performance forces (soloist and multi-track tape) and in their sketch traces (ranging from pencil and paper sketches to computer files). The Counterpoints are multiples of the same conception of a musical work in much the same way as they are to be performed on multiples of the same instrument (or instrumental family). As the composer himself put it: ‘The overall texture is made up entirely of multiples of the same timbre, which texture highlights the overall contrapuntal web with its many resulting patterns which the listener can hear’. 1

Using the semiotic tripartitional model adapted for music by Jean-Jacques Nattiez as a methodological basis, the main aim of this thesis is to trace aspects of the Counterpoints through their neutral, esthesic, and poietic levels in order to offer insights into this often overlooked area of Reich’s oeuvre. Independently each level of analysis offers a unique angle from which to view the Counterpoints. The neutral brings together a diverse range of pre-existing analytical views on (and approaches to) the Counterpoints, providing new analytical interpretations on specific sections of each work. The esthesic level scrutinises Reich’s own thoughts and ideas relating to the Counterpoints through the medium of interviews, biographical and programme notes, and social media, while also exploring public response and reaction to them. Split into two sections (analogue and digital), the poietic level deals with the extant sketch material produced by Reich in the course of composing these works. These three angles of analysis are then pulled together in a final chapter that explores Cello Counterpoint’s second movement and Reich’s use of rhythmic construction in combination with canon as a possible defining feature of the Counterpoints. This synthesis draws on all aspects of the tripartition and offers a possible paths through an integrated analysis.

For the family...
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Permission to quote from unpublished material by Steve Reich held in the Betty Freeman Papers at the University of California San Diego granted by Steve Reich through Boosey & Hawkes.

Permission to quote from and transcribe unpublished material by Steve Reich held in the Oral History of American Music (OHAM) at Yale University granted by Steve Reich through Boosey & Hawkes.

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STYLISTIC CONVENTIONS

American spellings (i.e. color rather than colour) have been kept in quotations by authors other than myself. Likewise music specific terminology in quotations such as quarter notes and eighth notes has been preserved according to the original author. All of my text excluding these quotations adheres to the standard UK style. The citation style prescribed in the 16th edition of the Chicago Manual has been applied throughout with the exception of archival material, which has been referenced according to each archive’s individual guidelines.
PREFACE

THE FIRE WAS IGNITED

As I always say, when I was a kid, when I was fourteen years old, I discovered jazz, I discovered Bach, and I discovered Stravinsky, and that really – that’s why I became a composer. The fire was ignited at age fourteen. Kind of late, but that’s the way it was with me.¹

Steve Reich’s Vermont Counterpoint (1982), New York Counterpoint (1985), Electric Counterpoint (1987), and Cello Counterpoint (2003) are known as his Counterpoint series.² Linked through their naming convention and the common style of instrumentation,³ the series, hereafter referred to as the Counterpoints, are unique within Reich’s oeuvre. They are works where the composer privileges renewal and redevelopment over simple mastery of an ensemble. Other than the Counterpoints, the Phase pieces from the late 1960 are the only ‘set’ of compositions that Reich has produced to date.⁴ It is additionally important to note that the first Counterpoint, Vermont Counterpoint was the first small chamber ensemble composition (performed by at most eleven musicians; but originally only one) that was written for a musician from outside of Reich’s ensemble, Steve Reich and Musicians, thus marking a reinvigorated era of compositional colours and constructions. Rare as the Counterpoints are within Reich’s body of work, a common thread of interest runs through them that can be illuminated by the many narratives of their origins.

Ransom Wilson and Vermont Counterpoint

On a night in November 1976 at the New York Metropolitan Opera House, the American flautist Ransom Wilson attended a performance of the newly completed opera

¹ Steve Reich interview with Ingram Marshall, tape and transcript, OH V 186 t, Oral History of American Music, Yale University, 76.
² As Reich is still actively composing there exists a possibility that he could in the future compose another Counterpoint work.
³ The Counterpoints are all originally scored for soloist and tape; where the tape part is a pre-made multi-track recording of the soloist.
⁴ With regard to naming convention notable words recur in Reich’s titles such as Variations for ____; ____ Quartet; and Music for ____. Reich does not, however, refer to works that share these similarities in naming as sets, whereas both the Counterpoint and Phase works have been grouped discretely by the composer’s own volition.
Einstein on the Beach (1974) – the result of a group collaboration between composer Philip Glass, set and light designer Robert Wilson, and choreographer Lucinda Childs. The work was not actually associated with any part of the Met’s traditional season but rather ran during the company’s blackout days, with the collaborators simply hiring the venue.5

Einstein on the Beach is a non-narrative opera that lasts nearly five hours without intermissions. Jelena Novak has commented on the uniqueness of Einstein in the opera repertoire ‘[t]he functions of music, dance and spoken/sung texts are not hierarchical; each layer (and, it is even possible to say, each art form) has an equal role in this [Einstein] work.’ The sheer length, lack of narrative in the libretto, and seeming absence of connections between the scenes challenged the audiences that attended these early productions of it. Ransom Wilson’s description of his experience as a member of that audience provides some insight into his interest in – and subsequent commissioning of – Reich to compose a flute work for him:

As I [Wilson] listened to that five-hour performance, I experienced an amazing transformation. At first I was bored – very bored. The music seemed to have no direction, almost giving the impression of a gigantic phonograph with a ‘stuck’ needle. I was first irritated and then angry that I’d been taken in by this crazy composer who obviously doted on repetition. I thought of leaving. Then, with no conscious awareness, I crossed a threshold and found that the music was touching me, carrying me with it. I began to perceive within it a whole world where change happens so slowly and carefully that each new harmony or rhythmic addition or subtraction seems monumental.

There were no intermissions. The work continued relentlessly in its grip on all of us in that packed house. Suddenly, at a point some four hours into the opera there occurred a completely unexpected harmonic and rhythmic modulation, coupled with a huge jump in the decibel level. People in the audience began to scream with delight and I remember well that my entire body was covered with goose bumps. I left the

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theater regretting the performance was over, and so excited that I remained awake far into the night.7
Following that fateful evening in 1976, Wilson attended as many of Glass’s concerts as he could, attempted composing his own minimalist music, and explored the work of other composers associated with the genre. It took a few more years before Wilson would be exposed to Reich’s music. Reportedly, at some point in 1979 or 1980, Wilson switched on Columbia University’s radio station WKCR8 during a 36-hour minimalist music marathon and heard a test pressing of Reich’s Octet (1979). Wilson was transfixed and resolved to have Reich compose a piece for him.9

At the time, Wilson was a touring concert flautist who felt he had reached the end of the instrument’s traditional repertoire.10 He sought to remedy the flute repertoire situation and engage with the genre, which had so fascinated him by approaching Reich to write a flute concerto. Reich immediately found this proposition entirely distasteful due in part to his conception of the concerto style as one that was often premised upon a conflict or division between soloist and ensemble – a notion that was diametrically opposed to his own musical aesthetic.11 Reflecting on the fact that to say ‘no’ would be to reject a commission from a world-class performer who seemed genuinely interested in playing his music, Reich searched for a solution that would inspire him to write for the flautist. This reflection eventually culminated in Reich telephoning Wilson to explain why he did not write concertos, and proposing an alternative solution: would Wilson consider playing against multiple flutes, all of which he would have prerecorded on tape?12 With such a set-up the work, according to Reich, could be imagined along the lines of an updated version

8 During the late seventies and early eighties WKCR played an important but relatively undocumented role in the dissemination of new music (particularly the work of ‘the minimalists’) in New York City, not only through their broadcasts (which included interviews with composers) but also through the organisation and promotion of concerts. For details of some of WKCR’s activities see Henry Finke, “WKCR’s concert of the eighties,” Columbia Daily Spectator, 29 March 1979, 3. For the partial reprint of the content of the one of the interviews relating to the minimalists see Tim Page, “A Conversation with Philip Glass and Steve Reich,” in Music from the Road: Views and Reviews 1978–1992, 66–75 (Oxford: Oxford University Press, 1992).
9 Wilson, liner note to Reich, Glass, Becker.
of *Violin Phase* (1967). Wilson, who agreed to attempt this process, met Reich’s suggestion with enthusiasm.

The genesis of *Vermont Counterpoint*, and by extension all of the Counterpoints, can thus be traced back to Reich’s re-imagining of the role of the soloist in a traditional concerto. In this new role, the soloist is no longer pitted against the orchestra in a battle for supremacy; rather, the instrumentalist performs alongside multiple recorded reflections of themselves. This situation strengthens the performer’s ability to weave an intricate web of musical patterns, in effect an aural version of the popular magic eye illusion. With Wilson, Reich had found someone with both the technical capability and the desire to perform a more complex version of *Violin Phase*.

**Richard Stoltzman and New York Counterpoint**

In the mid-eighties a little less than three years after the premiere of *Vermont Counterpoint* Reich wrote the continuation and therefore true start to the series – *New York Counterpoint*. Prior to the composition of *New York Counterpoint*, Reich had come to realise that the ideas in *Vermont* ‘might very well be more than just a piece for multiple flutes, but might be a way of dealing with a virtuoso on a solo instrument.’ The possibilities for a series of recital pieces with a built in flexibility of instrumentation was a highly attractive compositional option for Reich – a potentially fruitful avenue for him to pursue and explore. *New York Counterpoint* is scored for a clarinettist and a tape of (at times) ten additional clarinet parts, one of which doubles on bass clarinet and two of which are dedicated bass clarinet lines. The move from the high tessitura of *Vermont* to the warm and lush sounds of *New York* is not altogether unexpected as Reich has related on a number of occasions his predilection for the clarinet, noting particularly that it is possible to achieve the whole orchestral range with simply a bass and B-flat clarinet. Discussing the draw of writing for clarinet Reich noted that ‘the idea of doing something for the clarinet and the bass clarinet together seemed like an absolutely exceedingly attractive idea

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14 Steve Reich interview with Ev Grimes, tape and transcript, OH V 186 h, Oral History of American Music, Yale University, 110.
15 Reich interview with Ev Grimes, tape and transcript, OH V 186 h, Oral History of American Music, Yale University, 111.
because you could get with one soloist an orchestral range, if you use the bass, as opposed to Vermont Counterpoint, which is another one of these upper register pieces.\textsuperscript{16}

This attraction led to the composer approaching the virtuoso clarinettist Richard Stoltzman, facilitated by Robert Hurwitz, as Reich related in a 1987 interview: ‘Bob Hurwitz, who knew Dick Stoltzman from years ago, said, “Why don’t you do it for Dick Stoltzman?” I said, “I don’t know Dick Stoltzman.” He said, “Well, I do.” He called him up and he liked the idea and pretty soon the whole thing was arranged.’\textsuperscript{17} This is in contrast to the more traditional virtuoso-approaching-composer route, which was the case with Vermont.

Looking towards Stoltzman’s involvement Denise von Glahn suggests that parts of New York's jazz infused melodic patterns are drawn from both composer and performer’s mutual love of jazz, stating that ‘Reich’s own love of the clarinet timbre and early jazz, along with the inspiration of a virtuosic instrumentalist’ formed the basis of the pattern.\textsuperscript{18} Although it was the composition of New York Counterpoint that brought Reich and Stoltzman together, von Glahn’s claim is plausible as Stoltzman’s links with jazz music – having played jazz prior to his university education and during it at taverns as a part of dance bands for free beers,\textsuperscript{19} are similar to Reich’s experience at Cornell. Reich has helped to perpetuated this connection, stating in a 1990 interview that New York Counterpoint, ‘may very well suggest early jazz ... of the ’20s and ’30s, and in some way, perhaps poetically, suggests an earlier form of New York City.’\textsuperscript{20}

With New York Counterpoint Stoltzman was pulled into a previously unknown realm of performance practice, one in which both he and his children underwent a transformation analogous to the one described by Wilson and his experience with Einstein. When questioned about the situation a few months after the work’s premiere, Stoltzman said:

\textsuperscript{16} Reich interview with Ev Grimes, tape and transcript, OH V 186 h, Oral History of American Music, Yale University, 111.
\textsuperscript{17} Reich interview with Ev Grimes, tape and transcript, OH V 186 h, Oral History of American Music, Yale University, 111–2.
\textsuperscript{18} Denise Von Glahn, \textit{A Sounding Place: America Redefined} (Boston: Northeastern University Press, 2003), 254.
\textsuperscript{20} Nicholas Zurbrugg, “Steve Reich,” in \textit{Art, Performance, Media: 31 Interviews} (Minneapolis: University of Minnesota Press, 2004), 308.
The first version of *New York Counterpoint* that I heard was a version that Steve had put together, on his little electronic piano – or something – of as many of the parts as he could get together on tape. I put that on my cassette recorder at home and played the beginning of it and I’ll never forget, my kids came running down from upstairs and said “Daddy, Daddy, Daddy turn off the record player it’s broken, it keeps breaking…something is wrong!” and I said “No, I’m afraid that this is something that Daddy’s going to play kids.” [laughs]

But anyway later on, I put it together with all the clarinet parts and added sort of you know the human element instead of just the mechanical, electronic sounds and, I liked it. I gradually got more and more to like it, especially when I had a chance to give it my own inflection and finally when the finished version came out the kids were… were down there in the living room dancing to it.21

Infusing Reich’s jazz-laden melodic patterns with his own colour allowed Stoltzman to understand *New York* as a musical work rather than a recording with a stuck needle. As a result Stoltzman’s transformation took place as he constructed the structure of the music from the bottom up. Although similarly converting Stoltzman to Reich’s compositional style, Stoltzman experienced the music as a performer rather than through performance, as Wilson had previously.

The origins of *New York Counterpoint* are more diverse than *Vermont*, resulting from a desire for a set of flexible recital works for virtuosi and ending with a work that reflected both Reich and Stoltzman’s interest in New York’s earlier jazz history.22 Again, music was able to enact a radical change on both the performer and the audience, as both Stoltzman and his children came to appreciate and enjoy *New York Counterpoint*.

**Pat Metheny and Electric Counterpoint**

Hurwitz again was the connective tissue that linked Reich to a performer new to his music. In the same way that Hurwitz had introduced Stoltzman to the composer two years prior for *New York Counterpoint*, this time Hurwitz brought Pat Metheny to Reich for *Electric Counterpoint*. Just prior to beginning the composition Reich explained the situation as ‘[s]ince Bob [Hurwitz] had been at ECM Records when Pat Metheny had been there and I had been there, he knew that we had a kind of mutual admiration. So Bob

21 Richard Stoltzman in *Steve Reich: A New Musical Language* [Great Performances].

22 Zurbrugg, “Steve Reich,” 308.
immediately called up Metheny and said, yes, he was interested, and I spoke to Pat and I got the impression that he would be very, very good to work with." Although Metheny had been made aware of Reich’s interest in working with him, it did not diminish stunned sensation he felt when Reich initially contacted him. The honour Metheny felt at being asked to perform *Electric Counterpoint* was tempered only by Reich’s initial question: ‘how do you tune the guitar?’ Coming a long way from basic tuning principles, the work premiered at the Brooklyn Academy’s Next Wave Festival in early November 1987.

Before being approached to perform *Electric Counterpoint*, Metheny was an established musician and performing artist. Focusing primarily on jazz, Metheny began releasing material professionally in 1975. During the late 1970s and early 80s his popularity really took hold, especially after the release of the live double album *Travels* (ECM, 1983). For the following fifteen years Metheny ‘toured almost constantly, with no roots other than an apartment in Boston that kept the rain off of his answering machine.’ It was during this stint of near constant touring that *Electric Counterpoint* was composed and initially performed.

Reich, as evidenced by his first question to Metheny, was working in uncharted territory. When interviewed by Ev Grimes about plans for the work before commencing composition, Reich revealed that he would ‘have to take some guitar lessons—I am not even sure how the instrument is tuned 100%—and get some basic details on writing for the guitar because that is an instrument I have been told by composers can be really difficult because you just don’t know about it, and a lot of things you think will work will not work.’

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23 Reich interview with Ev Grimes, tape and transcript, OH V 186 h, Oral History of American Music, Yale University, 117.
The crash course in guitar composition aside, Reich also took Metheny’s offered advice to stack single guitar lines in order to make harmonies (rather than write chords) viewing the technique as a kind of lingua franca, as any guitarist – pop or classical – is able to play a single line.29 Another parallel drawn from the preceding Counterpoints was Reich’s intent, even before beginning the work, to adopt the composition into the touring repertoire of Steve Reich and Musicians:

The Metheny piece is a piece which I would imagine after the first glamorous premiere performances by him will become something where I will incorporate a guitarist into my group and that might very well have an effect on pieces in the future. As I said several times before here, it’s working with a new or radically new orchestration that will force me into a new musical territory. This should happen with the guitar piece and electric bass piece [Electric Counterpoint] in spades. I look forward to precisely that challenge.30

Effectively concluding the Counterpoint series for seventeen years, Electric Counterpoint had pushed Reich’s compositional horizons as he embraced new orchestrations. By building a work through the interaction of single lines Reich was able to expand the possible scope of performances of Electric Counterpoint – no longer were the Counterpoints the sole domain of virtuosos.

**Maya Beiser and Cello Counterpoint**

Returning to the Counterpoint concept in 2003, Reich wrote Cello Counterpoint. Composed for then Bang-On-A-Can cellist Maya Beiser – known to social media as the Cello Goddess31 – this Counterpoint is orchestrated for eight voices (the smallest Counterpoint ensemble), making it possible for a cello octet to perform the work just as easily as for a soloist with a tape part. Unlike the other Counterpoints, the division of musical material in each line is different dependent upon the version (solo or octet) that is performed.32

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30 Reich interview with Ev Grimes, tape and transcript, OH V 186 h, Oral History of American Music, Yale University, 118.
31 Maya Beiser’s Twitter handle is @CelloGoddess and her Instagram account is maintained with the matching title of ‘thecellogoddess’. See Maya Beiser, https://twitter.com/CelloGoddess and http://instagram.com/thecellogoddess (accessed 16 August 2014).
32 Steve Reich, Cello Counterpoint (USA: Hendon Music/Boosey & Hawkes 2003).
Having already demonstrated that he was capable of exploring the possibilities of unknown to him instruments in the earlier Counterpoints, Reich continued this theme with *Cello Counterpoint*. Reich and Beiser also shared a mutual interest in pushing the boundaries of acceptable performance practice:

> When composers write music for me [Beiser], I ask them to forget what they know about the cello. I hope to arrive at new territories — to discover sounds I have never heard before. I want to create endless possibilities. With this cello, I become the medium through which the music is being channelled and in the process when all is right, the music is transformed and so am I.  

*Cello Counterpoint* returns to the paradigm of the performing artist seeking out the composer, as was the case in *Vermont*. Writing for the cello also speaks to Reich’s love of instruments with a large range, such as the clarinet in *New York*. It was a good match between composer and performer, as Reich had already decided in the back of his mind that ‘if I ever did another counterpoint piece, the very first one would be [for] cello because of the enormous range of the instrument.’

The extensive range of the cello and Beiser’s constant pushing of the accepted boundaries of repertoire were not the only ways in which Beiser’s attitudes and abilities meshed well with Reich’s. Performer and composer also share a similar stance on the employment of technology as a performance idiom. In a 2011 TED Talk, Beiser explained her approach to technology as:

> I realized that with today’s technological resources there is no reason to limit what can be produced at one time from a single string instrument. The power and coherency that comes from one person hearing, perceiving, and playing all the voices makes a very different experience. The excitement of a great orchestra performance comes from the attempt to have a collective of musicians perceiving one unified whole concept. The excitement from using multi-track in the way I did in the piece [David Lang’s *World to Come*] you will hear next comes from the attempt to build and create a whole universe with many diverse layers all generated from a single source.

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34 Reich interview with Ingram Marshall, tape and transcript, OH V 186 t, Oral History of American Music, Yale University, 76.
My cello and my voice are layered to create this large sonic canvas.\textsuperscript{35}

Although Beiser is not talking explicitly about \textit{Cello Counterpoint} in the above quote, the TED Talk from which it is taken only features two works, with her speaking between abbreviated performances of them, the first of which is Reich’s composition. \textit{Cello Counterpoint}’s musical universe created through post-production techniques confirms the longevity (beginning in the second half of the twentieth century) of the concept of an artist performing alongside technological reflections of themselves. By understanding technology as a tool to increase the power and coherence of the work rather than simply a means to an end, Beiser distinguishes herself as part of a new generation of musicians and performers. The narrative of \textit{Cello Counterpoint}’s composition does not feature the insecurity of \textit{Vermont} when Reich had to ask whether Wilson would consider such a radical approach as performing with pre-recorded versions of himself. Reich identified this progression of musical generations in an interview with Ingram Marshall and noted that with, for example, the musicians associated with Bang-on-a-Can, the influence of himself and other composers was palpable, stating that:

the Bang on a Can people. I think that they represent people who are twenty years younger than me. That’s for sure. That’s clearly the case. And you can see the influence of me and other people, like Terry Riley—they did \textit{In C} at the summer institute, where I was just there, teaching a bit.

But they’ve taken it somewhere else. We were talking about Michael Gordon’s effect on \textit{Triple Quartet}. I think that’s the way life should be.\textsuperscript{36}

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Reich’s four Counterpoint pieces illuminate a persistent thread of compositional interest deserving of a detailed study. This thesis explores the question of what the Counterpoint series is and how each component work further demonstrates Reich’s compositional style beginning with his Phase pieces. In order to enrich our understanding

\textsuperscript{35} Beiser, “Maya Beiser: A cello with many voices.”

\textsuperscript{36} Reich interview with Ingram Marshall, tape and transcript, OH V 186 t, Oral History of American Music, Yale University, 76.
of the series, a holistic approach based on Jean-Jacques Nattiez’s,\textsuperscript{37} semiological tripartition will be undertaken. Nattiez’s tripartition is designed to take into account each step of the compositional process: an analytical understanding of the inherent structures as music (neutral), reception (esthesic), and sketch materials (poietic).

The scene set by the narratives of the Counterpoint series provides an initial glimpse at the esthesic while drawing us from a late 1970s November night in New York through to the information age of the early twenty-first century. Reich has simultaneously stretched the capabilities of each virtuoso for whom the Counterpoint in question was written, while pushing back the boundaries of acceptable concert repertoire. His Counterpoints illustrate the development of a consistently commercially successful composer (since 1971) working within the confines of commissions, record labels and audience demands. The manner in which Reich navigated these separate spheres, combining them into complementary interests rather than simply individual obstacles, is more fully explored in the esthesic level of this thesis. Likewise the development of the works themselves is the focus of the poietic, while a preliminary analysis of the musical construction of the works is examined in the domain of the neutral level.

CHAPTER 1

THE ROOT OF THINGS

I’m interested in going to the root of things in general ... After that, I’m just not interested.¹

Introduction and Methodology

Grouped as they are because of common naming convention and ensemble structure, the roots of the Counterpoint works draw on some of Steve Reich’s earliest compositional interests. Particularly through the layering of multiples of the same instrument and the use of the tape-recorder as a performance assistant – rather than as a technology of stewardship (which would therefore only be useful as a method of preserving a performance) – Reich returns to concerns that dominated his earlier Phase pieces dating from the late 1960s: Piano Phase (1967), Violin Phase (1967), and the now withdrawn Reed Phase (1966). By utilising analyses of the published scores, reception history documents, and the extant compositional sketch materials for these four works within the scaffold of musical semiotic analysis – as proposed and developed by Jean-Jacques Nattiez and others (discussed more fully in the Methodology section of this chapter) – it is possible to provide a more comprehensive and thorough examination of these frequently performed works than has previously occurred. This will further expand an ever-growing discourse on Reich’s compositional methods through engagement with a set of similar (at least superficially) works that span intriguing technological intersections in his career.

Mentions of the Counterpoints are largely scant in the literature. For example, because Keith Potter in the most detailed monograph to date – Four Musical Minimalists – takes 1976 as a turning point in the style so he only briefly mentions only Vermont and Electric Counterpoint, leaving out the other two works entirely. Furthermore, the remarks that Potter makes concerning Vermont Counterpoint are simply on the use of tape in the Counterpoints, namely commenting that it was a continuation of how it had previously been utilised in the Phase pieces. Potter’s discussion of the content of Electric

¹ Steve Reich interview with Dorothy Horowitz, transcript, OH V 186 j-k, Oral History of American Music, Yale University, 4–5.
Counterpoint is most often relegated to conversations of Reich’s crossover potential, particularly centered on introducing the use of Reich’s music by DJs and sampling artists.\(^2\) Representations of the Counterpoints fare no better in The Ashgate Research Companion to Minimalist and Postminimalist Music with only New York Counterpoint being mentioned in the chapter by Tristian Evans and then only in reference to John Roeder’s analysis of the composition.\(^3\)

Using Nattiez’s semiological framework, this study aims to collect and discuss information about this unusual (for Reich) grouping of compositions in order to fill gaps in the current historical narrative, and to subsequently clarify discrepancies and possible inaccuracies within it. Additionally, shifts in Reich’s compositional style over the course of two decades become apparent in the synthesized analysis of the Counterpoints. Globally this period was a time of great technological change that is also reflected in Reich’s work; however the composer (as noted by Potter) simultaneously maintained compositional interests he had explored as early as the 1960s in his Phase pieces.

The Roots in the Scholarship

In order to situate an examination of the Counterpoints in the current scholarly climate, what has come before – in general, and specifically regarding Reich – needs to be accounted for. Given the relatively short time frame, and therefore lack of critical distance, within which studies on Reich have occurred, and due to the diversity of extant primary source material, the secondary literature is wide-ranging. Also secondary sources blend at times with primary ones. For example, critical reviews, originally secondary sources, can become primary when considered as cultural objects in the historical milieu. What follows here is therefore a brief introduction of the literature surrounding the transition of Reich’s music from minimalist to postminimalist, as well as a concise exploration of the source materials, both primary and secondary, that are used as the foundational material of this thesis.


From Minimalism to Postminimalism

The terminology that is generally used to discuss Reich’s music centres around the concept of musical minimalism, and more recently postminimalism. The division between the two (minimalist versus postminimalist) occurred for Reich in the 1970s, either with the composition of *Drumming* (1971) or *Music for 18 Musicians* (1976). Writing in the early 1990s Edward Strickland illuminated some problems with the former term:

One might argue legitimately that pure, bare-bones musical Minimalism expired just after the 1960s, before relatively few had heard the works and long before the term had been generally applied.\(^4\)

In seeming agreement with Strickland, Tom Johnson – as noted by Peter Shelley – would argue that most of what is considered the core of Reich’s minimalist music is actually juvenilia,\(^5\) whereas Potter highlighted the importance of 1976 in his keynote address at the inaugural conference on minimalist music held at Bangor University in 2007:

By the year 1976 – twelve years after Riley’s *In C*, eighteen years after Young’s *Trio for Strings* – musical minimalism had clearly moved on. Readers won’t need the evidence in detail: everything from the premiere performances of Reich’s *Music for Eighteen Musicians* and Robert Wilson and Philip Glass’s *Einstein on the Beach*, to the emergence of John Adams ... It is uncanny, on the face of it, that so many composers moved into minimalism, or came to achieve a mature expression of it, around 1976 or at any rate 1977.\(^6\)

More recently than Strickland or Potter, Kyle Gann has re-visited the problematic nature of the terminology by arguing that even pieces that fit temporally into one category or the other cannot necessarily be viewed as entirely minimalist or postminimalist. Eventually Gann concedes that perhaps such a categorical distinction might only be accurately applied to single musical phrases rather than a whole piece of music.\(^7\)

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Despite discrepancies in terms of where minimalist-Reich ends and postminimalist-Reich begins, these are really only differences in degree and not type, as what is generally agreed upon is that both Drumming and Music for 18 Musicians mark substantial points of change in Reich’s compositional style. The argument in favour of Music for 18 Musicians as a turning point (and therefore the start of Reich’s postminimalist phase) originates with Reich himself. In an interview with Michael Nyman just after the work’s premiere in 1976, he stated: ‘I think Music for 18 Musicians was consciously composed with a feeling of liberating myself from strict structures.’\(^{8}\) By liberating itself from the confining commandments utilised by Reich in previous works, Music for 18 Musicians has often been viewed as a summation of the style that came before, while subsequent pieces become more concerned with an enriched harmonic and instrumental world.\(^{9}\) In much more concrete terms, the argument in favour of Drumming marking the end of Reich’s minimalist era stems from the fact that Reich stopped using the gradual phasing technique after it. Reich, however (in 1988) down played the importance of this compositional moment:

> Though I stopped working with the phasing technique in 1971 after Drumming, I found other ways to gradually build up canons at the unison between two or more identical repeating patterns. The most productive of these is to gradually substitute notes for rests – sound for silence – until a canon is constructed.\(^{10}\)

This technique – known more specifically as rhythmic construction\(^{11}\) – is one that is central to the 1980 Counterpoints.\(^{12}\) Despite Drumming’s ‘rigorous reliance on rhythmic

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\(^{11}\) The term ‘rhythmic construction’ which is used throughout this thesis is equivalent to Dan Warburton’s ‘block additive process,’ however the idea of ‘construction’ derives from Reich’s own terminology and is used by K. Robert Schwarz and because as Maarten Beirens has noted the term ‘avoids possible confusion with what is more commonly identified as “additive process”’ (which Warburton calls “linear additive process”) as epitomized in the works of Glass. As such it will be the terminology used throughout this thesis and as a technique it is discussed more fully in Chapters 2 and 6. In 2015 the Clapping Music ‘app’ released as part of a joint research project with the London Sinfonietta and Queen Mary University of London referred to the technique as ‘Additive note patterns.’ See Maarten Beirens, “European Minimalism and the Modernist Problem,” in The Ashgate Research Companion to Minimalist and Postminimalist Music, 65. See also, K. Robert Schwarz, “Process vs. Intuition in the Recent Works of Steve Reich and John Adams,” American Music 8, no. 3 (Autumn 1990), 251; Dan Warburton, “A Working Terminology for Minimal Music,” Intégral 2 (1988), 148; Steve Reich, “Drumming (1971),” in Writings on Music: 1965–2000, ed.
processes’ Potter continues to uphold the 1976 date as that which was instrumental in the progression of minimalism to postminimalism stating that the work, nevertheless still sounds ‘more like a summing up of his early music than the beginning of something new.’ Regardless of whether *Drumming* or *Music for 18 Musicians* is considered as the catalyst of compositional change, there is an understood distinction between Reich’s compositional output of the 1960s, which includes the Phase pieces under the minimalist rubric, and the 1980s and beyond, with the Counterpoints falling into the postminimalist era.

Rather than the strict temporal division in the 1970s, Jonathan W. Bernard proposes that to trace stages of development from minimalism to ‘a kind of “new tonality”’ that, although clearly retaining some features (however, vestigial) of minimalism, ultimately has very little to do with minimalism in its original form and is therefore independent of and indifferent to it’ is more useful than simply assigning the terms postminimalist or minimalist to composers. The stages that Bernard advocates are:

1. Pieces became more complicated, which soon provoked
2. a greater concern with sonority in itself; as a result,
3. pieces began sounding more explicitly “harmonic,” that is, chordally oriented, thought not, at this point, necessarily *tonal* in any sense. Eventually, however,
4. harmony of an ever more tonal (or neotonal, or quasi-tonal) aspect assumed primary control.

For Bernard, the Phase pieces would act as the first steps between stages 1 and 2, while *Music for 18 Musicians* marks the passage from stage 2 onto stage 3. Presumably the Counterpoints would fall into stage 3 of this model, as the construction of the Counterpoints does not point to tonality assuming primary control of the musical work and therefore cannot be considered stage 4.

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12 Reich’s first use of rhythmic construction is audibly present in the opening bars of *Drumming*, before phasing begins after rehearsal 9.
13 Potter, *Four Musical Minimalists*, 211.
Bernard’s divisions provide a useful way of imagining a composer’s musical progression without actually drawing definitive distinctions, and identifying works as minimalist or otherwise, whereas Strickland – as previously discussed – is more cautious than Bernard and does not actually define any discrete sections within Reich’s music. With inadequate evidence (and as such with limited usefulness), Strickland suggests that the later pieces show signs of connections with their predecessors. Likewise, Gann’s previous suggestion of being able to accurately label individual phrases as minimalist or postminimalist is again only useful to a degree, as current literature divides the music of composers such as Reich along the line of minimalist and postminimalist.

Strickland returns to the division later on in his discussion of musical minimalism suggesting that there is some continuity between what he defines as early minimalism (1958–73) and later works. Noting that this is especially true of the Counterpoints, where the progressive expansiveness found in Reich’s other works of the 1980s (such as The Four Sections and The Desert Music) is counterbalanced by a return to his live-phasing roots in the solo Counterpoint pieces. Different Trains, while not belonging to the Counterpoint set, is also identified by Strickland as combining old and new in its use of techniques that draw on experimentation with tape begun much earlier in the composer’s career.

The first three Counterpoints are examples of Reich’s smaller-scale compositions and were written in the gaps between the more sizeable ensemble works in the 1980s, while Cello Counterpoint’s composition dating from 2003 follows Three Tales and Dance Patterns (both 2002) and can be understood more in terms of a return to the chamber works from the late 1960s. Balancing practicalities of ensemble size with compositional intent, K. Robert Schwarz views Reich’s chamber and solo music from the 1980s as carrying ‘the torch of minimalism into another generation.’ Schwarz goes on to identify the Counterpoint series as exemplars of an aurally identifiable contrapuntal process, and – although they do not employ overt phasing – he contends that they refer back to the

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17 At the time of Strickland’s writing Cello Counterpoint had yet to be composed, so his comments refer only to the 1980s Counterpoints.
18 Strickland, Minimalism: Origins, 240.
19 Schwarz, Minimalists, 93.
20 Warburton defines phasing as ‘two identical patterns, x and y for our purposes (speech fragments in the tape pieces, melodic or rhythmic units in the instrumental works), start together but with one at a fractionally faster tempo, moving increments of a beat ahead until, over the course of a composition or part of a
Phase pieces. According to Schwarz, the Counterpoints were ‘consumed entirely by the gradual construction of interlocking, constantly repeated canons.’\(^\text{21}\) Reich confirmed his continued interest with contrapuntal and canonic textures in an article from 1988, noting the necessity of multiples of the same instrumental timbres (as found in the Counterpoints) to ‘create the overall contrapuntal web and particularly the ambiguity as to where the downbeat is.’\(^\text{22}\) Continuing on to recognise that his Counterpoint works act as an extension and exploration of some of the compositional concerns found in the Phase pieces, Reich clarified that they were applied ‘with the addition of more developed melodic patterns and changes of harmony.’\(^\text{23}\) Potter has also noted that Reich’s ‘increased preoccupation with texture and timbre – with what the composer calls “beautiful music” – as well as with harmony and tonality led inevitably to a further decrease in concern for the old minimalist virtues of “filling the structure” and audibility of process.’\(^\text{24}\)

Because it is the imagined divide between minimal and postminimal Reich that this thesis is in part attempting to bridge, the terms minimalist and postminimalist will largely be limited to other authors’ usage of these terms. By arguing that Reich’s music demonstrates multi-strand linear development, and that, with the composition of the Counterpoints, Reich was simply returning to a compositional thread of interest that he had explored previously in the 1960s with the Phase pieces, divisions of postminimalist versus minimalist become less apparent and largely unhelpful. As with any individual, Reich has far more than a single compositional interest – documentary-based works, chamber ensembles, collaborations, multimedia projects, etc. – each of which has formed the focus of different creative concerns and preoccupations at various points in his career. The engagement of a soloist with technological reflections of themselves is therefore simply one of many concerns that have interested Reich over the years. Through a multi-faceted analysis of the Counterpoints, this thesis argues that the ‘Postminimalist’ Counterpoints pick up a thread of ideas that initially began with the ‘Minimalist’ Phase works of the late 1960s (regardless of the previously discussed current perception of a scholarly division

composition, the two are in synchronization once more’ and it is this use of the term that will be used throughout this thesis. The implications of this technique within Reich’s œuvre in relation to the Counterpoint set is discussed more fully in Chapters 2 and 6 of this thesis. For more information on the technique of phasing, see Warburton, “A Working Terminology for Minimal Music,” 144.

\(^{21}\) Schwarz, \textit{Minimalists}, 93–4.

\(^{22}\) Reich, “Texture–Space–Survival,” 274.

\(^{23}\) Reich, “Texture–Space–Survival,” 274.

\(^{24}\) Potter, \textit{Four Musical Minimalists}, 246.
between the two eras and areas) and reimagines these compositional ideas in light of progressively new technologies and performer capabilities over the course of Reich’s career. This adjustment and redefinition of his compositional attitude is subsequently part of the transition between minimal and postminimal Reich. Likewise, the manner in which scholars have navigated the constantly shifting oeuvre of Reich as a still active composer necessitates a unique approach to the literature.

**Literature on Reich**

D. J. Hoek’s *Steve Reich: A Bio-Bibliography* from 2002 is currently the most complete published index of material created by and concerning Reich. Following a brief biography of Reich, Hoek lists compositions and premieres alongside a discography of them. The subsequent bibliographic portion of his work is divided into five sections: (1) Writings by Reich; (2) Interviews; (3) History and Commentary; (4) Analyses; and (5) Performance Reviews.\(^{25}\) The divisions that are employed in this literature review therefore take inspiration from the branching of Hoek’s organisation of employing a few more categories under the primary source rubric (correspondence, sketches, and concert programmes). See Figure 1.1 for a graphical representation of this branching and how the source material interacts.

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Note, in particular, how performance reviews fall under both the primary and secondary source categorisations. These sources provide the roots from which it is possible for this thesis to grow.

**History and Commentary**

Of the initial wave of historical work that explicitly focused on minimalism was a short monograph written by Flemish composer Wim Mertens in 1980, appearing in English translation three years later, under the title *American Minimal Music: La Monte Young, Terry Riley, Steve Reich, Philip Glass*. In it, Mertens provides concise explorations of the four main minimalist composers before embracing connections he perceives to be between philosophers – such as Theodor W. Adorno – and practitioners of minimalist composition. Importantly, this work provided the organizational basis for many subsequent studies. Although the four (Young, Riley, Reich and Glass) were grouped together as early as 1974 by Michael Nyman in his *Experimental Music: Cage and Beyond* (and maintained in the second edition), Nyman appears to have a broader view of minimalist composers than Mertens’ American grouping as he also included within the same chapter (Chapter 7, entitled ‘Minimal music, determinacy and the new tonality’) sections dealing with the work of Gavin Bryars, Frederic Rzewski, Hugh Shrapnel, Christopher Hobbs, John White, and Howard Skempton among others. As such, the narrow delineation of four main American minimalists does not apply to Nyman’s work, although it could be considered to suggest it. Minimalism has also found its way into a variety of more explicit textbook situations. A thorough and extensive comparison of the portrayal of minimalism in introductory Twentieth-century music history textbooks can be found in Klaas van der Linden’s ‘Searching for Harmony in All the Wrong Places: Steve Reich’s *Music for String Orchestra* (1961).’

Mertens’s grouping of Young, Riley, Glass, and Reich, however, was continued by Strickland in his *Minimalism: Origins*, published in 1993 and it found its true successor

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in K. Robert Schwarz’s *Minimalists* from 1996.\(^{30}\) In his book, Schwarz provides greater detail and depth of discussion than Mertens’ brief initial account and, unlike Strickland, retains a music-centred focus. The work, peppered with images and short analyses, reflects Schwarz’s work as a journalist and music critic – however the lack of specific citations poses problems for serious scholarship to continue from it, as the source of the information is not always explicit. Following on from Schwarz’s work is Potter’s 2002 monograph *Four Musical Minimalists*.\(^{31}\) Within *Four Musical Minimalists*, Potter undertakes detailed biographies of the four interlaced with formal analyses of what he perceives (and have traditionally been considered by many) as their most significant compositions. Compiling information from a number of primary sources, Potter’s book is to date the most substantial published scholarly offering focusing on more than one specific minimalist composer. Despite the lack of a monograph on Reich alone, there are however a number of documentary films that focus on him, relying heavily on interviews with the composer as well as performers of his work, most recently by Éric Darmon and Franck Mallet, *Reich: Phase to Face*, which was released in 2011.\(^{32}\) The 2013 volume, *The Ashgate Research Companion to Minimalist and Postminimalist Music*, edited by Pwyll ap Siôn, Kyle Gann, and Keith Potter, brings together a collection of twenty-two essays, and in an expansion of Hock’s groupings divides the material into six broad categories:

1. Historical and Regional Perspectives;
2. Minimalism and the Theatre;
3. Minimalism and Other Media;
4. Analytical and Philosophical Perspectives;
5. Minimalism and Beyond; and
6. Issues of Performance.\(^{33}\)

Although the *Ashgate Research Companion* was conceived of and subsequently designed more inclusively than a study specifically on Reich’s music would have been, the composer receives a healthy representation in the *Ashgate Research Companion* with

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\(^{30}\) Schwarz, *Minimalists*.

\(^{31}\) Potter, *Four Musical Minimalists*.


chapters devoted specifically to narrativity and performance practice in his works. In addition to the substantial role that he plays in the historical narratives of the genre in general that are presented, Reich also provided a short foreword to the volume.

Further sub-categorisations of Reich scholarship within the ‘History and Commentary’ grouping of Figure 1.1 are also possible. A partial list might appear as:

- Links with plastic and visual arts: Suzuki; Bernard; Hitchcock; Shelley
- Links with culture and race: Fink; Gopinath; Cole
- Links with philosophy and/or early music: Cowan; Woodley
- Discussions of source materials used: Cumming; Wlodarski; O’Brien
- Links with non-western music: Liu; Tones

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39 Shelley, “Rethinking Minimalism.”
Reich’s contributions and connections to minimalism as a whole have been well documented, even though scholarly attention to the topic has been relatively scant, in comparison with more established historical music figures. What is more difficult, however, is to separate out scholarship and materials on smaller compositions by Reich, as much of the literature speaks broadly of Reich’s involvement with minimalism or on one of Reich’s larger-scale works, such as *The Cave* (1990–3), *Drumming*, or *The Desert Music*.

Narrowing the scope from Minimalism, to Reich, then to the Counterpoints themselves increasingly limits the research. To date, there remains one DMA dissertation written by John Kaefer in 2006 that deals with the entire published series from *Vermont Counterpoint* in 1982 to *Cello Counterpoint* in 2003.\(^\text{49}\) In his dissertation, Kaefer provides a brief comparison between the aesthetics of the twentieth-century movement of Minimalism and the medieval and baroque eras, before undertaking a short analysis of the four Counterpoints. The proposed scope of Kaefer’s dissertation is very large for a document that weighs in at fewer than one hundred pages in length. Due to the disproportionate size of the topic with the volume of writing, Kaefer’s dissertation is really only able to provide cursory remarks on the use of canon, rhythmic development, and musical process in the Counterpoints. Additionally, at the time of writing, Kaefer did not have access to the primary sketch materials that are now housed in Basel at the Paul Sacher Stiftung, although he did interview Reich for the project and a transcript of the interview is included as an appendix to his work. In 2008 Mathew Dudley presented a Master’s thesis in music theory focusing on metrical ambiguity resulting from the canonic transposition found in the Counterpoints.\(^\text{50}\) Employing a combination of analytical techniques, but primarily focusing on beat class sets, Dudley’s thesis, like Kaefer’s, is brief but more thorough exploration of some of the theoretical similarities in the first three Counterpoints – *Cello Counterpoint* is not included as it was difficult for Dudley to gain access to the score at the time of writing.

\(^{48}\) Karen Rochelle Liu, “The Influence of Ewe Music on Steve Reich’s *Drumming*,” (MA thesis, California State University, 2002).


\(^{50}\) John Kaefer, “‘Reich Counterpoint’: Steve Reich, Minimalism, and Music Before 1750: A Historical and Comparative Analysis of His Four Counterpoint Pieces,” (DMA diss., The Juilliard School, 2006).

Individually, the Counterpoints have enjoyed slightly more scholarly interest than they have as a set. Celina Bordallo Charlier’s 2010 dissertation, ‘The Spatiality and Temporality of Minimalism Through the Study of *Vermont Counterpoint* for Flute and Tape by Steve Reich,’ is the most comprehensive of such scholarly writings. Although Charlier focuses on *Vermont Counterpoint*, in part VII of her work *New York Counterpoint* and *Electric Counterpoint* (among other of Reich’s compositions) are drawn in as comparative compositions. Charlier claims that these three pieces do:

not only relate to [one another with] chronology and instrumentation, but more importantly, this comparison shows how the same structure, instrumentation and rhythmic music discourse created by one composer within the same style and within a contextually short time span can be at once so similar and so contrasting.53

To achieve this, Charlier’s analytical discussion relies heavily on cross-work comparisons. A lengthy chart labelled Table 2 in Charlier’s dissertation lays out what she sees as a juxtaposition of the 1980 Counterpoints.54 Musical elements such as instrumentation, dynamics, the function of instrumentalists, and grouping of pitches are presented alongside each other but receive little if any further discussion. The lack of critical exploration of the material in Charlier’s chart is most likely due to the thesis’ main aim of fostering informed future performances of *Vermont Counterpoint* in particular, and the other Counterpoints tangentially. As such, following an extensive tabling of musical characteristics, Charlier returns to her performance-centric viewpoint. Noteworthy in Charlier’s dissertation is the elaborate description of the aesthetic choices she made and performance realities she faced in the preparation of *Vermont Counterpoint* for performance, which provides insight into the place these compositions find in the repertory of their respective instruments. However, Charlier does not engage at any true depth with an analysis of the musical score.

Amandine Pras, François-Xavier Féron, and Kaïs Demers approach a discussion of *New York Counterpoint* by documenting the decisions (and implications of their choices) in the pre-production of the tape part. Drawing interesting parallels between minimalism and chance music, Pras, Féron, and Demers observe that composers in the mid-twentieth century:

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developed the concept of aleatory music and mobile forms, inviting performers to make their own choices inside a compositional structure. These kinds of pieces are never played the same way twice. In *New York Counterpoint*, no such technique is used because each tone is perfectly notated. Yet hearing such music, there are many perceptual possibilities that the performer, in collaboration with the sound engineer, can modulate and orientate. Reich’s music is mobile on the perceptual level.\textsuperscript{55}

By examining the implications of recording choices, Pras, Féron, and Demers are able to demonstrate how much of the aesthetics of *New York Counterpoint* and, by extension, the other Counterpoints, are tied into the choices made by the performer prior to taking the stage.

To date no literature has addressed all four of the Counterpoints historically as a set and involved study of Reich’s sketch material. The Counterpoints provide an exceptionally interesting collection of documents to study as a linear set within Reich’s oeuvre, especially because their timeframes use different mediums of sketching.

**Analyses**

The steady growth of minimalist analytical literature in the 1990s carried traces of its methodological contemporaries. Along with Nattiez’s *Musicologie générale et sémiologie* from 1987 (Carolyn Abbate’s English translation appeared three years later),\textsuperscript{56} were a number of articles and books that adapted analytical methods to function within the guidelines of semiotics, literary theory, and philosophical movements such as postmodernism. Minimalist music, and Reich’s process-orientated works in particular caught the attention of analysts eager to deconstruct the music to its component parts. Furthermore, mathematics, contour theory, and phylogenetic resemblances have all been legitimized as methods to uncover what the audience is experiencing while listening to Reich’s musical offerings. Chapter 2 traces the analytical procedures applied to Reich in more detail before undertaking a neutral level analysis of particular movements of the Counterpoints as case studies.


Performance reviews

Originally the almost exclusive purview of newspapers and print periodicals, performance reviews have also come to include websites and blogs. These critiques are firstly contributions to the secondary literature of history and commentary; however as time passes they become transformed into primary source material, in so much as they are artefacts of the cultural milieu in which they were created (this transitory state is indicated in Figure 1.1 by the dashed grey line linking ‘Performance reviews’ to ‘Primary sources’). Reviews of the 1980s Counterpoints are primarily newspaper-based, and found in publications such as The Village Voice and The New York Times. With the addition of Cello Counterpoint to the set, reviews are increasingly found in digital formats. In addition to reviews of live performances of Reich’s music, reviews of recorded releases further expand the pool of source information upon which it is possible to draw for a reception-based study. As such, the performance reviews of Reich’s Counterpoint works are utilised primarily in this thesis’s third chapter.

Interviews and Biographies

Archival documents are not the only source of primary material, and many interesting documents appear in the public domain, or are not held as part of an institutional collection. Of particular significance are the many interviews that Reich has given publically (some of these are found in the acquired interviews held at archives57) over the course of his compositional career. Typically these interviews occurred as part of press tours for premieres of compositions, and importantly, reflect Reich’s own understanding of the compositional process and how his ever-changing media consciousness has developed. Public interviews have taken the form of newspaper and magazine press stories, scholarly articles and books,58 radio broadcasts, film documentaries,59 and written transcripts of any of the aforementioned media. Newspaper stories60 and radio interviews61 can provide tangentially useful information, although they

57 This is particularly true of Yale University’s Oral History of American Music (OHAM), which is discussed in greater detail in the section on Archival Collections further on in this chapter.

58 Michael Nyman, Edward Strickland, K. Robert Schwarz, William Duckworth and Keith Potter all interviewed Reich for their studies on Minimalism.


60 Major newspapers such as The Guardian and The Independent in the United Kingdom and The New York Times in the United States typically cover Reich premieres and in the build-up to such events (often in London or New York) will publish short interviews with him. Increasingly, similar publications can be found in the digital realm on blogs and institution-based YouTube channels.
are intended for a public audience with highly generalised knowledge of the topic. Typically, the chapters of books that include interviews with Reich are intended as an introduction to American and/or twentieth-century composers, and therefore for audiences with a basic foundational knowledge of music. An extension of the interview medium is the composer biography. Found in promotional documents and concert programmes, the biography solidifies the public image of the composer by controlling what background information the audience is exposed to and what elements of career and personal life are prioritized. While such sources provide the scholar with the ability to glimpse Reich’s self-image, the interviews with performers, reviews of concerts, and album releases, allow for an audience reception of the works to be constructed, as will be found in Chapter 3’s esthetic level.

**Writings by Reich**

Augmenting the interview materials in another way are Reich’s own writings. Compiled initially in his 1974 book *Writings about Music* and updated in his 2002 *Writings on Music: 1965–2000*, edited by Paul Hillier, Reich has composed a minimum of a paragraph, oftentimes more, on each of the works in his personal oeuvre. Despite the somewhat grandiose title of *Writings on Music, 1965–2000*, not all of Reich’s musings appear reprinted in the final compilation. In such cases they can be found in their original publications. An article of this category that is of particular interest to this study is Reich’s ‘My Life with Technology’. Within the short article Reich reflects on how his life and work changed as a result of his interactions with technology, relating information on how he adapted his compositional style when he adopted computer notation software (Professional Composer in 1986) and how he felt that technology would influence future generations of composers.

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61 Radio broadcasters including WNYC, KPFA-FM, BBC, and NPR have all featured Reich as a guest on their programs a number of times.


Miscellany, Sketches, and Correspondence

Although valuable primary sources, Reich’s correspondence and sketches are unpublished and will be dealt with more generally in terms of the archival collections of which they are a part. Included under the umbrella term ‘Miscellany’ are all manner of ephemera, such as concert programmes, audio/visual recordings, datebook entries, and even the notes and drafts of some of the musicologists whose work has previously been discussed under the ‘History and Commentary’ category. As with the sketches and correspondence, these primary source materials will be dealt with as part of the archival collection to which they belong.

Archival Collections

The primary source material for Reich study from which the secondary literature is drawn is quite varied. To begin with, there are the extant compositional documents, items such as sketchbooks, drafts, datebooks, computer files, and personal correspondence. The majority of Reich’s compositional documents have been housed at the Paul Sacher Stiftung in Basel, Switzerland since 2008–9. There are a few additional documents that are kept in other archives, such as the Special Collections & Archives of the University of California San Diego Library in La Jolla, CA, the Benjamin S. Rosenthal Library, Queens, NY and the New York Public Library (NYPL). The documents housed at these alternative locations are materials that Reich gave to others, particularly Betty Freeman or K. Robert Schwarz, and as a result the documents are found in the personal collections of the receivers at these locations. Correspondence between Reich and his former teachers, Vincent Persichetti and William W. Austin can be found in papers housed at the Lincoln Center branch of the NYPL (Persichetti) and at the Rare and Manuscript Collection of Cornell University’s library (Austin). A secondary objective of this thesis is to undertake a thorough and comprehensive analysis of extant primary source material, as well as provide a discussion of (and expansion on) the secondary literature explicitly focused on the Counterpoint series, in addition to both primary and secondary literature within the wider scope of twentieth- and twenty-first-century musicology and history. When documents from these

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65 Betty Freeman Papers. MSS 227. Special Collections & Archives, UC San Diego Library.; K. Robert Schwarz Papers, Department of Special Collections and Archives, Queens College, City University of New York.; Vincent Persichetti Papers, JPB 90-77, Music Division, The New York Public Library for the Performing Arts.; William W. Austin papers, Archives 14-20-2297, Rare and Manuscript Collections, Cornell University.
collections are pieced together a more complete understanding of Reich’s compositional background and techniques can be explored.

**Steve Reich Collection at the Paul Sacher Stiftung**

The diversity of the types of sketch material is a unique factor that sets the Steve Reich collection apart from other collections housed at the Paul Sacher Stiftung (PSS). The news brief of the Reich collection acquisition by the Sacher noted:

> Neben Manuskripten aus verschiedenen Arbeitsstadien, Tonaufnahmen und anderen Schaffenszeugnissen verdienen zahlreiche Ton- und Programmdateien besonderes Augenmerk. Sie dokumentieren verschiedene Arbeitsschichten im Schaffen Reichs, der Computer, Synthesizer und Sampler seit langem als Kompositionswerkzeuge nutzt. 66

Beyond these by-products of the creative process, the Sacher’s release draws particular attention to the format that these products take, including computer files, and the focus on the hardware of computer, synthesizers, and samplers that Reich has long used as compositional tools. When *The Strad* described the PSS’s acquisition they reported that the Foundation’s Matthias Kassel noted that ‘Reich was one of the first composers to make the switch from working with sketches and notebooks to composing on the computer. This started around the time that he wrote *Different Trains* [1988]. So the collection of his works also shows this progression in technology and working processes.’ 67

The Sacher’s holdings concerning the Counterpoints can be divided into three main categories: 1. sketchbooks; 2. folders devoted to the individual works; and 3. computer files. As of 2014, the Sacher holds fifty sketchbooks of Reich’s work spanning from 1969 to the present. These books are generally contiguous in time span, with only the occasional sketches for a work overlapping. According to the numbering system employed by the PSS the notebooks that include sketches of the published Counterpoints are:

- **Vermont Counterpoint**: Sketchbooks 24, 25, 26
- **New York Counterpoint**: Sketchbooks 34, 35, 39
- **Electric Counterpoint**: Sketchbooks 38, 39
- **Cello Counterpoint**: Sketchbook 49

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66 [Alongside the manuscripts which demonstrate a variety of working methods are sound recordings and other creative documents which generate numerous music data and, of particular interest, computer data. These document the different stages of work for Reich who has long used the computer, synthesizer and sampler as compositional tools.] “Sammlung Steve Reich,” *Mitteilungen der Paul Sacher Stiftung* 22 (2009), 8.

67 Matthias Kassel quoted in “Reich Works Saved in Switzerland,” *The Strad* (February 2009), 11.
The sketchbooks hold the paper traces of Reich’s emergent thoughts on each of his works, and the four Counterpoint works all are afforded varying degrees of space in them. Included in the folders specific to each composition are loose sketch pages, letters, corrected drafts, and other miscellaneous documents. For *Vermont Counterpoint* the folders include: a number of loose pages photocopied from the previously mentioned sketchbooks, which were subsequently annotated; letters and notes concerning the recording session to create Ransom Wilson’s tape part; and draft copies of the typeset score from Reich’s publishers Boosey & Hawkes. *New York Counterpoint*’s extant sources are very similar to *Vermont Counterpoint*’s, including pages in three sketchbooks, and some additional loose pages of manuscript and draft scores from Boosey & Hawkes.

In 1987, with the composition of *Electric Counterpoint*, Reich ventured into new territory. Having purchased his first computer in 1986, Reich started exploring the use of technology for computer-generated music notation (MNS). *Electric Counterpoint*, along with *The Four Sections*, was one of Reich’s first works composed with the music notation software Professional Composer (further information about this technological shift will be explored in Chapter 5). Likely, as a result, there are fewer handwritten sketch material sources for *Electric Counterpoint* than for either *New York* or *Vermont*. *Electric Counterpoint*’s sketch material includes entries in sketchbooks, Boosey & Hawkes draft scores, computer files, and loose sketch pages – this time, however, there are no photocopied sketchbook pages included in the loose sketches but rather computer-generated sheets that have subsequently been marked up by hand.

There are three varieties of computer files related to *Electric Counterpoint*: the aforementioned Professional Composer files; Performer files (sequencer); and text documents. The text documents are unique because they take the place of Reich’s marginalia in the sketchbooks. As the entries are dated, they can be used to corroborate the information found in the metadata of the Professional Composer files. *Cello Counterpoint* from 2003 also has computer files, but Reich appears to have returned to sketching out

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68 It should be noted that although there is technically material related to *New York Counterpoint* in Sketchbook 39, as is listed above, it is in fact consists of a single page (p. 17) that outlines the harmonic underpinnings of the work, in accordance with the divisions and melodic material found in the published score, rather than sketches of the melodic patterns or canonic interaction of lines which are found in Sketchbooks 34 and 35 and was most likely written after the work’s completion and during the composition of *Electric Counterpoint*.

69 Reich, “My Life With Technology,” 19.
initial ideas, complete with extensive marginalia, more fully on paper than with the computer. In addition to Sibelius computer documents, Cello Counterpoint’s sources housed at the PSS include pages from a sketchbook and a computer-generated score, presumably from Sibelius files that Reich subsequently annotated with red pen.

Also included in the PSS’s collection are general documents such as programmes, recordings, and Reich’s yearly agenda style datebooks, which supplement the specific set of material organised around each work. This collection reflects what Reich valued and kept from his career, and as such is useful for the construction of a chronology and biography, while also offering insights into what was important to him as a composer.

The William W. Austin Papers at Cornell University

The William W. Austin papers are housed in the Kroch Library Rare & Manuscript non-circulating collection of Cornell University, in Ithaca, New York. A single box of Austin’s papers is devoted to his personal correspondence with and about Reich, whom he taught at Cornell in the 1950s. Also included in the box are drafts of Austin’s writings on Reich, organizational memorandums for a visit of Steve Reich and Musicians to Cornell in the 1970s, some student works of Reich, and newspaper reviews, along with programmes and advertisements for Reich performances. Access to the collection is restricted to permission from the composer. The scope of the collection even beyond the letters exchanged between Reich and Austin is interesting because of the level of detail and concern that Austin gave to Reich’s career. Relating directly to the Counterpoints, Reich discusses in some detail his thoughts on Vermont Counterpoint, New York Counterpoint and Electric Counterpoint, writing to Austin as he was composing the works. Reich also describes his thoughts on the ‘Counterpoint series’ and additional Counterpoints that as of present have not been realised.

New York Public Library Collections

The NYPL’s Library for the Performing Arts, Music Division at Lincoln Center, holds a number of archival collections that relate in some form to Reich. Included in the NYPL’s collections is correspondence with a former composition professor of Reich’s – Vincent Persichetti as well as the papers of two musicologists interested in the composer – Gilbert Chase and H. Wiley Hitchcock. Of additional interest is the Clippings file that has

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been compiled on Reich by the NYPL’s librarians. This file includes numerous newspaper and magazine articles collected beginning in the 1970s. An interview between Reich and Dorothy Horowitz exists as part of the Dorot Jewish Collection (Schwarzman building); however this interview is also available from the Oral History of American Music (OH V 186 j-k).

_The Vincent Persichetti Papers_

The Vincent Persichetti papers held in relation to Reich are more limited in nature than the Austin papers, including only a few letters from Reich to Persichetti and a request for a reference letter and Persichetti’s response (a corresponding letter and response is found in Austin’s papers as well). The collection holdings include material related to the Phase works but not the Counterpoints in particular. These holdings are therefore most interesting for this study when juxtaposed against the wealth of material collected by Austin, as both Persichetti and Austin supposedly fulfilled the same roles of university lecturer to the young Reich.

_The Gilbert Chase Papers_

In the Gilbert Chase papers of the most significance are the many article clippings on Reich that are found amongst the papers. Taking the form of programme notes and newspaper articles, this collection offers the ability to read performance reviews not easily available elsewhere.

_The H. Wiley Hitchcock Papers_

The musicologist H. Wiley Hitchcock’s papers include programmes and review clippings as well as personal correspondence with Reich. Other correspondence includes scholars interested in minimalism writing to Hitchcock to ask for assistance in obtaining research materials. Much of the collection’s holdings on minimalism and, by extension, Reich, pertains to Hitchcock’s role within the Institute for Studies in American Music (I.S.A.M.), Brooklyn College, or his research interest (discussed previously here under the History and Commentary heading) of connecting musical minimalism with the visual arts.

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The papers of Reich’s long-time financial supporter and friend, Betty Freeman, are housed as part of the University of California San Diego’s Special Collections and Archives. Within the Freeman collection the principal element in relation to Reich is the exchange of correspondence between the two over the course of thirty-one years (1972–2003). These letters detail the news of mutual friends, the funding commitments of Freeman, and news about Reich’s compositional progress. Also included in the collection are newspaper clippings and articles concerning Reich. Vermont and Electric Counterpoints are dealt with more extensively in these letters than New York Counterpoint, as Vermont was dedicated to Freeman and Electric was paired with Different Trains, a Freeman-commission for the Kronos Quartet, on the Nonesuch release.

K. Robert Schwarz Papers at Queens College, CUNY

One of the earliest and most extensive scholarly treatments of Reich’s music was a two-part article written by K. Robert Schwarz that appeared in the journal Perspectives of New Music. Schwarz was a prolific freelance critic and concert programme annotator. Included in his papers, which are housed at his alma mater of Queens College, CUNY, is the research he completed on Reich for his Masters’ thesis (eventually forming the basis for the Perspectives articles), plus materials gathered and notes prepared for his 1996 monograph, Minimalists, previously discussed. The letters and newspaper clippings in the Schwarz collection form the foundation for much of the material included in his book. Filling in the information gaps left by the newspapers and letters are a number of audio interviews conducted between Schwarz and Reich in the late 1980s and early 1990s, and originally preserved on audio cassette. These interviews are extensive and enlightening as Reich identifies and corrects erroneous biographical information that had been previously published. Additionally, Schwarz probes Reich about his plans for upcoming compositions. Taking into account the collection in relation to the Counterpoints, Schwarz’s papers include handwritten personal analyses of both Vermont and New York
Counterpoint,\(^75\) as well as a rough cut of the original mix for Electric Counterpoint as performed by Metheny.

**Brooklyn Academy of Music Archives**

The Brooklyn Academy of Music (BAM)’s archival collection is divided between documents housed at the Hamm Archive and those housed at the Library for the Performing Arts – Music Division at the Lincoln Center branch of the New York Public Library. Those documents in the Hamm Archive encompass programmes from concerts held in conjunction with BAM, including the premieres of the 1980 Counterpoints. The Brooklyn Academy Collection at NYPL requires viewing permissions from BAM, and contains video recordings of select BAM concerts, including a video recording of one of the first performances of Electric Counterpoint as played by Metheny.

**Oral History of American Music at Yale University**

The mandate of the Oral History of American Music (OHAM) housed at Yale University, founded in the 1960s, is to collect and preserve an assortment of ‘audio and video memoirs directly in the voices of major musical figures of our time.’\(^76\) As such OHAM has an extensive and steadily growing collection of recordings and transcripts of individuals important to the musical culture of the United States. The Reich collection includes interviews conducted for the ‘Major Figures in American Music’ project (of which the Reich collection is a part) with the aim of preserving a large quantity of information on the composer, acquired tapes (including a number of out-takes from radio broadcasts), acquired transcripts, and recordings from Yale University composition seminars among other documents. As the same interviewer conducted relatively few of these interviews, the collection of the material reflects the catholic accumulating tendencies of OHAM as an archive, rather than as a value judgement of a particular individual. The Counterpoints are represented in this collection, specifically in an acquired interview conducted by Rebecca Y. Kim, which discusses Triple Quartet as an extension of the Counterpoint idea,\(^77\) two OHAM interviews one by Ev Grimes that deals with

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\(^{75}\) These analyses form the basis of the Reich side of Schwarz’s “Process vs. Intuition in the Recent Works of Steve Reich and John Adams,” *American Music* 8, no. 3 (1990): 245–73.


\(^{77}\) Steve Reich interview with Rebecca Kim, transcript, OH V 186 u-x, Oral History of American Music, Yale University.
Vermont and New York Counterpoint\textsuperscript{78} and one with Ingram Marshall that delves into Electric Counterpoint,\textsuperscript{79} and, a radio interview between John Shafer and Reich from 1987.\textsuperscript{80} The Counterpoints are also addressed in open questions from students to Reich recorded at Yale Composition seminars.\textsuperscript{81}

These archival collections provide the primary source material from which the esthetic, poietic, and synthesized levels of this thesis grow. The secondary literature on Reich likewise acts in an overall foundational manner for this thesis and provides some inspiration towards the development of the neutral level.

**Methodological Approach**

Nattiez argues that music is ‘a symbolic phenomenon that includes three levels of interaction, or a “tripartition”: the poietic dimension; the trace; and the esthetic dimension.’\textsuperscript{82} In order to tie the Counterpoints back to the Phase pieces, this thesis will employ Nattiez’s concept of the tripartition\textsuperscript{83} as an overall organising principle, devoting chapters to each of Nattiez’s analytical levels.\textsuperscript{84} Although generally considered to be a valid methodological construct, Nattiez’s tripartition is not without its criticism.

Many of the concerns and reservations expressed by musicologists regarding Nattiez’s adoption of the tripartional methodological model for generating discussion on music stem from a perceived lack of definition between the levels of analysis. Kofi Agawu’s evaluation of Music and Discourse’s development of musical semiology is both careful and critical of the rather grandiose claims made for it by Nattiez. Not discounting

\textsuperscript{78} Steve Reich interview with Ev Grimes, tape and transcript, OH V 186a-i, Oral History of American Music, Yale University.

\textsuperscript{79} Steve Reich interview with Ingram Marshall, tape and transcript, OH V 186rst, Oral History of American Music, Yale University.

\textsuperscript{80} Steve Reich interview with John Schaeffer, tape, OH V 186m, Oral History of American Music, Yale University.

\textsuperscript{81} Yale Composer’s Seminar, tape, OH V 186 p, Oral History of American Music Yale University; Yale Composition Seminar, tape, OH V 186bb, Oral History of American Music, Yale University.


\textsuperscript{83} Mark Everist in his introduction to his English translation of Ruwet’s ‘Methods’ provides a clear discussion of the sources from which Nattiez drew his concepts for Fondements. These ideas were developed further in Music and Discourse, and discussed thoroughly in the opening section of Nattiez’s work. See Nicolas Ruwet, “Methods of Analysis in Musicology,” trans. and intro. Mark Everist, Music Analysis 6, no. 1/2 (1987): 3–9, 11–36. See also, Nattiez, Music and Discourse.

\textsuperscript{84} The neutral level as designated by Nattiez will not be the primary concern of this thesis, and as such is afforded less discussion space.
the holistic quality of the tripartition, Agawu notes that ‘delimiting the domains of poiesis and aesthesis’ is critical and that unless the boundaries of the categories are taken into consideration ‘the model is likely to produce an unacceptably distorted semiological analysis.’ By isolating and amplifying traditional analytical models – such as sketch study and reception history – before examining the results in concert with each other, Nattiez’s model allows for a multi-dimensional analysis to form in the musical discourse.

The distorted analysis warned against by Agawu, illuminates the problem of bias in contemporary musical scholarship highlighted by Antoni Pizà:

very often, musicological studies are biased towards only one of the three levels of the musical work. Thus the historian is seldom concerned with perception; the analyst neglects history by equating the work of music to its textual presence, the immanent level; while the experiments done by an specialist in the perception of music take into account neither the genesis of the work nor its configurations.

By utilising a broad range of source material, this thesis begins dismantling to some extent this myopic musicology.

While Nattiez’s structural divisions are certainly not the only method that could have been used for this study, such partitions allow for a focused discussion on each type of source material to take place. Additionally, by viewing the four Counterpoints through these three distinct lenses of analysis, specific elements of Reich’s compositional style are foregrounded. As Agawu notes, any symbolic form passed through the tripartite filter ‘can be made to yield some of its secrets ... and since analysis always leaves “traces,”’ it follows that the tripartition can be used to think through discourse about music.

The utility of the approach for Agawu is therefore its universality. Similarly Pizà finds Nattiez’s proposed methodology to be holistic and recommendable as it encompasses both ‘the “sounding” and the “non-sounding” elements of music.’ An application of Nattiez’s methodology – which would encourage a discussion of the multitude of factors that converged to create the compositions – with this scope and at this magnitude is unique within Reich scholarship, as previous uses have been for shorter projects.

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Additionally by utilising Nattiez’s tripartitional method, it is possible to lessen the impact of some issues surrounding a completely chronological approach to historical topics. Historian turned historiographer Norman J. Wilson warns against following a trajectory of teleological progression by commenting that ‘[t]he path to the present frequently appears predetermined and inevitable because we look at the past in retrospect, know the outcome, and trace what happened.’ Wilson charges historians (and by extension historical musicologists) to select and pursue either a diachronic or a synchronic approach to their historical subject, warning that the diachronic approach is the most susceptible to the danger of tracing an inevitable route of the past to the present, as it traces one issue through time, whereas a synchronic approach cultivates a broad swath of issues at a single point in time. As Tim Page has said ‘[i]t is a 19th [sic] century conceit to envision the history of art as one irrevocable vortex behind one inevitable vanguard.’ In order to avoid the pitfalls of the overtly teleological trajectory that Wilson and Page warn of with regard to Reich’s Counterpoint series, a synchronic approach with elements of diachronic analysis will be used to take into account the poietic, esthetic, and neutral levels of Nattiez’s analysis. This approach will produce less of a focus on calendar time (excepting the chronology of compositional ideas discussed in the poietic level), instead examining more closely the ‘moments’ of the Counterpoint’s composition.

Through this semiologically-synchronically guided study of Reich’s Counterpoint series it is possible to discuss one strand of Reich’s interests in compositional design and style, namely his concern with pattern-based composition. The goal of this analysis of the Counterpoints is to avoid ‘[reducing] that work to only one of its three dimensions,’ while uncovering the essence of it that ‘is at once its genesis, its organization, and the way it is perceived.’ In order, however, for this approach to be successful, the scope of the source material will be as broad as possible so as to arrive at the epitome of each of the works (and ultimately the series) and the role they play within Reich’s oeuvre. In order to combat

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92 Nattiez’s methodology does not preclude the possibility of a diachronic approach; but a largely synchronic approach will be utilised here.
93 Nattiez, Music and Discourse, ix.
the perception of blurred boundaries, which often results from the subjective actions of the analyst, each level of analysis – neutral, poietic, and esthesic – in this thesis will include an explanation of the approach to the analysis as part of the introduction to each chapter, in addition to the introduction they are given here.

**Neutral**

*Niveau neutre, niveau matériel* – the trace, or the neutral level – is perhaps the most well-known yet arguably the most controversial aspect of Nattiez’s divisions. Poietic and esthesic processes do not necessarily immediately perceive the neutral level, hence the application of the somewhat elusive term of *trace*. Often the neutral level comprises a ‘structural’ analysis of a work’s inherent and recurring properties.\(^\text{94}\) The neutral level is the symbolic form of the piece, which ‘is embodied physically and materially in the form of a *trace* accessible to the five senses.’\(^\text{95}\)

Jonathan W. Bernard is quite adamant about the shortfalls of the proposed methodology, particularly in his response to Nattiez’s analysis of Edgard Varèse’s *Density 21.5*,\(^\text{96}\) singling out the neutral level for the brunt of his critique. Bernard claims that Nattiez’s analysis is unnecessarily difficult to evaluate:

> because rather than admitting that the “inclinations” of his descriptive tools represent certain fundamental assumptions – assumptions which ought to be open to question, just as are other analysts’ assumptions – he [Nattiez] has pretended to begin with properties of musical structure so universal that they have the status of unchallengeable axioms.\(^\text{97}\)

Bernard goes on to note a variety of mistakes and conflated ideas in Nattiez’s analysis of Varèse’s composition. Again, as with Agawu, the major criticism centres on a confusion of the levels ‘at the very outset of his [Nattiez’s] analysis, his plan of attack has already been shaped by an observation about compositional procedure.’\(^\text{98}\) The assumptions that Bernard claims that Nattiez does not reveal are in fact those that Bernard has also said govern the neutral level analysis and he mentions particularly that these assumptions are not free of

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\(^{94}\) Nattiez, *Music and Discourse*, 12.

\(^{95}\) Nattiez, *Music and Discourse*, 12.


value judgement. According to Bernard, there are in fact more successful tools available for analysis of Density 21.5 than those used by Nattiez, citing that ‘the best way to gain access to them [the better analytical tools] is through a comprehensive examination of Varèse’s own statements about his work as a composer.’ Although highly suspicious of Nattiez’s methodology, Bernard’s criticism is in fact focused on what he first perceives to be the failings of Nattiez’s execution (and, by extension, the plausibility of any execution) of a neutral level analysis of Density 21.5. Secondly, Bernard points to Nattiez’s practical confusion of the analytical levels – including his creation of a category of ‘Harmonic Poietics’ for Marc Wilkinson’s prior analysis of the work, rather than the methodological system itself. If Nattiez’s ability to apply his proposed methodological system is discounted from Bernard’s assessment, it once again is reduced to a fundamental criticism of a blurred delineation of the borders of the levels of analysis.

Following Jean Molino’s understanding of the tripartitional concept, the neutral level should merely be an acoustic fact. However, it is with Nattiez’s application and expansion of Molino’s term that confusion arises. David Lidov’s main objection to Nattiez’s adoption of Molino’s terminology is as follows:

If all descriptions of music have their origin in the facts of production and perception, how is a neutral description possible except as a vacuous hypothesis? For Nattiez, it is not the origin (in a historical/psychological sense) of the analysis which is important, but rather the possibility of making it explicit. If an analytical procedure can be stated explicitly, it can be detached from its original motivation and followed interpreted; interpretation belongs to the other two spheres. The neutral description is conceived as a moment in the dialectical process of analysis ... As a description the neutral analysis testifies to the autonomous organization which might allow the neutral level of the sign to engender entirely new interpretations in unforeseen contexts.

The beginning of Lidov’s critique recalls the content of Bernard’s response to Nattiez’s semiotic analysis of Varèse’s Density 21.5. Under the banner of this criticism the possibility of a true neutral level analysis seems foolhardy to attempt; however, the

redemption of the *niveau neutre* is begun in the second half of the critique. Here Lidov concedes that the neutral level might produce new interpretations of the music. Otto Laske even goes as far as to say that the formulation of ‘neutral-level hypotheses concerning music is, I think, a methodologically indispensible activity of music users at the aesthetic pole of music.’\(^{103}\) In addition to simple disagreement between scholars over what the terminology should be applied to, Finn Egeland Hansen notes that Nattiez’s own conception of the term seems to have changed over time, from *Fondements d’une Sémiologie de la Musique* (1975) to *Musicologie Générale et Sémiologie* (1987).\(^{104}\)

Returning to Lidov’s critique, he acknowledges that the neutral level ‘represents an ideal of empirical objectivity which takes the musical text as its sole object of observation.’\(^{105}\) According to Nattiez, in *Music and Discourse*, the neutral level investigates the immanent structures of a musical composition, an exploration ‘that one proceeds to the end of a given procedure regardless of the results obtained.’\(^{106}\) This is not to indicate that the musicologist is neutral, but rather that the poietic and esthesic levels of the object are neutralised for methodological purposes. Nattiez’s analyses of *Density 21.5* and Claude Debussy’s *Syrinx* develop ‘relatively fleshless forms of enquiry, not only seeking to express the most neutral kinds of articulatory picture of a piece of music, but also investigating the uses of a descriptive, distributional account of musical information.’\(^{107}\) Neutral level analyses are ‘dirty’ by their very nature, as the musicologist will never be neutral about the musical object under scrutiny, but despite this will produce ‘(by means of an explicit and reproducible procedure) a set of possible schemas, whose poietic and/or esthesic relevance will, eventually, be explored in turn’ – for Nattiez therein lies their virtue.\(^{108}\)

An analysis at this level is the analysis of the *trace*, which might include, in the case of the Counterpoints, analyses of the published scores through a variety of methods. Due to the emphasis placed on the poietic and esthesic dimensions in this thesis, there is

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\(^{103}\) Otto E. Laske, “Toward a Musicology for the Twentieth Century,” *Perspectives of New Music* 15, no. 2 (Spring-Summer 1977), 224.


\(^{105}\) Lidov, *Is Language a Music?*, 88.


insufficient space to provide appropriately thorough and in-depth neutral level-style analyses for all the Counterpoints (it is worth recalling that Nattiez’s own analysis of Varese’s *Density 21.5* – a piece for flute solo that is a mere sixty-one bars – extends to nearly a hundred pages of analytical exegesis). However, Chapter 2, which includes an overview of existing analytical approaches to Reich’s music, will also provide an attempt at a preliminary neutral level analysis (despite Bernard’s concerns) of *Vermont Counterpoint*’s third movement, *New York Counterpoint*’s first movement, *Electric Counterpoint*’s first movement, and *Cello Counterpoint*’s second movement, as ‘case studies’ of a neutral level approach to Reich’s music.

**Esthetic**

Concepts revolving around audience reception, consumption, and perception of a work fall under the auspices of Nattiez’s esthetic dimension; indeed the Preface of this work already fits into this level of analysis. The active perceptual process of the audience in the esthetic realm is that of its perceptive judgment of a composition upon listening to it, followed by the act of assigning, creating, and/or constructing one or many of a constellation of meanings for it.\(^{109}\)

In music, the roots of reception history are found in literary theory. The German literary community in the mid-1960s pioneered the use of the term ‘Rezeptionsästhetik’ and an accompanying methodology, by means of the movement’s spokesperson Hans-Robert Jauss, whose seminal text was *Literaturgeschichte als Provokation*.\(^{110}\) This altered point of view was then adapted by the musicological community as a response to the corresponding shifts occurring in literature studies. Within literary criticism, reception theory is often acquainted with Jauss and the Constance School.\(^{111}\) But the paradigm that Jauss and the Constance scholars subscribed to was one which redirected scholarly ‘attention to the pole of the reader or audience’\(^{112}\) and away from the more traditional pole of the text. Jauss postulated that:

\[
[L]iterature and art only obtain a history that has the character of a process when the succession of works is mediated not only through the producing subject but also through the
\]


\(^{112}\)Holub, *Reception Theory*, 11.
consuming subject – through the interaction of author and public.¹¹³ This concept reverses the traditional paradigm that would place the text and author’s intentions at the centre of a literary critique, a reconfiguration of the most basic premise of the system.

Jauss makes the importance of the interaction of reader and text more explicit with his ‘horizon of expectations’ concept. A reader’s horizon of expectations is what mediates the coherence of the literary work, and according to Jauss, whether it can be objectified is what determines if ‘it is possible to comprehend and represent the history of literature in its unique historicity.’¹¹⁴ The ability to situate literature in its own historicity was important to literary theorists because it proposed a method for dealing with a previously established canon of works.¹¹⁵ Reception theory offered an attractive two-fold approach to problems of canonicity: first, a re-evaluation of the old canon through a new system; and second, an evaluation of the works excluded from the canon and the reasoning behind those omissions.¹¹⁶

Reception theory in literary criticism led to what could be considered a borrowing, if not a complete adoption of the methodology in musicology. By considering the audience’s response to a piece of music as revealing something about the music, musicologists were able to codify and articulate classic examples of reception history in music within a defined framework. Although the terminology for reception theory is drawn from literary criticism, Jim Samson notes that long before ‘reception’ came into common usage ‘musicologists attempted to generalize about people’s awareness of, and attitudes towards, particular repertoires.’¹¹⁷ Musicologists did this in order to illuminate how a particular music would function within society. By necessity such studies are typically less concerned with an individual’s response; rather they focus on collective intersubjective responses, which are ‘based on determinate groups of listeners, whether these are defined

¹¹⁴ Jauss, Toward an Aesthetic of Reception, 22.
¹¹⁵ Joseph Kerman has identified the act of canon-making as ‘nothing less than a continuous effort to endow music with a history’ and that repertoires and canons should be understood separately as ‘repertoires are determined by performers’ and ‘canons, by critics.’ See Joseph Kerman, “A Few Canonic Variations,” Critical Inquiry 10, no. 1 (Sept. 1983), 120 and 114.
¹¹⁶ Holub, Reception Theory, 10.
by nationality, social class, cultural milieu or profession.\footnote{118} The collective response of one of these determinate listening groups carries more weight than a single isolated response, as the collective response can be said to reflect a society’s commonly held assumptions and basic understandings.

In a musicological context, Russell Stinson defines reception history more specifically as ‘the study of compositions as mirrored in the reactions of critics, artists, and audiences.’\footnote{119} Stinson uses some of the terminology of literary theory’s methods and applies it to the activities of early musicologists as a way of creating generalizations about particular repertoires. But the actions of earlier musicologists cannot necessarily be understood as altruistic; in a study of Felix Mendelssohn’s String Quartets, for example, Friedhelm Krummacher illuminates the artifice that an incomplete or incorrect reception history might construct. In order to discuss music history, Krummacher asserts that some musicologists would create artificial groupings of composers and set them against one another. During a discussion in which Mendelssohn and his followers are contrasted against followers of Robert Schumann, Krummacher notes that:

\begin{quote}
Such portrayals reflect an overriding desire to organize the “battles” of musical history according to the great masters and their spheres of influence. It has since become an ineradicable custom to present musical history as confrontations ... all in order to achieve a redistribution of historical territory by personalizing music history.\footnote{120}
\end{quote}

These constructions can be a particularly dangerous consequence of reception history, as often the reception of a work is derived from a few newspaper reviews and perhaps some private correspondence, which does not necessarily project the values of an era or society.

An understanding of these challenges has to be at the forefront of a musicological study concerning the esthetic realm of composer and work. Reviews and critiques must be parsed for what information it is possible to glean from them. For example, rather than focusing on Anton Webern’s misunderstanding of the Renaissance and the \textit{Art of the

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Fugue, Nattiez read not about the Art of the Fugue but about Webern’s engagement with music history. Nattiez found utility in Webern’s commentary because it ‘furnishes us with factual testimony about his perception of past music, and thus also furnishes us with critical information concerning Webern’s poetics.’ Parsing such subtext is a necessary, though not always obvious role of the musicologist. Reception history can provide exciting insights into the importance of a work within a composer’s oeuvre but it also can create something out of nothing. A balanced and comprehensive view is the only way to ensure that such misrepresentation does not happen.

Research into music’s reception through the analysis of newspaper criticism has gained popularity since the 1980s. Mark Everist has found that although this paradigm of study can be beneficial it also carries a tendency, in its most extreme form, to ‘produce publications that do little except document and reprint newspaper criticism.’ In order to move away from this extremity, the newspaper reviews considered in Chapter 3 will be compared and contrasted with each other and Reich’s biographies in order to draw out the most pertinent strains of information from them. Additionally, the nature of a newspaper review will continually be considered. According to Ned Rorem the nature of the newspaper music critique is unique, as ‘[u]nhlike the painting or movie or theater or dance critic, the music critic writes epitaphs rather than birth notices. Since what he reviews won’t be repeated, how can his readers profit?’ Rorem concludes by noting that, ‘[a] critic will never recapture the sound … the memory and therefore the criticism of music lies only within the music.’ By returning to the difficulty of writing about music, Rorem illuminates some of the shortfalls of music criticism while acknowledging that some critiques are themselves works of art, saying that ‘[t]he writings of even a Proust, a Shaw, a Tovey may be music – evocative, penetrating, ambiguous yet inevitable – but they are not the music.’ Bearing in mind that even the most well-written of criticisms falls short of the actual sound of a composition provides a historian/musicologist with the necessary

121 Nattiez, Music and Discourse, 146.
perspective to take the reviews with the proverbial grain of salt and understand them as an individual’s experience of a singular event.

Another element integral to reception history is how individuals present themselves. The sociologist Erving Goffman, in his influential book *The Presentation of Self in Everyday Life* (1959), theorised that individuals in a workplace situation will present themselves in a manner which allows them to monitor and control the impressions formed of them, much like an actor reacts to and governs the response of their audience while performing a role on a stage. Although Goffman’s work is primarily concerned with the social interaction of two (or more) people in face-to-face contact, it can be extrapolated to include the audience’s consumption of a composer’s biography. The audience at a new music concert may be considered to be engaged in a workplace situation (from the perspective of the composer) during a finite period of time. In this compressed timeframe of interaction, the audience is necessarily required to assume some of the information about the composer that is presented to them without experiencing the gathering of that knowledge themselves. Goffman posits:

[I]f the individual offers the others a product or service, they will often find that during the interaction there will be no time and place immediately available for eating the pudding that the proof can be found in ... [T]he individual will have to act so that he intentionally or unintentionally expresses himself, and the others will in turn have to be impressed in some way by him.127

Essentially, the individuals who are constructing themselves in the case of Reich’s music, whether conscious of the impression they are creating or simply following the convention of their particular social group, are effectively projecting their understanding of the situation.128 Therefore a composer’s biography is a construction of information to be delivered to the audience, along with (or in addition to) the product of music. Social convention demands the inclusion of a biography of the composer within the programme notes and this allows the composer to guide the public’s perception of themselves within the work environment of a concert hall. The content of these concert biographies which are

126 This seminal text has had continued impact and relevance in the field of sociology, for example the edited volume *The Contemporary Goffman* demonstrates the application of some of Goffman’s concepts in the examination of recent social developments. See Michael Hviid Jacobsen, ed., *The Contemporary Goffman* (London: Routledge, 2010).


read against the newspaper reviews is therefore significant in what is included (or excluded) at various points in the composer’s career, illuminating both how the composer perceives himself and how he believes the audience perceives him. As such, concert and publisher biographies form the core of the public’s perception of a composer.

Just as the poetic materials have moved from the physical realm to the digital (see Chapters 4 and 5), so has the medium of the presentation of self. José van Dijck theorises that the relevance of Goffman’s principles of self-presentation as performance ‘has only increased since public communication moved to an online space.’ According to culture and media theorist P. David Marshall, social networking websites when used by celebrities (as Reich has become) in an official capacity, are acting in two discrete but connected ways:

It is these two dimensions – a form of cultural production and a form of public engagement and exchange – that make social networks simultaneously a media and communication form. What makes them very much connected to celebrity is that as much as they are about an exchange and dissemination of thoughts and links to other media and on-line sources, they are a constitutive and organic production of the self.

An examination of a societal construct such as the musical canon raises questions concerning performance repertoire and marks an interesting intersection between reception and canon. Mark Everist identifies such an overlap of theories of reception and ‘contingencies of value’ that are ‘fundamental to a diagnosis of canonic discourse,’ finding that a fusion of traditional music history (based on works, composers, and institutions) and a ‘fully worked-out history of music based on a theory of reception’ would be of considerable value. Carl Dahlhaus found that an amendment in the way in which history is thought of (including the use of reception history and theory), destroys a sense of canon. Animosity and mistrust are directed towards earlier generations for constructing an edifice of history that does not include the majority of our daily musical reality. According to Dahlhaus, this daily music ‘should be treated as a fragment of social reality, as a

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129 This can be expanded to include the writers of his biography as Reich is entrusting PR agents to represent him.
130 José van Dijck, “‘You have one identity’: performing the self on Facebook and LinkedIn,” Media, Culture & Society 35, no. 2 (2013), 200.
participating element within a social process or state.” The value of the integration of reception theory, alongside – rather than in place of – more traditional music histories, comes from the fact that it allows the musicologist the ability to interrogate the source material rather than simply reproducing newspaper critiques. By maintaining the knowledge that reception theory is not only an understanding of how a work was received by an audience/listener/reader but also is an active character in the creation or disassembly of the canon, it is possible to broaden the concept of a reception-based music history, which will be utilised in the esthesic section of this thesis. An esthesic view of Reich is necessarily going to be multi-faceted, ranging from performance reception to biography construction and ultimately criticism in print media as a result of the temporal period that Reich occupies. A combination of these elements of the esthesic aids us in delineating mere hype from genuine responses to the works.

Poietic

An analysis of the poietic dimension results from a study of the process of creation and design of the musical material’s inception into the symbolic form. According to Nattiez, Étienne Gilson divides the poietic into three elements:

1. deliberations on what must be done to produce the object;
2. operations upon external materials;
3. the production of the work.

In music this often occurs through an exploration of a composer’s reflections on the requirements of the composition in question. Traditionally in music history the poietic level of musical analysis has been undertaken in the realm of sketch study.

Sketch study is often thought of as a task completed on compositions from the distant past. A well-known example of modern sketch study is the (by now) extensive research and publications related to Beethoven’s sketchbooks, which have, among other things, aided the scholar in determining why the composer made certain choices. For example, Barbara R. Barry in ‘Recycling the End of the “Leibquartett”: Models, Meaning and Propriety in Beethoven’s Quartet in B-Flat Major, Opus 130’, utilises the extant sketch material as part of her study that investigates the reasons for Op. 130’s multiple endings.

and further reflects on the differences between the two string quartets and their different endings.\textsuperscript{136} In Barry’s article, the ‘problem’ of the multiple endings finds a ‘solution’ through the use of sketch material. But sketch study need not be limited to composers of the more distant past, although different problems emerge when looking at examples from the twentieth century.

As the historian Norman J. Wilson has commented, ‘[t]he past is concrete, but how we record and explain it is not; hence, the present determines the shape of the past.’\textsuperscript{137} By applying Wilson’s statement to the context of musicological study, we can note that there is in fact a musical past, but that the recording of that musical past has undergone significant changes during the twentieth century, ultimately effecting even the most basic nature of the extant remnants – from hard paper copy (the focus of Chapter 4) to the more ephemeral digital realm (the focus of Chapter 5).

In terms of direct and explicit reasons to participate in, or avoid, sketch study, Joseph Kerman began the process of identifying and codifying some of the inherent problems that exist in the study of compositional sketch material. According to Kerman:

\begin{quote}
Sketch studies focus our understanding of a work of art by alerting us to certain specific points about it, certain points about it that worried the composer. So long as we do not fall into the trap of assuming they are the only points that worried or interested him, nothing but good can come of accepting such assistance as he has unwittingly provided us in the task of coming to understand his music.\textsuperscript{138}
\end{quote}

Although writing on composers of the nineteenth century, Kerman’s statement provides an excellent basis for the current perception of sketch studies: that the scholar is peering at documents that the composer has unintentionally allowed into the world, while in some cases – especially in the late twentieth century – the complete opposite may in fact be true.

Ostensibly, according to Kerman, all sketch study stands in parallel to Beethoven scholarship, although he acknowledges that the study of création musicale has shown in the late twentieth century growth and substantial expansion into the works of other composers.\textsuperscript{139} But why would the practice of sketch study develop so quickly, specifically

\begin{flushleft}
\textsuperscript{137} Wilson, \textit{History in Crisis?}, 36.
\textsuperscript{139} Kerman, “Sketch Studies,” 176.
\end{flushleft}
after the 1960s, and what can be gained through it? In his doctoral dissertation on sketch studies, Thomas Whelan claims that there was a shift in the understood worth of manuscripts between the late-eighteenth and mid-nineteenth century, because at that point ‘music had begun to have a history, where before it had, more or less, only a past.’\textsuperscript{140} Balancing the conception of a difference between a past and history, the pianist Robert Taub has commented that the answers to questions such as ‘Why did the composer write it?’ and ‘What did it mean to him?’ are to be found ‘in the sketches and the autograph scores, where you can see what choices were made and why.’\textsuperscript{141} Kerman suggests that the material, which more than answers Taub’s questions, can be extracted from the historical artefacts of the composer and can be grouped largely as follows:

1. Factual information
2. Compositional stages
3. Insight into final composition

The breadth of ‘factual information’ that can be uncovered in the sketch material includes chronology of works, bibliography, and personality of the composer, and sometimes even intertextual connections between compositions that were hitherto unknown. Such intertextual components become apparent in sketch studies where connections between a composer’s works, which might be less obvious in the final works, are laid bare due to their proximity (in reality or in commentary) in the sketch material. Formalising the case for the value of engaging in sketch study while heeding the adage that sketch studies do not provide insight into all of the composer’s interests, Kerman’s examples are incredibly diverse. His examples for the extraction of information from sketch studies range from Beethoven to Haydn to Michael Tippett. Similarly disjointed is the variety of evidence that Kerman believes can be gleaned from sketches, which according to Kerman includes whether there is the possibility to detect whether a composer had formal music training and clarify questions of biography.

The character of what can be found in the source material is just as varied within Reich scholarship as in Berlioz, although the history of utilising Reich sketch materials is far narrower. Not only reinforcing aspects of work-specific biography, Kerry O’Brien’s exploration of the background to Reich’s \textit{Drumming} confirms Martin Scherzinger and

\textsuperscript{140} Thomas More Whelan, “Towards a history and theory of sketch studies,” (PhD diss., Brandeis University, 1990), 3.

Sumanth Gopinath’s contention concerning the effect that African musics had on Reich’s compositions\(^{142}\) within the composer’s own narrative of his musical past, while exploring the experiential aspect that he underwent through the creation of the sketch material. O’Brien focuses on the element of ‘disorientation’ in *Drumming*’s opening rhythmic pattern and aligns it with Reich’s experiences with learning and transcribing Ewe music in Ghana during the summer of 1970, by exploring a variety of source material, including sketchbooks, preserved personal recordings, and even concert programmes from the time.\(^{143}\) In his 2011 article ‘Drummed Out? What Steve Reich did after *Drumming*’, Keith Potter traces Reich’s compositional progress over the course of the summer of 1972, focusing on the early sketches of what would become *Clapping Music*. Through this discussion, Potter combines biography and chronology, offering insights into the final composition of *Clapping Music* to construct a compelling narrative of documents not previously available to the scholar.\(^{144}\) Arguably, these examples of sketch study in Reich perpetuate the idea of the diversity in type and the sheer volume of ‘facts that are turned up in this line of work’.\(^{145}\)

Kerman suggests that composers’ sketches and the multitude of ‘facts’ that they store, once properly contextualised, reveal the tentative stages of a composition rather than actually exposing an unbroken, continually developing compositional process.\(^{146}\) This is true to an extent because as musicologists we can at best speculate on the inner workings of a composer’s mind, and we are speculating from partial trace materials at that. However, the existence of some documents over others, and in the case of Reich, interviews and dialogues with the composer and his colleagues, aid us in the construction of fairly reliable (albeit still tentative) compositional stages. Finally, and perhaps most controversially,

\(^{142}\) The contention, which O’Brien delineates neatly in her article, is one of the degree of ‘effect’ that African music had on Reich. It should be noted that neither Scherzinger nor Gopinath’s arguments are based on an examination of Reich’s sketch material. See Martin Scherzinger, “Curious Intersections, Uncommon Magic: Steve Reich’s It’s Gonna Rain,” *Current Musicology* 79, no. 80 (2005): 207–244.; and Sumanth Gopinath, “Composer Looks East: Steve Reich and Discourse on Non-Western Music,” *Glendora Review: African Quarterly on the Arts* 3 (2004): 134–45.


\(^{145}\) Kerman, “Sketch Studies,” 176.

\(^{146}\) Kerman, “Sketch Studies,” 176.
Kerman highlights the view that sketch study can offer insight into the final composition, noting that there is a paradox in the use of the material:

You cannot enjoy the “Eroica” if you insist on thinking of those drafts, intoned [Donald] Tovey; as you listen to the symphony, “forget the sketches utterly, as Beethoven himself forgot them.” But in the same breath Tovey eulogized the drafts as “wonderful documents recording the profound workings of a creative mind,” and he returned repeatedly in his essays on other works to discuss drafts and early versions which presumably should have been forgotten just as utterly.¹⁴⁷

Ignoring Kerman’s paradox, his musicological contemporary Carl Schachter identifies the same three aims of sketch study in his article on the first movement of Beethoven’s Piano Sonata, op. 14, no. 1. Schachter, however, is firm in his belief that such sketch study can aid analysis, whereas Kerman hedges the argument and delineates a separation between criticism and analysis.¹⁴⁸

In addition to the factual information about chronology and compositional process that can be derived from the sketch material, it can also provide knowledge about the final work’s biography and construction.¹⁴⁹ Works that were left unfinished by the composer or exist in multiple versions have also provided particularly fruitful data for the analyst of musical sketches. The case of Aaron Copland’s Third Symphony provides such an example, with Elizabeth Bergman Crist demonstrating how it is possible to reconstruct the work’s chronology from the extant sporadic and contradictory source material.¹⁵⁰ Traditional methods of sketch study used by Crist must, however, be revised to deal with late-twentieth-century composers, especially as the document types shift from hardcopy to digital.

The poietic dimension endows a composition with its empirical existence, as it is the symbolic form that results from the process of creation.¹⁵¹ Included within the poietic level are the composer’s deliberations on what was required to produce the work, the

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¹⁴⁷ Kerman, “Sketch Studies,” 177.
¹⁵¹ Nattiez, Music and Discourse, 12.
cultural milieu in which composers function, and the actual production of the work itself. Reich’s sketchbooks, computer files, drafts, letters, and other documents pertaining to the genesis of the Counterpoints form the central component of this section in the thesis. At its core, the poietic level draws attention to choices and decisions made by a composer in producing the musical work, even if the listening audience does not necessarily perceive such intentions (such as techniques used and rules applied by the composer in question).

As the time period, encompassed by the Counterpoints’ composition, is one of great technological development, the poietic level of analysis will be divided into two chapters split between Reich’s analogue and digital sketches.

**Synthesis**

In accordance with Nattiez, these three levels of analysis can interact in a number of ways. Figure 1.2, taken from his *Music and Discourse*, illustrates the six possible ways in which these levels interact.

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*Figure 1.2. Communication between the three levels of semiotic analysis, according to Jean-Jacques Nattiez.*

It is the intention of this thesis’s concluding final chapter to focus on the sixth type of communication, with equivalent interaction between the poietic process, immanent

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structures of the work, and the esthetic process. Following divisions inspired by Nattiez, this thesis moves through the neutral, esthetic, and finally poietic levels, utilising the Counterpoints as exemplars of Reich’s consistent interest in instrumental pattern-based composition with performance aided by tape technologies, as found initially in the Phase pieces. Explorations of the Counterpoint’s neutral levels are found in Chapter 2. The focus of the thesis then moves to the esthetic level providing a general overview of reception history and Reich’s public perception through his interactions with the media, biographies and online presence. Also included in the esthetic is an exploration of the reception of the Counterpoints through performance statistics and contemporary reviews, before examining Reich’s own engagement with (and reflections on) the works. Following these two large levels of analysis is the poietic level, encompassing a mixture of inductive and external, which focuses on the process of compositional creation through the compilation and discussion of the primary sketch source materials. The case studies for these two chapters are divided between analogue (Vermont and New York) and digital (Electric and Cello) sketches, with a particular emphasis placed on the role music notation software (MNS) in Reich’s compositional process.

Chapter six concludes the thesis by providing a synthesis of the elements illuminated in the preceding poietic, esthetic, and neutral chapters, providing a six level analysis of Cello Counterpoint (primarily the second movement) before focusing on the use of rhythmic construction in the Counterpoints. This synthesis suggests that the Counterpoints are most completely understood as part of a continuum across Reich’s instrumental works that are in fact a continuation of the compositional concerns, which began in the Phase pieces. The task of guiding an analysis through the semiotic divisions has been likened by Nicolas Bourriaud to the activities of postproduction artists, DJs and internet users: ‘[a]ll three are “semionauts” who produce original pathways through signs.’154 Of as much interest as the three distinct views provided by a Nattiez-devised semiotic analysis, are the relationships illuminated by the semionauts that delineate more connections between Reich’s compositions than simply a shared composer.

As this thesis takes the inspiration for its foundational structure (although the distinctions made here are far from absolute or perfect) from the tripartition as expounded

and advanced by Nattiez which was developed from the work of Jean Molino, the central aim of the tripartition should be considered. According to Lidov, for Molino the tripartition’s central aim was to illuminate:

[the] music’s actual diversity: historical, functional, material, and cultural. Seeking to embrace the whole of music, Molino argues that it cannot be wholly defined in structural or acoustic terms. It must be defined also in terms of its cultural functions as an object of production and perception.¹⁵⁵

On the other hand, Nattiez recognises the tripartition’s value as a safeguard against neo-positivist thinking that might lead to conclusions about the essence of a composition, while simultaneously allowing the necessity for a thorough analytical approach.¹⁵⁶

* * *

The Counterpoints have been under-examined and largely under-valued in literature on Reich especially given their popularity in performance (as will be discussed in Chapter 3). By employing Nattiez’s tripartitional model as a structural guide this thesis will provide an analysis that allows for the Counterpoints to be considered as part of a continuing compositional interest of Reich, and to expand the constantly growing discourse on Reich’s compositional methods.

¹⁵⁶ Nattiez, Music and Discourse, 167.
CHAPTER 2

A KIND OF COMPLETE CONTROL

Neutral Level

Musical processes can give one a direct contact with the impersonal and also a kind of complete control, and one doesn’t always think of the impersonal and complete control as going together. By “a kind” of complete control, I mean that by running this material through this process I completely control all that results, but also that I accept all that results without changes.¹

Of the tripartition’s three parts the neutral is arguably the most controversial – recall for example Jonathan Bernard’s critique of Jean-Jacques Nattiez’s analysis of Density 21.5 discussed in the previous chapter.² In Music and Discourse, Nattiez utilises a panel from the comic ‘le sombre vilain’ to illustrate the difference between the trace and the ‘neutral level analysis.’ According to Nattiez’s reading of the comic, the artist wished to annoy the semiologists (presumably by creating a cartoon impervious to analysis) – however, as Nattiez points out, the cartoon is still analysable by its trace. In much the same way a musical score allows even the most reluctant of composers to be considered

a formal object that one can describe and comment upon ... Between the poietic process and the esthesic process there exists a material trace, not in itself the bearer of an immediately decipherable meaning, but without which meaning(s) could not exist: a trace that we can analyze.³

The immanent level mentioned above is ‘the physical embodiment of the symbolic form. In music, this could correspond to the score or a recording, among others.⁴ The procedures indicated by Nattiez are analytical ‘tools used for the delimitation and classification of

phenomena\textsuperscript{5} that are employed systematically until they have been exhausted, the exertion of a sort of complete control. Referring to a formal analysis of the theoretical underpinnings of the work – using systems such as set theory, Roman numeral analysis, Schenkerian analysis, rhythmic analysis and paradigmatic analysis, among others – the analysis exposes how a piece of music actually functions.

This chapter will be divided into two main sections. First, an overview of the analytical approaches for Steve Reich’s works, narrowing from the broad to the specifics of the Counterpoints, will be provided. Second, a neutral level analysis of the third movement of Vermont Counterpoint, the first movements of New York and Electric Counterpoint, and the second movement of Cello Counterpoint will be undertaken. These case studies demonstrate how such an analysis might feasibly fit into Nattiez’s tripartite methodological model. Ultimately, music analysis seeks to answer how music works, and second what it means.\textsuperscript{6} In terms of Nattiez’s tripartition only the first question is included in the realm of the neutral level, with questions of meaning reserved for the synthesis and interaction of the analytical levels. This chapter lays the foundation of the tripartite analysis, asking how Reich’s music generally functions as based on previously established contexts and specifically how the Counterpoints operate musically. Over the course of the thesis the three definitive levels of analysis will approach the Counterpoints from unique angles, building up a multi-dimensional understanding of the works that can subsequently be viewed in relief with the Phase works of 1967.

**Review of Analyses Applied to Reich’s Music**

What follows is an examination of some of the approaches to understanding the material trace of minimalist composers’ scores that have previously been developed. In the 1990s a wide range of analytical styles were applied to minimalist music in general and Reich in particular. Precursors to this analytical growth spurt are found as early as 1974 when Brian Dennis attempted to provide audiences with information as to the general perception and psycho-acoustic phenomena of listening to repetitive music, using Reich’s Piano Phase and Terry Riley’s In C as examples.\textsuperscript{7} A dozen years later, in 1986, Paul

\textsuperscript{5} Nattiez, *Music and Discourse*, 13.


Epstein took the first steps towards intellectually comprehending Reich’s phasing technique through analysis, noting that, while in *Piano Phase* there is a well-defined system, there are still numerous options for reception:

> We [the audience] have a rigorously defined system, a process that is continuous and free of external intervention for expressive, formal, or other aesthetic reasons. Where, then, are the mysteries? They are in fact numerous and stem in part from the fact that while the process is continuous, our perception of it is not. The listener is presented with a rich array of possibilities out of which he/she may construct an experience of the piece.  

With minimalist music, theorists have tended to focus on methods of rhythmic analysis (specifically patterns), formalist analysis, and minimalist music’s integration with film in multimedia works. The methods that attempt to deal with the music’s rhythms are the most varied of these. In two separate articles from 1991 and 1998, Joel Haack illustrated the mathematical underpinnings of Reich’s *Clapping Music*, equating the process of performing the work to combinatorial mathematics.  

Richard Cohn has adapted the basic premise of atonal pitch class sets to map onto rhythm, claiming that, ‘the nonlinearity of the other dimensions need not override the linearity of the rhythmic transformations; rather, it can serve to focus a listener’s energy toward them.’ Roberto Antonio Saltini takes Cohn’s premise further in his article ‘Structural Levels and Choice of Beat-Class Sets in Steve Reich’s Phase-Shifting Music,’ in which he applies Cohn’s analytical tools to Reich’s *Clapping Music* and *Phase Patterns*. These methods from the early 1990s continued into the twenty-first century, initially with John Roeder’s examination of how beat-classes are modulated by Reich (this will be discussed in more detail in a subsequent section) and Jason Jedlička’s extension

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10 Richard Cohn, “Transpositional Combination of Beat-Class Sets in Steve Reich’s Phase-Shifting Music,” *Perspectives of New Music* 32, no. 20 (1992), 169.


of Cohn and Roeder’s work by combining it with that of John Clough’s, which resulted in an examination of the interonset intervals as an aspect of augmentation in Reich’s *Double Sextet*.  

Justin Colannino, Francisco Gómez, and Godfried Toussaint combined their efforts for a discussion of the pattern displacement found in *Clapping Music* and phylogenetically compared the patterns from the discrete phases of *Clapping Music* to a pattern of the Yoruba bell timeline in an effort to determine the familial resemblance of the beat classes. Acting along similar lines, Ian Quinn attempted to apply contour theory to Reich’s *The Desert Music*, linking families of melodic contours.  

Employing a tactic more in line with Epstein than with his other predecessors, Philip Duker shifted the analytical focus from simply an examination of the music, choosing instead to include the role that audiences play in the reception of the music as part of his study. In his extensive exploration of *Drumming*, Duker provides a thorough analysis of the pulse streams, block additions with regards to beat-class sets, and the composites that result from permutations of the phase relationships in the composition. In this way he also builds on Roeder’s work, albeit in a different manner than Colannino, Gómez, Toussaint, and Jedlička. Central to the argument that is constructed from this highly involved analysis is Duker’s claim that:

> [T]he performers are guides for the listener; the difference in *Drumming* is the degree of freedom that the performer has to

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14 “Interonset interval” refers to the distance between sounding time points.
16 Phylogenetic derives from the Greek terms phylon and geneia literally referring to race and origin, in science (from where Justin Colannino, Francisco Gómez and Godfried T. Toussaint borrow the term) it is most frequently used as a descriptor for a matrix or tree that demonstrates the ‘successive events of speciation (branching), in which one species gives rise to two. “Phylogenetic relationship” refers to the relative times in the past that species shared common ancestors.’ In terms of Reich’s music, the musical patterns are treated as species and the similarities and differences are evaluated in order to determine if the patterns share a recent common pattern (ancestor) with each other. See: Michael Donoghue, Travels in the Great Tree of Life website, Peabody Museum of Natural History, Yale University. Accessed 6 January 2015. [http://archive.peabody.yale.edu/exhibits/treeoflife/phylo.html](http://archive.peabody.yale.edu/exhibits/treeoflife/phylo.html).
17 Justin Colannino, Francisco Gómez, and Godfried T. Toussaint, “Analysis of Emergent Beat-Class Sets in Steve Reich’s *Clapping Music* and the Yoruba Bell Timeline,” *Perspectives of New Music* 47, no. 1 (2009), 111–34.
accomplish this role, and how audience members can be invited to engage with the work.\textsuperscript{19}

To this end, Duker’s article focuses on the rhythmic structure and form of\textit{Drumming} as it relates to the listener. Duker highlights the method that Reich uses with regards to phase relationships, noting that throughout \textit{Drumming} Reich sets the phase relations at even transpositions, which ensures the highest incidences of musical rests possible, a strategy that, as Duker states, ‘holds back the saturation of beat-class space and prolongs the inevitable increase in composited density.’\textsuperscript{20} This strategy of withholding a saturated beat-class set allows\textit{trace melodies} to seemingly emerge and continue to haunt the listener even when in reality they have fallen away into silence.\textsuperscript{21} Duker then compares the concept of audible trace melodies to that of layers of imprint on a palimpsest, and the fixing of a musical object (trace melody) into the listener’s aural perception.\textsuperscript{22} The resulting or resultant patterns\textsuperscript{23} of \textit{Drumming} are in fact these trace melodies that have the ability to point out aspects of the music that may or may not have been perceivable to the audience before, and therefore act as an effective example of a ‘porous boundary between listener, performer, and piece\textsuperscript{24} that is ‘[f]ar from a mindless zoning out.’\textsuperscript{25}

Also in a way considering the role of the audience Linda Ann Garton approaches Reich’s music from the standpoint of tonality, as ‘[c]ommentary on Steve Reich’s music has been dominated by its rhythmic aspects; specific observations on pitch, harmony, and tonality are commonly vague or superficial.’\textsuperscript{26} Her work provides detailed analyses of and

\textsuperscript{19} Philip Duker, “Resulting Patterns, Palimpsests, and ‘Pointing Out’ the Role of the Listener in Reich’s \textit{Drumming},” \textit{Perspectives of New Music} \textbf{51}, no. 2 (2013), 174.

\textsuperscript{20} Duker, “‘Pointing Out’ the Role of the Listener in Reich’s \textit{Drumming},” 159.

\textsuperscript{21} Duker, “‘Pointing Out’ the Role of the Listener in Reich’s \textit{Drumming},” 167.

\textsuperscript{22} Duker, “‘Pointing Out’ the Role of the Listener in Reich’s \textit{Drumming},” 168–69.

\textsuperscript{23} This terminology (frequently employed by Reich in descriptions of his music) is important as it potentially links the technique to the composer’s interest in non-Western music. Sumanth Gopinath suggests that Reich’s use of the term likely derives from a partial adoption of A. M. Jones’s work \textit{Studies in African Music}. Jones used the term ‘resultant patterns’ to indicate a composite of interlocked lines in a discussion of two clappers performing a closely staggered rhythm, stating that ‘what the second clapper is really thinking about and mentally producing is the resultant pattern emerging from the combination of the claps.’ This, as Gopinath argues, does not indicate the extraction of an additional line from that composite that Reich’s use of the term does. See Sumanth Gopinath, “Contraband Children: The Politics of Race and Liberation in the Music of Steve Reich,” (PhD diss., Yale University, 2005), 247; and A. M. Jones, \textit{Studies in African Music} – Volume I (Oxford: Oxford University Press, 1959), 26.

\textsuperscript{24} Duker, “‘Pointing Out’ the Role of the Listener in Reich’s \textit{Drumming},” 171.

\textsuperscript{25} Duker, “‘Pointing Out’ the Role of the Listener in Reich’s \textit{Drumming},” 174.

an empirical study of perception for *Piano Phase*, *Music for 18 Musicians*, and *Tehillim*. Like Duker she highlights the permeable experience for Reich’s audience finding that ‘the listener is empowered to choose a tonal center from among several possibilities, and to change tonal centers from one listening to the next.’

Ronald Woodley teases out the concept of canon in Reich’s oeuvre, touching on works as diverse as *Four Organs* and *New York Counterpoint*, but focusing primarily on *Proverb*, in his article ‘Steve Reich’s *Proverb*, Canon, and a Little Wittgenstein.’ Woodley notes that two procedures are actually at play in the canons of *Proverb*:

> [T]he multiple canons that form virtually the whole substance of the work are themselves treated as augmentation canons. Furthermore, the two processes seem to operate in an almost symbiotic relationship: just as the unison canonic juxtapositions act to anatomize the basic material by exposing the complexities of its internal micro-structures, so the augmentational expansions allow us the time and space to contemplate these microstructures – especially the various realizations of their harmonic potential – more profoundly.

These concerns with augmentation canons also resonate with the work of Jedlička on Reich’s more recent composition *Double Sextet*. However, unlike Woodley, Jedlička explores augmentation in order to establish ‘how Reich might determine the length of each note value and how he might develop the process by ear, attempting to systematize an allegedly intuitive process.’

Francis Kumor finds that parallels can be drawn between rhythm and pitch concepts, describing Reich’s concept of phasing as letting ‘the same rhythm, the tonic rhythm, be layered over other inversions of the tonic rhythm.’ As part of the development of an analytical tool to comprehend periodic rhythmic structure in twentieth-century music, David Isgitt removes the musical pattern from traditional notation in order to demonstrate the hypermetrical pattern. Isgitt asserts that:

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Reich’s music, with its repetitions and gradual changes, is really an extended aural moment in which the listener is given the chance to inspect every niche of the musical object, much like an observer of an almost imperceptibly rotating sculpture can grasp every detail with ultimate clarity.31

On the other hand, Gretchen Horlacher’s approach to the multiple meters and metrical processes in Reich’s music is dependent entirely upon the work being examined. Horlacher notes that the metrical processes in Reich’s compositions continue beyond his Phase pieces, especially in works like The Desert Music.32 In comparison with Roeder, Horlacher finds that both Roeder and herself ‘emphasize Reich’s coordination of metrical and formal process.’ Where ‘Roeder derives possible meters from the quantification of various sorts of accents, which in turn define beat-class tonics and modes,’ she conceives of meter as more fluid and accordingly focuses ‘on processes of metrical emergence, overdetermination (“multiple meter”), and dissolution.’33 Horlacher’s analysis is based on the previous analyses of meter in common practice music, including the work of Harald Krebs, Fred Lerdahl, and Ray Jackendoff.34 Through her analysis, Horlacher demonstrates that Reich’s music relies ‘on metrical process for formal definition’ in both The Desert Music and the earlier Piano Phase.35

Shifting to an analytical approach undertaken on work on a composer closely related to Reich, Catherine Pellegrino’s 1999 doctoral dissertation uses John Adams’ music as a case study and places it in the context of postmodern aesthetics, claiming that ‘evidently, for all the minimalists’ statements to the contrary, formalist analysis is applicable to their works, even if its underlying principles contradict those of minimalism.’36 Chia-Ying Wu’s uses formalist analysis in his thesis, blending musical analytical styles; he eventually adapts Schenkerian techniques to discuss Glass’ Glassworks and confirms Pellegrino’s statement.37 Tension as to the suitability of such

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33 Horlacher, “Multiple Meters and Metrical Processes,” 266.
formalist analyses for dealing with minimalist music is found at the turn of the twenty-first century, with Robert Fink (after undertaking a Schenkerian-inspired analysis of Reich’s Piano Phase) claiming that ‘[t]he problem is not really that Schenkerian tools don’t work here; it is that they can’t work here, because there is no work to be done.’ Therefore the problem is not actually whether or not Schenkerian formalist analyses can be completed – clearly they can – but, as Fink points out with his analysis of Piano Phase, the Schenkerian hierarchy of foreground, middle ground, and background becomes degraded in minimalist music as it is the foreground surface rather than the background which holds the music together. This ‘pushes the theorist of Western art-music to consider, perhaps for the first time, the implications of using simply repetition to create large-scale tonal connections without structural levels.’ Fink goes on to question the underlying societal motivations that value the gradated order, asking whether it is large-scale prolongation or hierarchy that is traditionally guaranteed by the other, concluding that

[t]here are critics and composers who act as if the obvious sensuous pleasure that listeners get from minimal music were some kind of Marcusian “repressive desublimation.” But listening to two-dimensional music doesn’t necessarily make you a One Dimensional Man – unless, that it, you expect the (deep) music you value to mirror – and thus reinforce – your very sense of self (depth). Therefore although formalist analyses might work in some minimalist music, the outcome of such analyses is not the traditionally expected consequence.

Dan Warburton, in 1988, worked towards creating a standardised terminology for minimalist musical analysis. A later attempt at a standardisation of terminology can be found in Rebecca Leydon’s article ‘Towards a Typology of Minimalist Tropes’ from 2002, which offers a preliminary typology of musematic repetition tropes. Through the development and implementation of this system of classification, Leydon attempts to explain the intended and experiential effects of repetitive musical fragments. Her system

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has been further extended by Rebecca Doran Eaton, Pwyll ap Siôn, Sean Atkinson, and Tristian Evans, and has often been used in multimedia analysis.

Evans’ studies have engaged in multimedia works by Reich and Glass, among other composers, in an effort to create a codified approach to minimalist music’s use with multimedia projects. Building upon Leydon’s categorisations and definitions of minimalist tropes and Nicholas Cook’s concept of ‘enabling similarity,’ Eaton undertakes analyses of ten film scores that exercise minimalist qualities. However, as Reich is not as involved in film composition as other composers such as Glass, his compositions play a limited role in Eaton’s work. Like Eaton, Atkinson deals with the film work of Glass in his dissertation, though Atkinson also utilises Reich’s video opera *Three Tales* as an example. More recently, Atkinson has linked Reich’s works *Tehillim* and *Three Tales* through their use of canons and augmentation, while simultaneously engaging in contour analysis and an integrated multimedia analysis.

These analytical models all seek to illuminate an aspect of how Reich’s music functions. The seeming perfection of the theoretical model proposed by Pellegrino and questioned by Fink, used in conjunction with the music score has been noted by Quinn, who questions the validity of analysis as a method of increasing understanding of such music:

> Did my possession of an analytical hammer cause my problem to look like a nail, when it was in fact a screw, or a ball bearing? That did not seem like an accurate diagnosis. Upon reflection, it became clear that while my tools were in face right for the job, what I was doing was no more interesting than the act of hammering nails into the wall for its own sake.

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45 Rebecca Doran Eaton, “Unheard Minimalisms: The Functions of the Minimalist Technique in Film Scores,” (PhD diss., University of Texas, 2008).


Following Quinn, the act of analysis then necessarily needs to go beyond a surface correspondence, which can be understood without the analytical model. It needs to quantify the previously indescribable similarities of the musics. As John Rahn has maintained ‘the music theorist should give primary attention not to the beauty of the theory, nor to the beauty of the model of music within the theory, but to the beauty of the music as modeled in the theory.’\(^{49}\) In other words, the musicologist always needs to bear in mind the question of how the music works so we will later be able to ask successively what the music means.

**Analyses of the Counterpoints**

Currently four main theoretical analyses of the Counterpoints, either individually or as a whole, have been completed. This section will treat each analysis in turn, linking the findings with one another where appropriate in order to form a more complete picture of the Counterpoints. After the summarisation of theoretical treatments of the works as a basis, an analysis of the immanent structure of the third movement of *Vermont Counterpoint*, the first movement of *New York Counterpoint*, *Electric Counterpoint*’s first movement, and *Cello Counterpoint*’s second movement will be undertaken to illustrate how each work functions. The earliest of the published material is an article by Schwarz from 1990 in *American Music*, followed by a formalist analysis by Roeder in *Music Theory Spectrum* from 2003. Subsequent to this article is Kaefer’s DMA dissertation from 2006 and Dudley’s MA thesis from 2008. These analyses fall into two main varieties: first, Schwarz and Kaefer’s, which look at formal structure, harmonic processes, and contrapuntal processes; and, secondly, Roeder and Dudley’s, which explore beat class sets.

In ‘Process vs. Intuition in the Recent Works of Steve Reich and John Adams,’ Schwarz uses analysis to come to terms with an expansion of timbral, harmonic and melodic resources in Reich’s 1980 compositions.\(^{50}\) Schwarz draws examples from *The Desert Music*, *Sextet*, and *New York Counterpoint*, relating Reich’s music to that of Adams. In this analysis, Schwarz alludes to similarities between the formal structures of *New York Counterpoint* and *The Desert Music* before more thoroughly investigating *New York*’s resulting patterns. Providing an example of five of the resulting patterns (live clarinet rehearsals 36, 38, 39, 40, and 41), Schwarz goes on to explain how Reich’s


intuition is intimately bound to contrapuntal process. According to Schwarz, the resulting patterns are derived from a conglomerate line of all the canonic parts. Once the lines have been compressed to a single line, Reich listens and notates musical lines as he hears them. The source of the resulting lines is therefore canons, yet their actual construction is intuitive. It is the integration of intuition into a process-informed compositional practice that Schwarz finds the crux of Reich’s musical aesthetic to be:

On the one hand, the strictness of canons makes them ideal musical processes: they “work themselves out” in an impersonal manner predetermined by their pitch material and rhythmic profile. On the other hand, in the actual choice of distance between entries, in the adjustments made for harmonic clarity, and in the prominence of non-canonic resulting patterns, intuition plays an increasingly larger role.

Schwarz does not deal explicitly with the rest of the 1980 Counterpoints (Cello Counterpoint had not yet been composed) in his article, but Vermont and Electric Counterpoints can be understood in a similar vein.

Kaefer’s evaluation of the Counterpoints is the only other analysis that includes all four Counterpoints. His analysis focuses on similarities in structural design, summarised and tabulated in Table 2.1.

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52 Schwarz, “Process vs. Intuition”, 256.
<table>
<thead>
<tr>
<th>Work</th>
<th>Movement</th>
<th>Section</th>
<th>Tempo</th>
<th>Key Center</th>
<th>Rehearsal #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vermont</td>
<td>I</td>
<td>A</td>
<td>Quaver = 232</td>
<td>d</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>A1</td>
<td>Quaver = 232</td>
<td>e</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>B</td>
<td>Quaver = 155</td>
<td>d</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>A2</td>
<td>Quaver = 232</td>
<td>D (dorian)</td>
<td>71</td>
</tr>
<tr>
<td>New York</td>
<td>I</td>
<td>A A1</td>
<td>Crotchet = 184</td>
<td>Gb eb</td>
<td>1 8</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>B</td>
<td>Crotchet = 92</td>
<td>f#</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>A2 coda</td>
<td>Crotchet = 184</td>
<td>Gb-f# f#</td>
<td>61 87</td>
</tr>
<tr>
<td>Electric</td>
<td>I</td>
<td>A A1</td>
<td>Crotchet = 192</td>
<td>e-Eb e</td>
<td>1 10</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>B</td>
<td>Crotchet = 96</td>
<td>f#</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>A2 coda</td>
<td>Crotchet = 192</td>
<td>G-c G-c</td>
<td>70 109</td>
</tr>
<tr>
<td>Cello</td>
<td>I</td>
<td>A</td>
<td>Crotchet = 160</td>
<td>c-Eb</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>B</td>
<td>Crotchet = 80</td>
<td>eb</td>
<td>287</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>A1 coda</td>
<td>Crotchet = 160</td>
<td>c-Eb c</td>
<td>353 561</td>
</tr>
</tbody>
</table>

Table 2.1. Structural divisions of Steve Reich’s Counterpoints according to John Kaefer.\(^53\)

As is evidenced in Table 2.1, Kaefer believes the Counterpoints to be extremely similar structurally. This fits with Schwarz’s assessment that Reich claims that ‘ABA really sets it all up.’\(^54\) According to Kaefer, *New York*, *Electric*, and *Cello* can all be formally reduced to:

Movement: I       II       III  
Section: A       A1      B       A2 coda

*Vermont* includes all these parts other than a coda, and Kaefer lists section A2 as its own movement. Both Kaefer and Schwarz come to the conclusion that, in Reich’s 1980 works, he favours intuition over process, but as Schwarz notes, it is an intuition that is bound intrinsically to compositional process.

Roeder’s formalist analysis also focuses on *New York Counterpoint* as an exemplar of Reich’s post-process music. Beginning with an analysis of *Six Pianos* before moving on to *New York Counterpoint* and *The Four Sections*, Roeder deals with layers of emphasis.

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\(^{53}\) Derived from Examples 3-1, 3-3, and 3-5 in John Kaefer, “‘Reich Counterpoint’: Steve Reich, Minimalism, and Music Before 1750,” (DMA diss., The Juilliard School, 2006), 46–7 and 49.

\(^{54}\) This quote is taken from an interview conducted by Schwarz with Reich on 27 February 1987, quoted in Schwarz, “Process vs. Intuition”, 247.
that are implied by the pitch-classes, pulse, and competing downbeats of the melodic pattern. Building on his analysis of *Six Pianos*, Roeder questions aspects of what he refers to as Reich’s ‘post-phase music’:

> What function do these patterns play in the more variegated textural and harmonic designs? What motivates the particular choices of pitch-transposition and beat-class transpositions, or, more generally, how are tonal and metric processes coordinated?\(^55\)

Over the course of his analysis, Roeder finds that by examining the ‘accentual properties of the patterns and of their combinations, and by modeling them appropriately’ he is able to address some of these concerns.\(^56\) He notes that there is a gradual constitution of the beat-class tonic and mode over the course of the piece – from this the beat-class tonic can undergo modulation. Roeder explains that slight variations in the patterns are to be understood as ‘part of the modulatory process, when combinations of exact beat-class transpositions do not provide the clarity of mode and tonic required for these large formal processes’\(^57\) a nod, perhaps, to the role of intuition in Reich’s compositional process as described earlier by Schwarz.

A brief analysis of *New York Counterpoint* is offered as a comparative composition in Woodley’s discussion of *Proverb*. Noting that Reich has refined his use of counterpoint between the composition of *Octet* (dating from six years prior) and *New York Counterpoint*, Woodley highlights a five-scale degree descent from C# to F# in the upper voice across the first two movements of *New York’s* three-movement form.\(^58\) This descent recurs in the beginning of *New York’s* final movement and is confirmed at rehearsal 90. Woodley also reads the modes (rather than Kaefer’s ‘key centers’) functioning in *New York Counterpoint* as follows:

- Movement I: Ab/G# Dorian
- Movement II: B Dorian
- Movement III: F# Dorian/min\(^59\)

\(^{58}\) Woodley, “Steve Reich’s *Proverb*, Canon, and a Little Wittgenstein,” 470.
\(^{59}\) Woodley, “Steve Reich’s *Proverb*, Canon, and a Little Wittgenstein,” 471.
The harmonic/contrapuntal framework devised by Woodley also emphasises an exact axial inversion about C#, further confirming the ‘structurally taut’ nature of *New York Counterpoint*.60

The most comprehensive formal analysis of the Counterpoints to date is Mathew Dudley’s 2008 Masters thesis, although *Cello Counterpoint* is not included in this study. Dudley’s analysis concentrates on ‘the temporal aspects of canonic transposition employed in each composition’61 finding no correlation between Reich’s esthetic decisions and a strict syntax of transpositions. Dudley, does however note that ‘some patterns become apparent and imply a preference for certain levels of temporal transpositions.’62

Dudley’s analysis (summarised in Table 2.2) is limited to the metrical transposition of the Counterpoints’ patterns and does not include a discussion of functioning harmonies, tonics, or modes. The beat-class sets that Dudley derives are from the patterns’ unarticulated beat classes,63 unlike Roeder, whose beat-classes are derived from a composite of accent types layered on the musical pattern.64

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<table>
<thead>
<tr>
<th>Work</th>
<th>Movement</th>
<th>Beat Class</th>
<th>Transposition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vermont</strong></td>
<td>I</td>
<td>[3, 5, 6, 8, 11, 23]</td>
<td>{T3} and {T6}</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>[5, 6, 8, 9, 11, 17]</td>
<td>{T3} and {T6}</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>[8, 9, 11, 13, 20]</td>
<td>{T5} and {T10}</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>[6, 7, 11, 12, 14, 21]</td>
<td>{T3} and {T6}</td>
</tr>
<tr>
<td><strong>New York</strong></td>
<td>I</td>
<td>[1, 2, 3, 6, 8, 10]</td>
<td>{T5} and {T8}</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>[1, 2, 3, 7, 8, 9, 11, 12, 13, 17, 18, 19, 21]</td>
<td>{T2} and {T4}</td>
</tr>
<tr>
<td></td>
<td>III Zones I and III</td>
<td>[1, 3, 6, 8, 10, 13, 14, 15, 18, 20, 23]</td>
<td>{T2}</td>
</tr>
<tr>
<td></td>
<td>Zones II and IV</td>
<td>[1, 3, 6, 8, 10, 13, 14, 15, 18, 20, 23]</td>
<td>{T3}</td>
</tr>
<tr>
<td><strong>Electric</strong></td>
<td>I</td>
<td>[5, 10, 13]</td>
<td>{T-4}</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>[5, 6, 8]</td>
<td>{T2} and {T-1}</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>[2, 4, 7, 11]</td>
<td>{T2} and {T-3}</td>
</tr>
</tbody>
</table>

Table 2.2. Beat class sets and transpositions for Steve Reich’s 1980s Counterpoints according to Mathew Dudley.  

Dudley finds that the interior movements of the Counterpoints are distinct from the outer movements, beyond their being typically being slower in tempo (see Table 2.1 for a delineation of tempo and movement). For Dudley, the middle movements possess unique transpositions, as can be seen in Table 2.2. Movement III of Vermont employs transpositions of \{T5\} and \{T10\} whereas the rest of the work uses transpositions of \{T3\} and \{T6\}. Likewise, Electric’s second movement utilizes \{T-1\} and \{T2\} over a 19 beat-class metrical cycle. Neither of these movements promotes a compound or simple meter, but rather ‘are dissonant to the notated meter’. Dudley’s middle movement hypothesis does not, however, include New York Counterpoint, as the \{T2\} and \{T4\} transpositions in its second movement are consonant with the notated meter. The conclusion that Dudley draws from his results is that the final movements of all the 1980 Counterpoints are constructed to present metrical dissonance, whereas the other movements are more intuitively composed. He speculates that in Cello Counterpoint, theorists will ‘find a continuation of the transpositional techniques used in the first three compositions of the series’ and anticipates that ‘the findings in an analysis of Cello will show the most

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65 Derived from Tables 1-3, 5-8, 10-12 and 15 in Dudley, “Metrical Ambiguity, Dissonance, and Consonance,” 10, 14, 15, 18, 20, 22, 25, 27, 29, and 34.

66 Dudley, “Metrical Ambiguity, Dissonance, and Consonance,” 34.

67 Dudley, “Metrical Ambiguity, Dissonance, and Consonance,” 34.
diversity in the series because Reich has had more time to develop as a composer than he did between any of the other Counterpoint compositions.\textsuperscript{68}

**Rhythmic Construction**

Although not formally a branch of analytical thought in secondary literature the study of the technique of ‘rhythmic construction’ can be considered to deal with the musical building blocks of Reich’s melodic language. As it concerns a basic compositional technique of Reich it therefore bears the most commonalities with Nattiez’s neutral-level hence its inclusion here. Rhythmic construction as coined by Schwarz in ‘Process vs. Intuition in the Works of Steve Reich and John Adams’\textsuperscript{69} is the process of gradually substituting ‘notes for rests – sound for silence – until a canon is constructed’\textsuperscript{70} a technique that appears in all the 1980s Counterpoints. The technique of rhythmic construction, as illustrated in Figure 2.1, does not actually construct a canon as Reich stated, rather it fills in a melodic pattern.\textsuperscript{71} Beginning with an incomplete version of the pattern in rehearsal 2, at the end of rehearsal 3 Reich includes the G dotted quaver labelled under the bracket ‘a’, and finally completes the pattern with the subsequent addition of the three semiquavers labelled under the bracket ‘b’ in rehearsal 4.

\textsuperscript{68} Dudley, “Metrical Ambiguity, Dissonance, and Consonance,” 35.

\textsuperscript{69} Schwarz, “Process vs. Intuition,” 251.

\textsuperscript{70} Steve Reich, “Texture–Space–Survival,” *Perspectives of New Music* 26, no. 2 (1988), 273.

\textsuperscript{71} In Joseph Auner’s excellent discussion of minimalism a reader may implicitly conflate the concept of phase-shifting with rhythmic construction. Ending the section on phase-shifting Auner references ‘a slightly more complicated process’ which is heard in the example he provides from *Music for Mallet Instruments, Voices, and Organ*. This process is in fact rhythmic construction, and should be understood as distinct from phase-shifting which no longer appears in any of Reich’s catalogued works after 1971. See Joseph Auner, “Minimalism and Its Repercussions,” in *Music in the Twentieth and Twenty-First Centuries* (New York: Norton, 2013), 286.
This process occurs in the first movements of all the 1980s Counterpoints and will be explored chronologically through those works here. Rather than examining the construction of each melodic pattern in musical notation as in Figure 2.1 this analysis will deal with abstractions that identify the pattern as a sequence of sounding or non-sounding beats. As such each movement’s analysis will be represented by a figure that focuses only on the particulars of rhythmic construction in the first movement’s live instrumental part of *Vermont, New York* and *Electric Counterpoints* respectively. In those figures the number that appears in the cell at the intersection of the beat column and the rehearsal row indicates the stage (measured in rehearsal numbers) in which that component of the melodic pattern is first heard. A dash in a cell indicates a continuation of the previous semiquaver note, and a black block indicates a rest in the melodic pattern.

*Vermont Counterpoint*’s first movement consists of a whole melodic pattern not presented in the live line until the rehearsal 16, as shown in Figure 2.2 the melodic pattern initially being constructed is only the first measure of the full pattern.

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* Figure 2.1. Rhythmic construction of initial motivic cell in ‘Live Flute’ line, rehearsals 2–4 of Steve Reich, *Vermont Counterpoint.*

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* Annotations of the score by the author, music notation from Steve Reich, Live Flute line, rehearsal 2–4, *Vermont Counterpoint* (U.S.A.: Hendon Music/Boosey & Hawkes, 1982).
This single measure of music corresponds to the rhythmic construction shown in music notation in Figure 2.1. Note that in Figure 2.2 all the patterns have been aligned to start on beat 0 in my nomenclature in order to aid comparison, while the reality of the heard music is that the pattern in rehearsal 2 begins on beat 9; at rehearsal 6 it begins at beat 6, rehearsal 14 beat 0 and rehearsal 18 at beat 21 (these different starting points are labelled in Appendix II). In Figure 2.2 each beat of the melodic pattern is accounted for across the top row while each episode of rhythmic construction is listed on the left-hand side by rehearsal grouping. Therefore by reading Figure 2.2 it is possible to see that in the second episode of rhythmic construction (rehearsals 6 through 9), beat 4 of the melodic pattern appears for the first time in the third stage of the episode (rehearsal 8). A thorough examination of Figure 2.2 will also reveal that rehearsals such as 5, 10, 11–13, and 17 are not accounted for. This is because either there is no music for the live performer as in rehearsals 11–13 or because the rehearsal reiterates the full musical pattern and is actually crossfading into a taped line as is the case with rehearsals 5, 10 and 17.

A comparison of the unveiling of the full melodic pattern as in rehearsals 14–16 and 18–20 shows that Reich made only minor changes in the process of rhythmic construction on beats 1 and 12. This is not the case in the initial moments of Vermont’s live line rhythmic construction during which only beats 9 and 10 consistently occur at the same in each episode of construction.

The sequence of rhythmic construction within New York is not as varied as that found in Vermont Counterpoint. While none of the rhythmic construction sequences in the first counterpoint were repeated, in the first movement of New York Counterpoint two of the episodes of rhythmic construction in (rehearsals 15–17 and 31–33) unveil the pattern in the same order; see highlighted rows in Figure 2.3.
Outside of the duplication of the sequence of rhythmic construction, Reich varied beats 0, 5 and 9–10. Although hidden in the middle of the pattern beat 5 is arguably the most distinct in terms of variety of appearance in the pattern’s sequence, as otherwise episodes 20–22 and 26–28 would be identical sequences.

Examining the particulars of Reich’s deployment of rhythmic construction with the basic pattern of Electric Counterpoint requires a slightly more detailed version of the sequence of auditory events found in each of the episodes. In Figure 2.4 some cells include an ‘a’ or ‘b’ rather than a numerical value this is because the first rehearsal number in these instances actually included two iterations of the pattern and each iteration incorporated a new part of the pattern. The ‘a’ stands for the first pattern in the rehearsal number and the ‘b’ for the second pattern, so an expanded version of rehearsals 11–13 in Figure 2.4 would appear as Figure 2.5.

Figure 2.3. Steve Reich, New York Counterpoint movement 1 rhythmic construction in Live Clarinet between rehearsals 9 and 33.
Of great interest in Figure 2.4 are the sections shaded grey (Rehearsals 15–16, 22–23, 29–30), as they represent the duplication of a sequence of rhythmic construction. The musical material for the basic pattern of *Electric Counterpoint* (Figure 2.16) can be divided into two main gestures: a repeated quaver, or a falling motive that spans at most a minor third in consecutive pitches. Those pitches unveiled first by Reich in these identical episodes are the falling motives. At the end of the final repetition of the pattern in the first rehearsal of each episode (i.e. beats 30 and 31, in the second pattern of rehearsals 15, 22 and 29) Reich transitions into the second type of material by introducing the two repeated quaver pitches. This is immediately followed by the completed version of the pattern in rehearsal 16, 23 and 30 respectively, which fill in the remaining five sets of repeated quavers.

By thinking in terms of the whole pattern and not each stage of rhythmic construction as its own separate pattern the importance of the pattern for Reich is highlighted. It then becomes possible to understand Reich’s continued interest in pattern-based composition with the 1980s Counterpoints and as will become increasingly clear
through the neutral-level paradigmatic analysis that follows here, how he combined this technique with canon.

**Neutral Level Analyses**

As has been found over the course of the preceding literature review, analytical approaches to Reich’s music have become increasingly complex. Ostensibly such analyses have occurred in order to describe the musical phenomenon of a consistent aural sound in light of Reich’s claims of continuous innovation and change. This complication of contemporary analyses has been explained by Nattiez in terms of a:

- dissatisfaction engendered by the impressionistic or historicist style prevailing in analytic discourse up to the 1960s. When discourse about music came into contact with more formal disciplines such as logic, mathematics, information theory, and linguistics, its fuzziness and inaccuracy were once more called violently into question.\(^{73}\)

Nattiez goes on to define two large groupings of analyses – *nonformalized* and *formalized* – each consisting of subcategories. The analytical shift described by Nattiez circa 1960 can be seen reflected here, with *formalized* analysis becoming more prominent in recent years. The analyses presented here tend towards a *global model – formalized analysis*.\(^{74}\)

In order to provide an overview of the immanent structures of the Counterpoints, neutral level analyses of a movement of each of the Counterpoints will be supplied. For each movement the analytical method will be laid out as explicitly as possible, because as Jonathan Dunsby and Arnold Whittall have pointed out: ‘[u]nless it is known what criteria of organization are pertinent, analysis has recourse to nothing other than explicit discovery procedures, showing the many possible meanings.’\(^{75}\) The only way to achieve a meaningful or even adequate analysis is therefore to illuminate the discovery procedures prior to beginning. Nattiez confirms Dunsby and Whittall’s assessment, claiming that ‘[m]aking the basis for the analysis explicit is a fundamental criterion in this approach

\(^{73}\) Nattiez, *Music and Discourse*, 155.


[referring to a *global model – formalized analysis* approach], so *delimiting* units is always accompanied by carefully *defining* units in terms of their constituent variables.\(^7^6\)

The hypothesis of these analyses is that the melodic patterns found in the Counterpoints (understanding them as an extension of the Phase pieces) are highly controlled in terms of variation of musical materials – the greater the limitations on the material, the more control is assigned to the compositional process. In order to evaluate this hypothesis, the analyses presented here will be concerned primarily with the development and distribution of rhythmic patterns (largely discounting concerns of pitch) in a two-fold manner:

I. By identifying patterns and when they occur;

II. By examining the pattern types through paradigmatic analysis.

As the hypothesis is predicated upon some assumptions – namely that Reich employed an analytical procedure and repetitive melodic patterns – the resulting analyses may not be considered by all to be truly “neutral.” The analyst, as Dunsby and Whittall has said:

> is required to suspend intuition in those aspects of the inquiry where descriptive adequacy is the goal. It is as if everything the musician instinctively “knows” or “feels” about the music counts for nothing ... Semioticians believe that, in the spirit of a genuinely receptive artistic sensibility, we should be able to treat our own culture as if it were an ethnomusicological experience.\(^7^7\)

Therefore a culturally external observer engaged in an ethnomusicological project would not have to have an instinct principle suppressed, and thus would be able to work in a detached and almost clinical manner. In order to combat the tendencies of “knowing” or “feeling” that Dunsby and Whittall claim semioticians should suspend, one might conclude that the impetus behind the two-fold analysis of pattern occurrence and subsequent paradigmatic analysis of patterns is drawn from an initial personal aural identification of the existence of repetitive musical segments, and Roeder’s questions about Reich’s recent compositional techniques.\(^7^8\)

\(^{76}\) Nattiez, *Music and Discourse*, 164.


**Vermont Counterpoint Movement III**

*Vermont Counterpoint* consists of four movements performed *attacca*; however the third movement is aurally identifiable as it is the only section in the work which is performed at quaver equals 155 rather than quaver equals 232. As with the other movements in *Vermont*, movement III consists of almost entirely of discrete musical patterns placed in canon with themselves.

**(I) Identification of Pattern Occurrences**

Movement 3 of *Vermont Counterpoint* features three main patterns in the tape chorus part with an additional two patterns appearing in the solo (both live and tape) lines. These melodic relationships are illustrated in a simplified format in Figure 2.6, while Appendix I includes detailed charts accounting for all the occurrences of patterns in the work.

![Figure 2.6. Occurrences of melodic patterns in Steve Reich, *Vermont Counterpoint* movement 3.](image)

The three patterns that predominate in movement 3 are listed as H, I, and J in Appendix II. These pattern designations were assigned in alphabetical order of appearance in the work,
beginning with Pattern A in movement 1. As noted in Appendix II, Patterns H, I, and J are bracketed together to indicate that their rhythmic profile is identical, while the melodic contour may be significantly divergent. Pattern I is found in Flutes 1–3, beginning immediately as a trio canon, while both Patterns H and J are built up into the trio canon (although Pattern H, like Pattern I, begins immediately). Patterns K and L (see Appendix II) both appear in the solo lines nearer to the end of the movement than the beginning. Pattern K has a very similar rhythmic profile to the H, I, J set, whereas Pattern L differs more substantially. In a reading of the whole work, Pattern L and the associated set of rhythmic profiles becomes central to the final movement, so its appearance in movement 3 could be considered as a preparation to movement 4. It should also be noted that all of the *Vermont Counterpoint* patterns as listed in Appendix II have been standardized so the fact that the pattern begins on beat 0, 19 or 14 of the 24 semiquaver beat pattern, as indicated in Figure 2.6 with H0, H19, H14 etc., is not considered significant here.

The patterns are all two measures in length and typically occur within the span of a single rehearsal number. They were identified by the small-scale repetition that is called for during the majority of rehearsal numbers in movement 3 (only six of fifteen rehearsals in movement 3 did not have the indicated internal repetition).

(II) Paradigmatic Analysis of Melodic Pattern

Patterns H, I, and J are the functional patterns in movement 3, and as they are rhythmically identical (see Figure 2.7 for the patterns without bar lines) they will be segmented according to rhythm.

![Figure 2.7. Pattern H, I, and J in Steve Reich, *Vermont Counterpoint* movement 3.](image-url)
There are a few options for dividing the rhythm of Pattern H, I, and J. The running semiquavers could be considered one section, with another segment articulated with the dotted crotchet value; this section could end with that value, or could be continued through the semiquaver alternation of note-rest-note-rest, before yet another stream of running semiquavers continues, up to a small codetta of three semiquavers which ends the melodic pattern. Such a reading however breaks the material down into microscopic sections that does not provide for useful comparisons to take place. A more fruitful segmentation is that found in Figure 2.8.

Figure 2.8. Paradigmatic segmentation of the rhythm for Patterns H, I, and J of Steve Reich, Vermont Counterpoint movement 3.

The beginning of A" could be argued for as beginning on the semiquaver rest directly preceding what is listed in Figure 2.8 as the three varieties of the pattern begin on A (position 0), A' (position 14), and if A" was listed as beginning on the semiquaver rest A" (position 19). This reading however does not make sense when the cyclic nature of the pattern is considered and A" loops back to A. What Figure 2.8 demonstrates is how segment B is the overtly unique portion of the patterns with the aural hallmark for the pattern recurring being the dotted crotchet value followed by the semiquaver alternation of note-rest, while all the variations of segment A provide a running semiquaver stream against which segment B can be heard.

New York Counterpoint Movement I

New York Counterpoint’s first movement has an easily audible three-part form. Beginning with a wall of pulsing quavers that fades into focus from silence, the insistent quaver repetitions gradually shift through clouds of harmonies. In rehearsal 7 these quaver pulses are traded for a short melodic figure, which occurs in a variety of canons – much like the melodic treatment found in Vermont Counterpoint, before the pulsing quavers return in rehearsal 37, joining the melodic figure until the movement’s conclusion in rehearsal 43. The entire movement is in 4-flats (the score is written in B-flat).
(I) Identification of Pattern Occurrences

Of the three sections described above, this analysis will focus on the second section, where two variations of the melodic figure are treated in canon, between rehearsals 7 and 35, as shown in abstraction in Figure 2.9.

Although Figure 2.9 lists two main patterns (α and β) in fact they share a common rhythmic pattern, which is a single measure in length, and was identified by repetition (see Figure 2.10).

What is noticeable in Figure 2.9 is the apparent inconsistency of canon entries; however, when the three Pattern α and the three Pattern β are considered as single units, the canon entries of 6-5-5 emerge. So although it is not an equally spaced canon it is consistent between the two pattern types.
II Paradigmatic Analysis of Melodic Pattern

As indicated in Figure 2.9 two patterns can be considered to be functioning in the second section of New York Counterpoint’s first movement. Pattern α occurs in three variations (see Figure 2.11).

![Figure 2.11. Pattern α in Steve Reich, New York Counterpoint movement 1, section two.](image)

The bracketed pitches of G, C and F remain the same in all versions of Pattern α, however the E-flat, B-flat and A-flat appear in different positions, the pitch behind the α indication in Figure 2.4 notates which pitch occurs on the held note (Figure 2.9 does not account for what beat of the pattern the canon starts on, and standardises all the patterns to begin on the longest note). The rotating pitches of E-flat, B-flat and A-flat occur in that order (cyclically) in all versions of the pattern. Pattern β is less systematic than Pattern α, and only two pitches remain constant through out the variations of the pattern, as shown in Figure 2.12.

![Figure 2.12. Variations of Pattern β in Steve Reich, New York Counterpoint movement 1, section two.](image)

As can be seen in Figure 2.12 only the E-flat and A-flat recur in the same position, and G and F occur at some other point in all the patterns. There is pitch variation from the first instance including D and C, the second F and B-flat and the final version a second F and a
C. A paradigmatic segmentation of Pattern $\alpha$ and Pattern $\beta$ should focus on the relationship of the unchanging pitches to the changing pitches, and as such appear as in Figure 2.13.

![Figure 2.13. Paradigmatic segmentation of rhythmic pattern in Steve Reich, New York Counterpoint movement 1, section two.](image)

This segmentation allows for both Pattern $\alpha$ and $\beta$ to be explained with one pattern. For example Pattern $\alpha$-B flat can be expressed as:

Pattern $\alpha$-B flat: $A + B + C + D$ where $A$ equals ‘B-flat’

Likewise Pattern $\beta$-C would be:

Pattern $\beta$-C: $A + B + C' + D'$ where $A$ equals ‘C’

The benefit of such an analysis is that it highlights some of the small-scale intricacies of the patterns employed in this Counterpoint. As in Vermont Counterpoint, the melodic pattern of New York Counterpoint can be reduced to a repetitive rhythm. This would provide the sensation that repetition was occurring without strict repetition actually taking place.

**Electric Counterpoint Movement I**

Like New York Counterpoint, the first of Electric Counterpoint’s three movements has an easily audible three-part form. Beginning with repetitive pulsing quavers (hereafter section A), the movement intensifies with a modulation that is quickly released with a return to the original key signature of $I$-sharp. The pulsing quavers give way seamlessly to a bustling melodic section (section B), where melodic lines build up against one another in canon. At the point of melodic saturation the third section (section C) begins with the re-entry of the pulses in the base line. Once joined, the A and B sections undergo the same tonal bending as the pulses of section A, from $I$-sharp to 3-flats (see Figure 2.14).
After the release of the modulatory tension, internal melodic transpositions provide the dramatic development of the first movement. Just as the overall form of *Electric Counterpoint* is carefully constructed, shifting only at moments of sonic saturation, each of the three sections and the two textures bear similar hallmarks of diligent compositional construction.

**I) Identification of Pattern Occurrences**

The melodic patterns found in section B (see Figure 2.15) were identified by rhythmic repetition and melodic contour, but not necessarily exact transposition (although the transpositions of the patterns are noted).

*Figure 2.15. Occurrences of melodic patterns in Steve Reich, *Electric Counterpoint* movement 1, section B.*
Figure 2.15 demonstrates that the patterns occur as part of a canonic build-up viewed linearly by each guitar line. The two patterns Pattern 1 (hereafter P1) and Pattern 2 (as P2) appear to be linked by transpositions, with Guitars 1–2, 3–4, and 6–7 conforming to the pairing ideal. Furthermore, the Live Guitar line ostensibly introduces the canonic entry in the tape part (Guitars 1–8), and Reich dovetails the live and tape guitarists to create a seamless sonic phrase.

Section B of Electric Counterpoint movement 1 is based entirely on the two patterns, both of which are four bars in length in 4/4 time, see Figure 2.16 for P1 shown without bar lines.

Figure 2.16. Pattern 1 in Steve Reich, Electric Counterpoint movement 1.  

There is an inherently repetitious quality to P1 as will be illuminated in the following paradigmatic analysis. Furthermore the paradigmatic analysis of P1 will allow for a discussion of P2 (as a permutation of P1) to occur.

(II) Paradigmatic Analysis of Melodic Pattern

There are a few possibilities for segmenting P1. Dividing P1 according to the articulation of motive following a rest would result in seven rather disparate chunks of music, ranging from two quavers up to seven quavers. Furthermore none of these small segments has a sonic signature to identify it as unique from the others surrounding it. However if P1 is segmented into two sections with the repeated articulation of ‘D’, the repetition of bars 1 and 3 becomes apparent. As bars 2 and 4 are both different from bars 1 and 3, segmenting P1 into four segments in accordance with the bar lines seems most prudent, see Figure 2.17.

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79 Steve Reich, Electric Counterpoint, Guitar 1, rehearsal 10–11.
80 An alternative segmentation of the Electric Counterpoint movement 1 pattern can found by focusing on the repeated ‘A’ crochets that occur at the end of each bar of the pattern, with these notes acting as an anacrusis to each pattern. In such a reading segment B would start with the upbeat to bar 2, segment A with the upbeat to bar 3, and segment C would actually be understood as segment B’. As an example of where the neutral level of analysis becomes blurred within the tripartitional model with the esthetic and poetic levels,
Figure 2.17. Paradigmatic segmentation of Pattern 1 of Steve Reich, Electric Counterpoint movement 1.

*Electric Counterpoint* movement 1, P1 can therefore be represented as:

\[ P1 = A + B + A + C \]

But this paradigmatic segmentation still does not account for P2, which is cyclically linked to P1. The main division of the melody is linked to the rhythmic profile of each bar, and the melodic materials of sections B and C can be understood as either of the two patterns – P2 is a rhythmically displaced form of P1, as seen in Figure 2.18.

Figure 2.18. The cyclical nature of measure divisions found in Pattern 1 and 2 of Steve Reich, *Electric Counterpoint* movement 1.  

The rhythmic profile of the basic pattern (P1) exhibits even more cyclical tendencies than the 4-ahead connection of P2 to P1. This is due to the derivation and subsequent transformation of the pattern described more fully in the poietic level of this thesis (see this reading has not been expanded upon here due to the derivation and development of original melodic pattern in the sketch material, as will be discussed further in Chapter 5.

81 William Fenton also employs a circular diagram in his discussion of using *Clapping Music* in a mathematics class. His diagram is not however in music notation. See William E. Fenton, “Teaching permutations through rhythm patterns,” *Journal of Mathematics and the Arts* 3, no. 3 (2009), 144.
Chapter 5 *Electric Counterpoint* Movement I. In terms of the neutral level of analysis, the four bar melodic pattern has three distinct bars (one is duplicated to equal four) and the individual measures are very similar with only light differences defining them (see Figure 2.19).

![Figure 2.19. Differences between bars in Steve Reich, *Electric Counterpoint* movement I, pattern I.](image)

In P1, bar 1a is followed by 1b. 1b is different from 1a in the second half of beat 1 and the first half of beat 2 (see Figure 2.19). Bar 1c, which occurs in the fourth position, differs from 1a in the same spots as 1b does, but is only altered from 1b in the second half of beat 1 (see Figure 2.19). When outlined, as above, the resemblance between the bars that comprise the basic pattern is remarkable. The variation that is aurally perceived is in fact not really from the pattern itself, which is fact quite basic, but from the way in which it is deployed in the music through canon.

**Cello Counterpoint Movement II**

The second movement of *Cello Counterpoint* is very similar to the first movement of *Electric Counterpoint* in that it is also a canon accompanied by chords. However, *Cello Counterpoint*’s chords, unlike *Electric*’s, are non-pulsing. In fact, there is no constant articulation of a quaver or semiquaver pulse in this movement of *Cello* as there is in the other Counterpoints.

**(I) Identification of Pattern Occurrences**

The length of the melodic figure used in the following analysis of *Cello Counterpoint* movement 2 was identified by simple repetition of rhythm and contour.
Additionally the seven bar segments delineated by Figure 2.20 consists of the following time signature pattern:

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The shifting metrical signature of the work further cements the segmentation of the music into the patterns distributed in Figure 2.20.

Figure 2.20 shows a graphical breakdown of movement 2. The solid grey shaded areas indicate moments of held (or virtually motionless motion) chords. A Greek (α, β, or γ) letter indicates the variety of melodic pattern, while spaces with neither marking indicates a rest. Bar 336 through 353 at the start of the third movement are a transition period from the canonic structure of the second movement to the pulsing crotchets and dotted crotchets of the third movement.

The segment beginning at measure 287 replaces the 3/4 of the first bar of the pattern with 4/4, extending the pattern by a crotchet. This extra crotchet is accounted for in Figure 2.20 by the dashed line sectioning off the initial portion of the pattern, and if the pattern is considered to begin on the second beat of the measure, there are seven renditions of the metrical cycle.

Pattern α (Pa henceforth) encompasses the entire seven bars of the time signature cycle, lasting a total of 23 crotchets, shown in Figure 2.21 without any bar lines obscuring the melodic pattern.
Pattern $\alpha$ is always presented in the rhythm given in Figure 2.21; the pitches however are not—hence the delimiting of the pattern focusing on rhythm and contour. For example, Cello 1 at bar 294 is exactly as seen in Figure 2.21, while Cello 2 is a sixth lower. Additional adjustments to the pitches are made by Reich in order to create a richer sonic tapestry.

(II) Paradigmatic Analysis of Melodic Pattern

In order to discuss *Cello Counterpoint*'s melodic patterns more fully, it is best to break $P\alpha$ into smaller segments. These segments can then be compared with Patterns $\beta$ and $\gamma$ (hereafter $P\beta$ and $P\gamma$). $P\alpha'$ is simply $P\alpha$ without the more distinctive rhythmic flourishes that characterise it.

If $P\alpha$ is divided according to the time signature cycle a “long” note articulates each segment except segment C. There is also internal correspondence within the pattern if $P\alpha$ is segmented this way (see Figure 2.22).

Segments A and A' have striking similarities that allow them to be classified as related patterns. Both begin with a minim tied to an additional beat, in A' the quaver is reduced to a semiquaver in order to accommodate the addition of another semiquaver as a lower neighbour note flourish to the two semiquavers that lead into segments B or C, depending on whether A or A' is being discussed.

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82 Steve Reich, *Cello Counterpoint*, Cello 1, bars 294–300.
The similarity of A and A' entering at such a short distance creates a situation that simulates the beginning of a canon, with A being heard as the dux and A' initially being heard as the comes. This sensation of a canon is dissolved completely by the entrance of D, which starts in a different register (and on a different pitch) than the A and A' beginnings. Further compounding the dissolution of an idea of a stretto canon is the shortness of crotchet tied to a semiquaver when compared to the minim of A and A'.

Particularly interesting is how P\(\alpha\) relates to P\(\beta\) and P\(\gamma\). Of the seven segments delineated in Figure 2.22, only A, A' and C are transformed from P\(\alpha\) to P\(\beta\) and P\(\gamma\).

P\(\beta\) is A' + B + Ax + C' + D + E + F

C' is a contraction of the end of C, reducing the minim of the middle of the segment to a crotchet, leaving that segment one crochet shorter than it was previously. The shortfall of C' is made up for in Ax, which indicates an extended version of A, as the minim found in A is tied to a crotchet, which in turn is tied to a quaver. In P\(\beta\) and P\(\gamma\) A' begins the pattern, so that:

P\(\gamma\) is A' + B + A'' + C'' + D + E + F

C'' is a further contraction of the C segment, reducing it to a dotted quaver-semiquaver-crotchet pattern, or in other words eliminating the minim of C entirely. Again the shortfall is accounted for by the preceding segment, this time named as A''. A'' is characterized by two longer pitches connected by three running semiquavers, although A'' begins on a different pitch than the other As it is related by the semiquaver flourishes that mark the endings of A, A', and Ax. Figure 2.23 compares all four forms of A.

![Segments A, A', Ax and A'' from Steve Reich, Cello Counterpoint movement 2, patterns \(\alpha\), \(\beta\) and \(\gamma\).](image-url)
The most distinct of these segments is A" that only occurs in Pγ, which itself only appears for the final of the seven repetitions of the time signature cycle (see Figure 2.20). The difference of Pγ’s A" is further obscured by its rhythmic displacement of 2, 4, and 6 crotchets behind the patterns described above. Pβ is also displaced by 2 crotchets beginning in bar 308, which intensifies the canon.

Throughout *Cello Counterpoint*’s second movement Reich continually deepens the feeling of canon, yet it is not a constant method of amplification. The false *comes*, described earlier, are mixed with the rhythmic displacements – at most two cycles of the pattern are allowed to pass before Reich introduces a canonic intensifier. This brief analysis of the second movement of *Cello Counterpoint* demonstrates a continuation of Reich’s fixation with minute changes that create interest, while simultaneously maintaining a constant sonic environment. Aurally, *Cello Counterpoint*’s second movement is heard simply as a cascading canon. Yet the basic building blocks of that canon are in fact quite sophisticatedly planned and executed, perhaps demonstrating some of the compositional growth that Dudley predicted.

* * *

Kaefer contends that although the Counterpoints ‘are comparatively small with regards to duration and overall scope ... the works not only serve as clear examples of a delicate balance between musical process and intuition, but also demonstrate the effect canon can have upon form.’ Developing this premise, Kaefer notes that the global ABA design is approached in a unique manner – and from the preceding neutral-level analysis it is evident that Reich also approached the problem of pattern construction slightly differently in each Counterpoint yet in all of them he works in a systematic yet intuitive manner. *Vermont* and *New York* share the fact that a single rhythmic profile (unique for each composition and indeed movement) claims dominance over the melodic patterns that emerge from them, even in a comparison that does not account for the fact that the movements compared do not fulfil the same functions (i.e. *Vermont*’s example is a slow movement while *New York*’s is a fast introductory one). *New York* and *Electric Counterpoint* is however a comparison of introductory movements, in that a similarity in how canons are constructed within the overall scope of the movement becomes evident. Both movements exhibit a similar plan – pulsing chords that give way to a melodic pattern,

83 Kaefer, “‘Reich Counterpoint’: Steve Reich, Minimalism, and Music Before 1750,” 46.
heard in complete form the first time – before being placed into a fragmented canon that gains notes with each revolution, much like a snowball will rapidly accumulate in size when rolled through a snow drift, followed then by the reintroduction of the pulses underneath a resilient canonic structure. The melodic patterns that Reich selects for the canons of *Electric* and *New York’s* first fast movements are however rather dissimilar to one another. Finally, *Cello Counterpoint* utilises elements of the previous Counterpoints, with the pattern being intricately designed to have inherent internal connections and with the combination of canons over a static surface – the held drones becoming like the pulses of *New York* and *Electric*.

This brief exploration of analytical techniques used to discuss and explain the music of Reich in general and the Counterpoints in particular has demonstrated how a single document, in this case the score, can be read in a number of ways and to different ends. Nattiez notes that ‘[p]assing through an analysis of the neutral level is necessary – among other reasons – because the perception of the musicologist must not be confused with the *natural* perception of listeners.’ In short, partaking in a neutral-level analysis forces the musicologist to listen in a different manner than previously. Further, Dunsby and Whittall, remind us that:

> Between these dimensions [poietic and esthetic] is a neutral level, the autonomous organization that exists in the work and of which we can never be sure to have made an exhaustive description. This is the dimension that has nothing to do with the conditions of the creation of the music and nothing to do with the choices, habits or intuitive understanding on our response to it.

Although none of these levels operates in a vacuum, understanding the uniqueness inherent in each of them is crucial to exploiting the critical framework of the tripartition to its end. The Counterpoints, as with many of Reich’s earlier compositions, are highly regulated – patterns are constructed and generally adhered to; therefore the interest of the audience is ensured by a variety of slight manipulations. These ‘adjustments’ to the music are, according to Schwarz, more intuitive than process-based, and feature prominently in the esthetic reception of the works – especially in relation to Reich’s oeuvre as a whole, and in the poietic traces to be found in Chapters 4 and 5. In Chapter 6 of this thesis, after

exploring the three levels in relation to the Counterpoints separately, a synthesised reading of them will be constructed.
CHAPTER 3

YOU JUST ARE WHO YOU ARE

Esthetic Level

The people who consciously tried to write a jazz piece ended up nowhere because that’s pretending to be what you’re not. But if you just are who you are and you grow up in a certain place, in a certain time – the music you’ve played and have listened to will naturally have its effect on you and that was my situation.¹

How Steve Reich presents himself to his audience is the first step in the reception chain. In accordance with Nattiez’s adoption of the tripartional model, the esthetic level encompasses a study of the reception compositions receive from the time of their premiere to the present day. The receiver in the esthetic dimension constructs the message’s meaning and as a result esthetic analyses are ‘heavily dependent upon the lived experience’ of that individual.²

In an effort to maintain a thorough and inclusive understanding of the composer, this chapter will investigate Reich as a media persona through a chronologically diverse, sequential selection of reviews and biographies as an examination of the sphere of influence that he has constructed. Through a chronological examination of his public biographies – from printed concert biographies to Reich’s digital branding and online presence, the method used by the composer and his public relations (PR) representatives to construct the public image of an American composer will be clarified.³


³ This could be extrapolated to issues surrounding the ability of an individual to determine the supremacy of either domestic or imported products, such as cars or beer. As a way of promoting the domestic, Reich typically brings up the influence of rock and roll and American popular culture on his music, over the influence of post-War Europe’s modernist music. In an interview with Edward Strickland, Reich said ‘Stockhausen, Berio, and Boulez were portraying in very honest terms what it was like to pick up the pieces of a bombed-out continent after World War II. But for some American in 1948 or 1958 or 1968 – in the real context of tail fins, Chuck Berry, and millions of burgers sold – to pretend that instead we’re really going to have the dark-brown Angst of Vienna is a lie, a musical lie, and I think these people are musical liars and their work isn’t worth [snaps fingers] that!’ See Edward Strickland, “Steve Reich,” in American Composers:
These documents help to build a portrait of Reich and the ways in which public perception towards his music has been transformed over the course of his career. Further, this information causes a number of questions to be asked, such as: How does Reich expect his music to be received? Perhaps it can be viewed as an extension of his person? How did his decision to compose the Counterpoints impact his status as a composer? Also, how influential were the Counterpoints in Reich’s oeuvre?

Most articles and reviews of Reich do not fail to mention him as a New Yorker, or at the very least an American. He is a homegrown success story that is not easily dismissed or forgotten by the media. Likewise, portraying a David-and-Goliath situation or a disparaging review clothed in clever quips is a certain way to sell newspapers – Reich has experienced both extremes at the hands of the media. Reich’s media sphere of influence is large in scope, including coverage in publications as diverse as the science journal *Nature* and the fashion magazine *Vogue*.4

Examples abound in print media, one such being on 28 May 1968 in the *New York Times*.5 In it Donal Henahan reviewed the previous night’s performance of Reich’s music at the Whitney Museum of American Art. The review, titled ‘Repetition, Electronically Aided, Dominates Music of Steve Reich’ begins innocuously enough, describing art as a pendulum, an obvious reference to the previous night’s programme, which included *Pendulum Music* (Four Log Drums, *Pulse Music* and *Violin Phase* were also on the programme). However, the metaphor is taken further by Henahan, who, as is the prerogative of a reviewer, begins to take the review down a more negative route, while still


employing the pendulum metaphor, concludes with the sentence: ‘It was, if you will, as much fun as watching a pendulum.’ The biting edge of this sentence is familiar to many who read or write reviews, and demonstrates that Reich has had negative experiences with the media.

In 1996 Kyle Gann in *The Village Voice* reviewed Bang-on-a-Can’s sixtieth birthday celebration for Reich. Like the Whitney’s 1968 concert the evening also included a performance of *Pendulum Music*. This time, however, the reviewer found something to fascinate him in the performance. Gann considered it to be ‘perhaps the purest process piece ever made … As the swinging microphones slowed to a gradual stop, the sound metamorphosed over three minutes from a chaos of irregular and out-of-phase chirps to an anxiously pulsating drone, whereupon Reich came back and pulled the plug.’ The same Reich work elicited an entirely different response – albeit in a new setting, new era and with a new audience – illustrating that the contents of a review are based at least as much on the reviewer’s personal opinions as the event itself.

The pendulum of criticism has swung back and forth, and twenty-odd years after Henahan, Paul Griffiths, also in the *New York Times*, reviewed a Reich concert that was simultaneously broadcast live on WNYC-FM. Griffiths’ focus was on the physical cues provided by Reich, and what the lack of those visual aids would result in for the radio audience. He noted minor things such as the flicker of the drumsticks over the bongos in *Drumming* as you can actually watch the musicians go out of phase with each other, alongside the more aurally puzzling works such as *Different Trains* or *Electric Counterpoint* when heard on recording that ‘show a particular loss when there is nothing to distinguish the visible performers from the invisible.’ Although Griffiths’ review is more positive than the earlier one by Henahan, it is not the exuberant, somewhat over-the-top praises that can be found on the other end of the spectrum. Griffiths’ review offers a descriptive view of the event, one that would be recognisable to those audience members who where in the hall physically and those who were listening at home.

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More recently in the UK-based newspaper The Guardian, Stephen Pritchard covered the world premiere of Reich’s Radio Rewrite at Royal Festival Hall, London. Pritchard’s review verges on the edge of the musings of an overzealous fan when he writes of an inherent ‘transcendent joyfulness’ in the music. Alongside the fact that Reich’s ‘motoric, rhythmic patterns drive the music inexorably towards a sort of ecstasy: it can’t help make you feel cheerful’ and that Reich’s ‘disciples packed the place and gave him a reception worthy of a rock star, which to some extent he is.’

The diversity of claims made about a Reich concert in the newspapers are dizzying at best, confusing and contradictory at worst.

A noteworthy example of such disparity in reviews of Reich’s recorded oeuvre is found in critics’ responses to Different Trains/Electric Counterpoint (Elektra Nonesuch 979 176-2). John Milsom, in Gramophone’s review of the album, lauded Different Trains as a confident and evocative work whose ‘mesmeric tangles of counterpoint merge with the tape to produce a collage that is part documentary, part pure fantasy.’ However, Milsom found Electric Counterpoint to be a filler, especially when contrasted against Different Trains. Only in the third section of the work does Milsom consider it to rise ‘above the merely entertaining’, when it becomes ‘a study on deliciously ambiguous metres.’ Nearly exactly opposite is David Wright’s reaction to the recording as found in The Musical Times. For Wright, Reich falls short in Different Trains:

Further sound effects are produced by sirens and train whistles and the whole combines to move effortlessly from one distasteful ‘B’-movie-track cliché to another in a work whose manner is strongly at variance with the emotional potential of its subject.

Wright’s almost visceral dislike for Different Trains is contrasted by his acceptance of Electric Counterpoint, conceding that he found it to be the most convincing in the Counterpoint series. A comparison of just these two reviews demonstrates how much subjectivity Wright and Milsom were able to exercise in their roles as reviewers. The

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extremity of these reviews is not unusual in assessments of Reich’s oeuvre; ambivalence is not a typical reaction – you either love it or hate it.

Newspaper reports of Reich’s music tend to focus on either a concert or album release, both of which are static transferers of information. In the case of a concert, the event has already taken place and now survives only in the mind of the reviewer, or as an album that exists as an object unable to respond to the situation in which it was played. On the other hand, when newspaper critique becomes an article or interview it is infused with some of the composer’s personality, which helps to shape the public perception of him. The interview format provides a forum that is two-dimensional and allows for Reich’s interaction with the media to be examined.

Reich has been a participant in numerous interviews over the course of his career. Early interviews from the 1970s are found in small local radio broadcasts and in an assortment of arts and culture periodicals. This has progressed to include interviews with the New York Times and The Guardian, national and international radio, and scholars, among others. Excluding those conducted by scholars, the majority of the interviews that Reich participates in are conducted after a ‘milestone moment’ of some sort. These milestones might be the premiere of a new composition, Reich as the recipient of an award, an anniversary, a premiere of a particularly influential composition, or his birthday. The interview is then designed to promote the new work or celebrate the award or anniversary; biographical information plays a secondary role, drawn in only to illustrate an aspect of the current news. As such, both the questions posed to Reich and the manner in which he answers them reflects on how he is perceived publicly.

The topics and themes typically covered in interviews with Reich concern the following:

- Specifics on Reich’s future compositions and plans: travel itinerary, upcoming premieres, and releases;
- Specifics on Reich’s previous compositions;
- Biography: previous writings and commentaries, education;
- Formation of ensemble: Steve Reich and Musicians;
- Reaction to other musicians and musical styles: Serialism, Philip Glass, Terry Riley, La Monte Young, John Adams;
• Influence of other musical genres/styles: African drumming, Balinese Gamelan, Jazz;
• Role of: Judaism, Visual Arts, Technology.

Reich’s responses to these topics are understandably very repetitive (reflecting the questions) and have become somewhat standardised across the decades. When questioned about his current aesthetic orientation as a response to the academic music environment in which he was educated, Reich responded:

1980: Actually, when I wrote that, in 1970, I was thinking that we were at the end of a period of dominance of a non-rhythmic atonality that had come out of Vienna at the turn of the century; that this had run its course. It was in its third generation, which was an academic watering-down of the first generation (Schoenberg, Webern, and Berg) and the second generation (Stockhausen, Berio, and Boulez). Those who followed them in this country were already to me somewhat questionable because they seemed to be in the wrong place to be doing this kind of music; and their students just seemed to be insupportable.  

1995: First of all, you’ve got to remember that in the late sixties I was in a very isolated position. I wasn’t at ease with the academic environment. I didn’t enjoy the music of either the very conservative types, who were still trying to preserve Americana, or of the radical types, who were still trying to write like Boulez, Stockhausen, and Berio. Later on, when I was in San Francisco and was among a more emancipated type, I also was not at ease because I didn't feel like imitating John Cage. So there was really nowhere within the musical establishment at that time that I felt was for me. I was forced back on my own resources.  

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2005: When I was a student in the late 50s and the early 60s, the Western musical world, the academic musical world in particular, was consumed with Boulez, Stockhausen, and Berio in Europe and John Cage, etc. in America. Everything else was considered an absolute and total irrelevance! [Reich’s emphasis] So I was in this kind of extreme minority of people who really could admire musicians like that, but had no use for that music.¹⁶

Stockhausen, Berio, and Boulez’s styles were not for Reich, and he perceived that the academic climate of the time would force him to write in such a manner, as seen in the quotations above. The nuance and phrases might have varied slightly but the message in these interviews is articulate and surprisingly constant.

This exploration of the theme of academic composition in some of Reich’s interviews is a single example of the constancy with which he answers questions along similar lines. Very little ‘extra’ information is revealed in the majority of the interviews, demonstrating the mastery with which Reich presents himself. The newspaper or radio interview is a means through which he is able to interact with the media and the public. By responding to the questions of the interviewers, Reich is able to share a controlled piece of his history with them. This illustrates a more personal side to the composer by the sheer fact that he is the one relating the information first-hand, rather than it being mediated through another.

Biographies and Reviews

By expanding out from the traditional newspaper reviews and interviews found predominantly in earlier musicological studies to an examination of the metamorphosis of Reich’s biographies, it is possible to maintain a diverse and comprehensive sense of esthetic analysis. Bearing in mind the advice of Nattiez to not simply read for the content of the text but also for what that text illuminates about the ‘Author,’ alongside Erving Goffman’s theories on the construction of self, we turn towards the construction of Reich’s written concert biographies.

In recent years Reich has received much attention from the media, a fact emphasized by his publisher Boosey & Hawkes, whose short biography of the composer begins:

Steve Reich has been called “America’s greatest living composer” (The Village VOICE), “… the most original thinker of our time” (The New Yorker), and “… among the great composers of the century” (New York Times).  

Reich did not start out with major newspapers declaring his worth. A careful campaign of media information helped to cultivate the public image of a successful composer picked up by the news. Beginning in the late 1970s, Lynn Garon acted as an assistant to Reich, noting in a letter to William Austin:

Other developments are that I’ve finally found a woman to be the administrator of the Reich Music Foundation and my own personal representative to answer the letters and calls that contributed and could contribute in the future to my not writing any new music. Her name is Lynn Garon. 

More recently Boosey & Hawkes and Nonesuch Records, who work together to present Reich to the world, undertake such duties. Drawing on eight biographies from 1970 to 2014 (see Figure 3.1), in addition to newspaper reviews, a reception history of the Counterpoints is intricately entwined with Reich’s construction of self through his biographies and as such the two forms will be presented together here.

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1970 Live/Electric Music at the Guggenheim programme
1972 Steve Reich and Musicians Concert at Barnes Hall, Cornell University programme
1974 The American Society for Eastern Arts booklet
~1980 Lynn Garon Management folder
1982 Brooklyn Academy of Music Next Wave Festival programme
1987 Boosey & Hawkes flyer / K. Robert Schwarz
2002 A Bio-Bibliography / D. J. Hoek
2014 www.stevereich.com

Figure 3.1. Timeline of select Steve Reich biographies (1970–2014).

Excerpts drawn from Reich’s biographies from the early 1970s characterize the pre-Lynn Garon era of Reich and his process of self-promotion. These writings are very much tailored to the setting for which they were used, highlighting what was deemed by

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Reich (or an often unidentified author) to be the most salient points of both his life and career. Reich’s biography for a 1970 concert of his music at the Guggenheim (see Appendix III for full text) begins by focusing on his education and involvement with known trendsetters on the new music scene from across the world. Reich’s pedigree is emphasized by the exclusiveness of his education at Cornell and Juilliard, and expanded by his involvement in the West Coast’s innovative new music scene at Mills. The San Francisco Tape Music Center is also specifically mentioned, although Reich downplays his involvement with the institution in later interviews and biographies. Known guardians of the new and exciting portions of culture, The Museum of Modern Art and Whitney Museum, are invoked with performance venues in Sweden and Japan as places cutting-edge enough to present his work. By associating his name with these institutions Reich was able to instantly enhance the public’s understanding of him by linking into the institution’s public persona.

A biography from a performance at Cornell University two years later (see Appendix III), concentrates more on the details of Reich’s education before cataloguing a fairly comprehensive list of performance venues throughout the world, including a variety of locations in the United States. The prestige of international locations is offered substantial space in the Cornell biography, with venues of seven countries highlighted. What is noteworthy of the international venues listed in the Cornell biography is that they are all Western European countries and important cultural institutions, whereas, the performance venues in the United States (outside of New York) are mostly education-orientated institutions – the sole exception being an art gallery in Minnesota. The image of Reich that this biography constructs is one of academic value in the United States and cultural worth in Europe. As in the 1970 biography Reich, is portrayed as grounded in an

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21 Areas especially emphasized in the Cornell biography include venues, in and around New York City, such as: The Park Place Gallery, New York University, The New School, Whitney Museum of American Art, Guggenheim Museum, New York Philharmonic ‘Prospective Encounter’ series, Museum of Modern Art, Brooklyn Academy of Music and, Town Hall. Slightly further afield, yet still within the United States: Fairleigh Dickenson University, New Jersey; Exeter Academy, New Hampshire; Walker Art Center, Minnesota; The Colorado College, Colorado; and, University Art Museum Berkeley, California.

exclusive education and celebrated by established contemporary cultural groups. This discussion is one that will appear in increasingly refined forms throughout Reich’s career.

Reich’s tailoring of his biography in the early 1970s is found most particularly in his faculty biography for The American Society for Eastern Arts’ summer institute (see Appendix III). This biography makes no mention of Reich’s privileged education at Cornell, Juilliard, or Mills, likely because a formal education would not necessarily be equated with mastery of the ethnic music and arts being taught at the summer institute. Similarly, the extensive list of cultural and academic institutions used as performance venues for Reich’s work is not included in this biography, probably because the cultural worth attached those institutions would be less meaningful in this setting.

Just prior to the composition of the Counterpoints, Reich’s public image came under the direction of Lynn Garon. Garon was responsible for the promotion and refinement Reich’s image, along with more mundane details of grants, commissions, and a touring ensemble. Under her instruction his biography became more standardised and selectively diverse. The NYPL’s clippings file for Steve Reich includes a blue folder labelled with Lynn Garon’s management firm’s information. Inside, the folder pages outline Reich’s biography and background, along with a partial listing of past engagements, television and radio broadcasts, commercial recordings, and excerpts from both domestic and foreign press – charting Reich’s rise in popularity. In comparison with Reich’s earlier biographies, the Garon publicity folder biography seems much more professional and formulaic, a conscious construction of a public persona, not merely the side effect of the social convention of programme notes. Divided into eight paragraphs, the biography provided by Garon Management is extensive (see Appendix III).

The first paragraph outlines Reich’s academic accomplishments and musical training, from rudimentary piano and drum lessons through to his Masters degree and additional training in Ghanaian drumming, Balinese gamelan, and Hebrew chanting. Instructors who were deemed important in the composer’s development are also mentioned by name. With this paragraph Reich is firmly entrenched as an educated individual, with far-reaching interests and abilities.

The following paragraphs, numbered as 2 and 3 in Appendix III, deal with performances of Reich’s music, first by the ensemble he founded in 1966 and then by other professional groups. Paragraph 2, which covers engagements of the Steve Reich and Musicians ensemble, highlights particular milestones, such as selling out venues as diverse as Carnegie Hall and Bottom Line Cabaret Club. Following the success of his own ensemble, the biography turns away from his ensemble to groups outside of Reich’s direct influence who have performed his work. By listing the external ensembles that programmed his work, Reich is increasing the importance with which the general public understands and accepts his compositions.

Paragraphs 4 through 6 deal with publications of Reich’s work, in the form of written commentary, score compositions, and record releases. As Appendix III demonstrates these three paragraphs are an important inclusion in the biography in order to establish his continued effect on contemporary culture. The paragraph discussing Reich’s writings on music links him to Pierre Boulez and extends his influence from the English-speaking to the French world. With the publication of printed scores of Reich’s music, the general public was able to practice and even perform his works without his presence being required. The commercially released recordings of his compositions did similar things for Reich enthusiasts unable to attend performances. These paragraphs emphasize the fact that his influence was not limited to a grassroots movement – it was not simply Reich presenting his music person to person. Reich’s music had a life beyond his direct involvement, which meant that it was (and is) more far-reaching than the performances of his music in small New York City galleries during the late 1960s.

The final two paragraphs of the Garon biography centre on Reich’s awards and upcoming commissions, these topics reinforce the idea that Reich’s music has far-reaching effects. For the self-employed composer, a commission is an assurance of a term of economic stability. Likewise, many of the awards listed by Garon are associated with monetary values, meaning that Reich was not simply culturally successful (as shown through early sections of the biography) but was also becoming an economic and commercial success.

It was in the midst of the media image overhaul that Vermont Counterpoint was premiered. Ransom Wilson opened a concert of Reich’s music at the 1982 edition of BAM’s Next Wave Festival on 30 September with the world premiere of Vermont Counterpoint. Also on the programme were performances of Six Pianos, Octet and Music
for 18 Musicians. The 1982 Next Wave Festival featured two Reich programmes (most likely for the sake of diversity – Vermont as a world premiere was included on both) and the weekend’s other version of the programme included Vermont with Variations for Winds, Strings and Keyboards, Tehillim, and Drumming. 24

Bernard Holland in The New York Times wrote:

The new work was “Vermont Counterpoint” for 11 flutes – 10 of them recorded on tape, the other part belonging to Ransom Wilson on stage. Mr. Wilson and his electronic counterparts blended gracefully, and the combined ensemble sound could not have been more pleasing. “Vermont Counterpoint” carried its message a little more swiftly than the other pieces on the program. Its transformations come more rapidly, but never with a sense of haste. 25

Gregory Sandow in the Village Voice described the performance as follows:

Reich’s Vermont Counterpoint, premiered at BAM on September 30, is in the mosaic style of Violin Phase, but livelier and more varied. The sound system subverted it, though, and didn’t do much for the rest of the program, either. Ransom Wilson’s solo flute, piccolo, and alto flute couldn’t be distinguished from the flute ensemble on tape, making his presence on stage puzzling – and without a score I’d never have known that one of the taped flutes was a soloist too, duetting [sic] with Wilson to the accompaniment of the rest. 26

The two reviews could hardly be further apart – it seems extraordinary that Holland and Sandow were present in the same hall, listening to the same performance. While neither reviewer mentions any unusual tendencies or awkward moments in Wilson’s performance, focusing more on their perception of the quality of the composition rather than on the quality of the performance, their views are quite different. What Holland perceived as a graceful blend of musician and tape, Sandow found frustrating and illogical. Both critics, however, note that Vermont is livelier than earlier Reich compositions. But, while Holland finds that the work is well paced, Sandow never comments on the effect of the livelier tempo. Rather, Sandow focuses on the amplification system that creates eleven equal flute lines rather than a soloist and ten accompaniment lines that he had been led to

expect. The equality of parts that Sandow so aptly observes is in fact one of the defining features of the Counterpoint series. *Vermont Counterpoint’s* initial programme note reads: ‘The live soloist plays alto flute, flute and piccolo and participates in the ongoing counterpoint as well as more extended melodies.’\(^{27}\) The key word in this sentence refers to the live part as ‘participating,’ not ‘dominating’. An inability to distinguish one line from another without the aid of a score is the inevitable result of having multiples of the same instrument (or instrument family) blended correctly; and not, as Sandow suggests, a ‘subversion’ of the sound system.

Beyond mentioning the tempo, tape part, and its effectiveness, the two reviews offer little on how the work is received by the other listeners in the hall. There is no information on audience size or reaction to the work. Bill Zakariasen’s review of the concert in New York’s *Daily News* is only slightly more informative about the event:

> “Next Wave: New Masters at the Brooklyn Academy of Music” opened its first season in BAM’s Opera House Thursday night. Not surprisingly, the headline event was Steve Reich & Musicians playing Steve Reich, and it goes without saying these days that the joint was packed (excuse the expression).

> The opening ten minutes of the program featured guest flutist Ransom Wilson in the world premiere of a work he commissioned, “Vermont Counterpoint,” written for two flutes and two piccolos (played by Wilson) and ten other flutes and piccolos prerecorded on tape by the soloist. Its breezy contrapuntal writing (a logical extension of the opening fair music in Stravinsky’s “Petrushka”) and Wilson’s virtuosity won over the audience, which responded not only with applause but good-natured chuckles when the live soloist put down his instrument while he continued on tape. A thoroughly charming work, and it’s good to know Wilson’s performance will be available on an Angel record next month.\(^{28}\)

Zakariasen’s assessment provides a few additional facts that neither Holland nor Sandow find necessary to relate:

1. *Vermont Counterpoint* premiered to a full house
2. Wilson’s performance won over the audience

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3. A recording of *Vermont Counterpoint* would be released on Angel records.

The Brooklyn Academy’s Opera house has a seating capacity of just over two thousand meaning that the event was substantial. By mentioning the crowd in his review, Zakariasen is simultaneously creating both an air of exclusiveness for those lucky enough to have attended the concert and stating the significance of the event based on the performance venue. Allowing the review to depict both the composition and the performance adds another dimension to the description. Zakariasen says that the audience found humour in the entanglement of electronic lines and live performer, an instance that seems unimaginable if one had only read Sandow’s bemoaning of the technological component in *Vermont*. Finally, Zakariasen’s mention of the Angel recording provides the reader of the review who was unable to attend a method of recreating some portion of the experience that he described.

These reviews of *Vermont Counterpoint* depict critics coming to terms with a composition that asked its performer to use technology as a means of performance and not simply a means of sound reproduction. Holland, Sandow and Zakariasen all attended BAM’s Next Wave Festival for the purpose of reporting back on the event, and as such pay particular attention to the works included in the concert. *Vermont Counterpoint* was not an enjoyable experience for all of the concertgoers, but by examining the three reviews for what is said, implied or not said, a more informed sense of the evening emerges: a well attended evening at the BAM Opera House, a premiere of a new solo flute work *Vermont Counterpoint*, along with *Six Pianos*, the chamber version of *Octet*, and the (by then) Reich ‘classic’ *Music for 18 Musicians*. Of the four works, only *Vermont* included any substantial technological element and was also the only true premiere – these two facts are reflected by the critic’s unease with the work.

Biographies of Reich from the 1980s typically adopt similar patterns to the pre-*Vermont* Garon biography with a more calculated expression of the basic information of Reich’s career. A biography from the 1983 Brooklyn Academy of Music Next Wave Festival adheres to the Garon format but includes an expanded third paragraph and cuts out paragraphs 4 through 7. The final paragraph of both the Next Wave and Garon biographies

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focus on Reich’s awards. New York Counterpoint therefore appeared as Reich had solidifed his public image using Garon’s message.

On 20 January 1986 Richard Stoltzman premiered New York Counterpoint at an all-Reich concert, which included Sextet and The Desert Music at Lincoln Center’s Avery Fisher Hall. Some of the reviewers for new music concerts in New York remained in their positions from the premiere of Vermont, to the first performance of New York Counterpoint. The gap of nearly three and a half years between the two works appears to have done nothing to aid Sandow’s understanding of the basic premise that lay behind the Counterpoint pieces: that of a soloist performing with pre-recorded versions of him or herself. Sandow, now writing in the Wall Street Journal about New York Counterpoint’s premiere, had the following to say:

At least at the start, the Reich concert was not a disappointment. The opening work, with a ceremonial flavor appropriate to the Lincoln Center setting, was a world premiere: “New York Counterpoint,” for visible clarinetist and 10 other clarinets pre-recorded on tape. Perhaps there was one quibble. The clarinetist on stage played music that didn’t stand out in any way from the taped music coming from the loudspeakers. As a result, his presence seemed peculiar; the piece would have made more visual sense performed by an ensemble of 11 equal-voiced colleagues. Part of the musical point of the piece, though, is that the 11 parts should speak with the same voice, and so to anyone sensitive to the inevitable theatrical component of any musical performance, “New York Counterpoint” contains a built-in contradiction. All 11 parts must be played by the same clarinetist; the piece can look convincing or sound the way Mr. Reich wants it to, but not both.

This is a quibble, though. Purely as music, “New York Counterpoint” was very nearly as lucid and relaxed as a dance by Fred Astaire. Mr. Reich has evidently “developed,” by which I mean simply that each new piece has been a surprise. Especially as played by master clarinetist [sic] Richard Stolzman [sic], “New York Counterpoint” had both variety and witty melodic twists, characteristics surely not found in Mr. Reich’s earlier, more repetitive work. (But wouldn’t [sic] enticing rhythmic tangles toward the end of the piece have

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cooked a little hotter with 11 clarinetists on stage, each
catching fire from the others?) Sandow finds the work to be appropriately formal and serious for its uptown premiere, and he still has difficulty accepting a work that involved a musician playing in counterpoint with a pre-recording of himself. At least in this review Sandow relates the premise of sound equality to his readership. He, however, moves outside the prerogative of the critic when he asks about a performance that at the time of review had never taken place (*New York Counterpoint* as an ensemble work). Furthermore, his descriptions of *New York* as a lucid, relaxed, and witty work are in direct opposition to the grumbling tone that he adopts to discuss the rest of the performance.

After the inconsistent tone with which Sandow describes *New York Counterpoint*’s premiere, John Rockwell’s review in *The New York Times* appears quite standard and at the very least internally consistent, if not especially illuminating:

Monday’s concert, part of a tour that included six East Coast dates as part of the Next Wave Touring Program and will continue with concerts in West Germany and Britain, began with the world premiere of “*New York Counterpoint*” (1985). Mr. Reich recently indicated that he intended henceforth to ransack his past for future use, drawing upon the wide range of techniques he’s developed and expanding and enlarging them as necessary. At first, this sounded like a recipe for staleness. In fact, it can succeed admirably in achieving both familiarity and novelty.

“*New York Counterpoint*” recalls “*Vermont Counterpoint*” of 1982, and before that “*Violin Phase*” and “*Piano Phase*” from as far back as 1967, in that a soloist plays against parts that he has pre-recorded. The principles are drawn from Mr. Reich’s earlier music – a pulsing rhythm, interlocking melodic patterns, abrupt sectional shifts. But here the jazzy lilt brought to all the parts (11 of them, counting the live one) by clarinettist Richard Stoltzman was so charming that the piece sounded entirely fresh. Nothing so perky and sweet has come from Mr. Reich before, ever.

As with the *Times*’ review of *Vermont*, Rockwell provides the bare necessities of a concert evaluation: who, what, when, where, and how – and little else. A brief comment on

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Reich’s compositional technique introduces Rockwell’s description of New York’s premiere that, like Sandow’s, does not make mention of how the audience as a whole reacted to the work. However, unlike Sandow, Rockwell begins by offering his individual opinion on the quality of Stoltzman’s performance – this point is however left undeveloped, due either to lack of interest or the crush of column space.

A critical review from California does in fact engage with the performer in addition to the work. Daniel Cariaga, writing in the Los Angeles Times after Steve Reich and Musicians toured the west coast with Stoltzman guesting on the work, found the clarinettist’s mannerisms exasperating, although he also adds that New York is a brilliant recital piece and that Stoltzman performs it as such.

Fresh in quite another sense in “New York Counterpoint” (1985), the composer’s virtuoso display-piece for Stoltzman, who superimposes live playing on 10 of his own prerecorded taped performances.

This is jazzy, mock-innocent, sweet and vigorous music, as potent as honey and bracing as vinegar. Without irony, it uses syncopation; without cynicism, it creates consonance. Stoltzman [sic], though his aw-shucks stage manner can be irritating, performed the nine-minute piece like the master he is.34

Cariaga’s review, however, offers less insight into the work’s reception and musical qualities than the reviews from The Wall Street Journal or The New York Times, merely listing platitudes without description or discussion. A few years later in London (part of the series of concerts that featured the world premiere of Different Trains), Meirion Bowen related a contrasting report to Cariaga’s.

In the first concert the most immediately attractive was New York Counterpoint (1985). Here the clarinettist Richard Stoltzman [sic] played against a pre-recorded tape of himself executing 10 clarinet and bass clarinet parts. Tape machines, synthesisers and so on are obviously better geared to a rigorously exact realisation of repetitive formulae: you wouldn’t think a mere human musician could ever rival such precision. Fascinatingly, though, in this work, it became progressively [sic] more difficult to disentangle the recorded melodic lines from those articulated live.35

For Bowen, Stoltzman’s performance was so mechanical that it became increasingly indistinguishable from the taped lines, transforming the performer from human to machine. The ‘mechanical Stoltzman’ of Bowen’s review is at odds with Cariaga’s ‘jazz Stoltzman.’

Bowen and Cariaga were reviewing the premiere of New York Counterpoint in their respective cities of London and Los Angeles, while Sandow and Rockwell experienced and responded to the world premiere in New York at the Lincoln Center. The reviews focus on the mechanical accuracy of Stoltzman but also on the jazzy undercurrents of the work. For the most part the critics are no longer concerned with a musician performing with copies of himself on a multi-track tape.

Directly preceding the composition of the next Counterpoint (Electric) is a biography written by K. Robert Schwarz for Boosey & Hawkes, which departs in style from the information-heavy Garon management biography (see Appendix III). Schwarz’s biography of Reich borders on informality, and seems stylistically more aligned with a journalistic critique than with the previous biographies. The Schwarz biography begins by painting a picture of Reich as a disaffected youth (although Reich was fifty-years old at the time this biography was written), who is dedicated to pursuing a musical career that has no support system. Having established Reich as the underdog and outsider of the new music movement, Schwarz switches tactics and portrays Reich as the saviour of contemporary composers. Nowhere in the biography does Schwarz mention specifics of Reich’s academic credentials, preferring instead to generalise about that time period in Reich’s life. According to Schwarz’s biography, Reich never ‘sold-out’ – he was true to his roots and through his actions has maintained a career path to be envied and emulated by younger musicians (see paragraph 2). Eclecticism in Reich’s musical style is celebrated in Schwartz’s biography of Reich, rather than stamped out. Serialism is mentioned as an element of inspiration and not decried as an evil to be battled. After exploring the way in which Reich’s zealous maintenance of his aesthetic beliefs were used by the composer to incite particular emotional reactions to his music, Schwarz closes the biography by forecasting Reich’s role in the future of new music (see Appendix III, paragraph 4). This 1987 critique-infused biography for Boosey & Hawkes summarises and distils the sensation that one gets from reading the Garon publicity folder biography. Rather than inferring Reich’s reputation and status by reading in-between the lines of the information-heavy Garon biography, Schwarz’s biography states Reich’s importance outright.
The third instalment of the Counterpoint series *Electric Counterpoint* was premiered by Pat Metheny on 5 November 1987 at BAM’s Opera House. Preceding the discussion of *Electric Counterpoint*, Holland ventured into a description of the audience who were ‘young, hip, serious and obviously interested,’ in addition to the expected smattering of classical music’s professional operatives. Holland speculated that the young crowd was searching for a concert music that would grow and change with them. Then by way of introducing *Electric Counterpoint*, Holland notes a link between Reich’s composition and rock ‘n’ roll:

Mr. Reich’s music – or at least the idea of his music – speaks to them. Those who know his landmark mallet-percussion piece “Music for 18 Musicians” know also its therapeutic beauties, which are derived from the contemplative art of the Far East but curiously bonded to the age of rock-and-roll. These are strange allies. Peace and clarity of mind are achieved through repetition, and repetition is popular music’s specialty. Few other performance arts so stress the musician’s ability to concentrate with utmost precision on single ideas over long stretches of time.

By incorporating the percussion and electronic elements – the sound of rock – into his own sophisticated music, Mr. Reich and his ultimately less talented colleague Philip Glass have offered at least one way out of classical music’s current dead end. Central to this concert was “Electric Counterpoint,” a three-movement vehicle for amplified guitar in which Mr. Metheny’s vivid style plays against as many as 10 recorded guitar tracks at a time.

The electric guitar’s edgier tone is highlighted by Holland as a vehicle for Reich to fuse his brand of intellectual music with the young appeal of rock music. Gann also notes the link to popular music, but finds the results more in line with a failed public relations campaign than a successful crossover between popular and Western classical music. This differs greatly from Holland, who proclaims Reich as classical music’s saviour, resurrecting and transforming it into something that will continue to draw new, young, and engaged audiences. Holland’s reading of the situation seems to mirror the image presented by Schwarz through Boosey & Hawkes. Meanwhile, Gann’s experience of *Electric Counterpoint*’s premiere is less enthusiastic about Reich’s solution to the cul-de-sac of

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37 Holland, “Music: Recent Pieces by Steve Reich.”
twentieth-century music, finding that the work was both ill-fitted for the soloist and that it offers nothing that the earlier Counterpoints had not already presented.

*Electric Counterpoint*, Reich’s “collaboration” with Metheny, felt more like a misguided PR venture. Like so many pragmatically motivated solo works (though not *Violin Phase*), Reich’s *Counterpoint* series seems disposable and infinitely extendable. (*New York Counterpoint, Vermont Counterpoint: can Lunch Counterpoint be far behind?*) Any other composer would have given such a celebrated jazz musician some leeway, but Reich straitjacketed Metheny into the usual little repeated motives in counterpoint with his prerecorded tape; only a few jazz harmonies near the end paid homage to his performer’s reputation. Predictably disengaged, Metheny glued his eyes to the score, and only on the last chord managed a flourish to justify all the inevitable whistles and cheers.  

By cataloguing Reich’s *Counterpoint* series, with an extension of *Lunch Counterpoint*, Gann brushes aside any significance that a continuous set of compositions, such as the Counterpoints, might offer to a dedicated listener of Reich. The mention of the audience is passing but revealing: the audience — young and hip as described by Holland — cheer and whistle at the conclusion of *Electric* in contrast to the restrained applause typical of a formal concert hall setting. Gann appears to disapprove of Reich’s method of dealing with Metheny’s musicianship, as is evidenced in his detailed description of an apparently restricted performance. Additional disdain seems to come in the guise of the whole premise of a *Counterpoint* series. Although generally a negative review, Gann’s piece points to some of the weaknesses that result from the situation in which the performance occurred.

A reflection by Tim Page on a performance two years later of *Electric Counterpoint*, this time as performed by David Tanenbaum rather than Metheny, simply notes that the work consists of a soloist playing against a multi-tracked tape:

> “Electric Counterpoint,” which followed immediately, is scored for guitar and tape; the soloist must pre-record as

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39 As previously mentioned, a video recording of the premiere exists on VHS in the Brooklyn Academy’s collection housed at the NYPL. The recording shows Metheny standing in front of the empty ensemble seats from *Three Music*, using three music stands, which he walks along as the music progresses, folding the sheet music up between movements, but never actually looking up at the audience. Metheny ends *Electric Counterpoint* with a ringing tone, which is met by an enthusiastic audience’s applause and cheers. During the just over a minute of applause Metheny returns to the stage for a second bow.
many as 10 guitars and 2 electric bass parts and then play a final guitar part against his buzzing, strumming recorded incarnations. It is a light but evocative work – Windham Hill with brains – and it was played with style and sensitivity by David Tanenbaum (times 13.)

Holland and Gann reviewed Metheny’s appearance at BAM’s Opera House while Page reviewed a performance by Tanenbaum years later. By removing the focus from the performer we eliminate some of the bias through which Gann views the premiere. Similarly, the Page review does not delve into the reasoning behind a packed house on opening night as Holland’s does nor does it provide any opinions, substantiated or otherwise, of the work, beyond the anecdotal remark, ‘Windham Hill with brains.’ Windham Hill, now a subsidiary of Sony Records, was a label in the 1980s that specialized in soft jazz and new age music. None of the reviews are overly positive about Electric Counterpoint, with the Holland review being perhaps the most flattering, and then only because it focuses on other Reich compositions. The idea of a musician performing with pre-recordings of themselves had perhaps lost some of its new shine and become somewhat predictable, although the contemporary biographies of Reich still push his role in innovative musical techniques.

As Reich’s fame grew through the late 1980s and into the 1990s, crystallised by winning the 1990 Grammy Award for Best Classical Contemporary Composition for Different Trains, his biographies increasingly became a mixture of the Garon and Schwarz models from the early 1980s. Fusing the strictly information-heavy publicity biography with the more conversational tone of a newspaper critic, Reich’s biographies became less about establishing his place among the prestigious contemporary avant-garde and more about representing his continuing success as a contemporary classical composer.

D. J. Hoek’s 2002 biographical inclusion in Steve Reich: A Bio-Bibliography is more substantial than the other documents included here and divides Reich’s career into four parts: ‘Early Influences, 1965–1971, 1972–1987, 1988 and After.’ Given the sheer length of Hoek’s biography he is able to include details and quotations by the composer that the other biographies were not able to. The final section of Hoek’s Reich biography

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moves the reader from the conclusion of *Electric Counterpoint*, focusing on *Different Trains* up through to the composition of *Three Tales*, which preceded *Cello Counterpoint*. In this section Hoek focuses on Reich’s engagement with technology and multi-media works, specifically highlighting *Different Trains, The Cave, City Life* and *Three Tales*. Again a lengthy list of awards and honours is provided near the end of the biography, with the addition of the note that ‘retrospective series of Reich’s music were presented at London’s South Bank Centre in 1988 and at New York’s Lincoln Center in 1999.’

This biography further legitimizes Reich’s place in the classical music world, one in which *Cello Counterpoint* was commissioned.

*Cello Counterpoint*, the only Counterpoint thus far not to premiere in an all Reich concert, was performed by Maya Beiser as part of her ‘World to Come’ concert programme, which also featured *Fratres* by Arvo Pärt, *Khse Buon* by Chinary Ung, *Mariel* by Osvaldo Golijov, *La Voce* by Louis Andriessen, and the title work *World to Come* by David Lang. Beiser was supported by a small army of technical assistants who worked on video, sound, and lighting design despite the fact that she was the only musician required for the performance of these pieces. The work received its world premiere at the University of Illinois, Champaign-Urbana on 18 October 2003. Beiser then proceeded to tour the programme. In early November Anthony Tommasini reviewed the New York premiere of *Cello Counterpoint* that took place in Carnegie Hall’s Zankel Hall:

Mr. Lang was burned by the academic music scene when he was younger. Still, you sometimes wish he would be less afraid of his keen musical intelligence.

Steve Reich is not afraid of his, though “Cello Counterpoint,” which also received its New York premiere, never calls attention to its own cleverness. Written for solo cello and seven recorded cello tracks (all by Ms. Beiser), the work is abuzz with undulant rhythmic syncopations and spiraling [sic] counterpoint.

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44 Hoek, *Steve Reich*, 21.


Tommasini’s review implies that *Cello Counterpoint* is expertly composed and that the work comes across vibrantly in performance. By way of concluding the review, Tommasini offhandedly remarks that Beiser’s performance was received with vigorous cheering from a full audience.\(^{48}\)

Providing only slightly more information about the impression left by Beiser’s performance is Joe Banno, writing in *The Washington Post* a few days later about Beiser’s performance of the same programme, this time at the Kennedy Center:

Most of Beiser’s program involved her playing a solo part against her own studio-recorded cello tracks. If this self-communing tended to isolate her in a sort of electronic cocoon, that might well have been her aim: to re-imagine chamber music as a solitary, very personal voyage of discovery ...

Steve Reich’s highly charged, increasingly baroque form of minimalism received fine advocacy as well, in Beiser’s reading of his “Cello Counterpoint.” The play of geometric shapes in “video environments” by Irit Batsry and Anney Bonney complemented the musicmaking without overpowering it.\(^{49}\)

Banno’s description of Beiser creating an electronic cocoon seems at odds with a later critique of Beiser’s ‘World to Come’ Tour by David Patrick Stearns in *The Philadelphia Inquirer*. Stearns found that Beiser’s live performance was better than her recordings because of her dedication, remarking that the live presence added a clearly defined ‘foreground element.’ The Kennedy Center review also describes a video environment for *Cello Counterpoint* that is not mentioned in much more detail elsewhere in the reviews.

Reich has written numerous “counterpoint” works, but *Cello Counterpoint*’s seven cello voices interweave with none of the dryness that has afflicted some of its predecessors. In fact, the piece’s thematic transformation is so inventive and organic that it easily takes its place among Reich’s best ...

Anytime a performer appears amid so much technology, the human-heat element can be lost. But that’s not possible with someone of Beiser’s commitment. Also, her live presence gives a clear-cut foreground element to each piece that keeps details from being lost in an electronic soup. That explains

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\(^{48}\) Tommasini, “MUSIC REVIEW; An Evening’s Adventure, With a Cellist and Her Voice.”

why the same works have so much less impact on her recordings.50

Building on the reviews that came before, Wynne Delacoma in the Chicago Sun-Times provides slightly more information on the contents of the video environment in her review of a 2005 Beiser concert including Cello Counterpoint.

Reich’s “Cello Counterpoint,” an intricate work from 2003 for seven pre-recorded tracks and single live cello, bounded along with his usual insistent little melodic ideas and infectious, repetitive rhythms. Bonney’s abstract video danced across the entire back wall of the Martin Theatre stage, its bits and pieces of fractured cellos evoking images of Picasso’s Cubist guitarists.51

For Banno, the video was made up of abstract geometric shapes, but Delacoma picked out fractured images of a cello, which she equated with Picasso’s series of guitars from his Cubist period. Surprisingly neither Banno nor Delacoma offer any reaction to the inclusion of a video in the concert setting.

Like the 1980 Counterpoints, Cello Counterpoint had to win over critics’ suspicions regarding the non-visible but omnipresent technological trace left on the music by the tape part. Most reviews of Beiser’s performance focus on how she accomplishes this task. Unlike the earlier works in the set, the artistic value of the Cello Counterpoint was not questioned, perhaps in part because Reich had firmly established his media image by the time of its composition.

Reich has established himself as a major participant in the Western art music sphere in part through the curating of his biography, which developed over the course of his career, as is demonstrated by a comparison of the Garon folder biography with the biography found on Reich’s website as of August 2014. Focusing predominantly on the sections of the biography that deal with the awards and honours that Reich has received reveals not only a collection of them in the written biography, but also a replacement of those no longer deemed relevant or appropriate. For example, Paragraph 8 in Garon’s version of Reich’s biography (see Appendix I) concentrates on grants received by Reich from the National Endowment for the Arts (N.E.A.), New York State Council on the Arts,

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and the Rockefeller Foundation, as well as a Guggenheim Fellowship, each of which are listed separately even when Reich won the grant on more than one occasion. This tactic emphasizes the fact that Reich was able to repeatedly gain support from these institutions and also serves the purpose of bulking up that portion of text. Reich’s website biography (see Appendix III section 3 for the complete transcript) outlines some additional awards (none of the awards listed in the Garon publicity biography appear in the newer one) that he has since received. Reich’s website biography, unlike the Garon biography, does not dedicate a single paragraph to the accolades that Reich received but scatters them throughout the text, mingling them with strictly biographical information and praise from critics. A chronological listing of the awards highlighted along with the paragraphs where they are mentioned can be found in Table 3.1.

<table>
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<tr>
<th>Year</th>
<th>Award</th>
<th>Composition/Work</th>
<th>Paragraph</th>
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<tbody>
<tr>
<td>1986</td>
<td>Bessie Award (with Laura Dean)</td>
<td>Impact</td>
<td>17</td>
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<tr>
<td>1990</td>
<td>Grammy Award</td>
<td>Different Trains</td>
<td>10</td>
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<tr>
<td>1994</td>
<td>American Academy of Arts and Letters</td>
<td>-</td>
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<td>1995</td>
<td>Bavarian Academy of Fine Arts</td>
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<tr>
<td>1999</td>
<td>Grammy Award</td>
<td>Music for 18 Musicians</td>
<td>11</td>
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<tr>
<td>1999</td>
<td>Commandeur de l’ordre des Arts et Lettres</td>
<td>-</td>
<td>18</td>
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<tr>
<td>2000</td>
<td>Schuman Prize (Columbia University)</td>
<td>-</td>
<td>12</td>
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<td>2000</td>
<td>Montgomery Fellowship (Dartmouth College)</td>
<td>-</td>
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<td>2000</td>
<td>Regent’s Lectureship (UC Berkeley)</td>
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<tr>
<td>2000</td>
<td>Honorary Doctorate (California Institute of the Arts)</td>
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<tr>
<td>2000</td>
<td>Composer of the Year (Musical America)</td>
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<tr>
<td>2006</td>
<td>Member of the Franz Liszt Academy</td>
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<td>2006</td>
<td>Premiun Imperial Award in Music</td>
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<tr>
<td>2007</td>
<td>The Polar Prize (Royal Swedish Academy of Music)</td>
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<tr>
<td>2007</td>
<td>Chubb Fellowship (Yale University)</td>
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<td>6</td>
</tr>
<tr>
<td>2008</td>
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<td>-</td>
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<tr>
<td>2009</td>
<td>Pulitzer Prize</td>
<td>Double Sextet</td>
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</table>

Table 3.1. Awards and honours listed in Steve Reich’s 2014 website biography.\(^{52}\)

As can be seen from the lack of continuity in the ‘Paragraph’ column of Table 3.1, chronology was not the primary deciding factor as to which award was listed first. If that was the case, then Reich and Laura Dean’s Bessie Award would have been listed before his Pulitzer Prize for *Double Sextet*, when in fact the 2009 Pulitzer is the first accolade mentioned on the website biography. The prominence of the Pulitzer Prize in Reich’s biography (it is set in a paragraph by itself) can perhaps be explained by Reich’s own reaction to the award, found in a radio interview on WNYC’s Soundcheck with John Schaefer:

Schaefer: Now you’ve won your share of prizes internationally. Why does this prize – which, let’s face it, doesn’t have a huge amount of money attached to it – *why* is this prize so important?

Reich: Well it’s an *American* prize. I was here with a French film crew yesterday when the phone kept ringing, and ringing, and ringing.

Schaefer: Yeah, that was us. [*laughter*]

Reich: I kept thinking this is really bad news or something totally unexpected, and it turned out to be the latter happily. And I told them, ‘oh gee, I just won the Pulitzer Prize’ and they all looked at me like ‘what’s that?’ [*laughter*] Whereas, you know the U.K. they know very well what it is and they find it of interest.

But it’s an American and English-speaking award! The other – the Polar Prize and Premiun Imperial are open to anyone in the world. The Pulitzer Prize is for Americans and is very, very closely watched here in America. And everyone likes to be recognized at home, and I’m no exception.  

What Reich stresses in this interview is the importance of the Pulitzer Prize as an American award, and this significance is reflected in the prominence of its placement in his biography. The rest of the awards do not appear to follow any particular order, but in general the more exclusive and distinguished awards appear closer to the beginning of the biography.

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Throughout Reich’s career his biography has changed and adapted according to the time and place that it was presented. The interaction between composer and individual audience members through his written biography continues to fulfil the role of social currency proposed by Goffman. Over time, the aims of Reich have become more focused on a particular outcome. Early biographies were particularly designed to relate to the cultural values of the intended audience whereas more recent biographies illustrate Reich’s own values of worth, demonstrative in part of a shift in the scale of Reich’s audience. Reich’s public persona has been carefully planned and cultivated to portray him in the best possible light, an important aspect of any career – especially one which is scrutinized by the media. The concert and publisher biographies discussed here become intensified in the digital realm, most especially with the branding of Reich on social media sites such as Twitter and Facebook.

Facebook, Twitter, MySpace, and blogs are terms found in the lexicon of the twenty-first-century composer. Not merely digital sites of social networking, such websites provide a platform from which composers can promote themselves. Media theorist José van Dijck understands these digital spheres as an extension of Goffman’s everyday interactions. In apparent agreement with van Dijck’s postulation, Reich’s online presence includes a range of websites including the above three (Facebook, Twitter and MySpace) social media websites, in addition to a personal website. Blogs and radio stations as well as his publisher and record label incorporate web content concerning the composer, and further help shape Reich’s digital persona.

An official Facebook page for Steve Reich categorized as ‘Musician/Band’ was created on 20 July 2010 and is maintained by Reich’s publisher Boosey & Hawkes. The page provides Facebook users with the ability to ‘Like’ the composer and as a result receive updates from the Reich page on their personal news feed. According to van Dijck, the self-presentation of a celebrity such a Reich on Facebook ‘exposes the lucrative side of the connective turn: their online personas equal their brands, and the ultimate successful presentation of self is to have millions of followers.’ This measure of success is because the official page circulates to its followers the information that it collects and curates

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54 José van Dijck, “‘You have one identity’: performing the self on Facebook and LinkedIn,” 199–215.
56 van Dijck, “‘You have one identity’: performing the self on Facebook and LinkedIn,” 202.
including photos, concert listings, events, and digital links to interviews and articles. The product being promoted is Reich himself, as a celebrity of the contemporary music world.

For the brand of Reich the composer, regardless of whether he is the active manager of the account (recall that his official Facebook page is kept up by Boosey & Hawkes, as is his Twitter account), the bonus of social media is that the public can be made aware of information from a media standpoint as well as engaging in a communication culture. Media events such as concerts and album releases are advertised as part of maintaining an active stream of content for fans to navigate with recourse to connect to the composer through the comment and sharing functions of Facebook.

Reich’s Facebook page also includes a summary of the composer’s official Twitter feed, allowing interested Facebook users who may not be comfortable with Twitter’s more transient nature another option of keeping up-to-date with the composer’s activities without navigating to another online interface. Twitter is distinguished from Facebook in that ‘it is much more connected to mobile delivery and thus gives the sensation of immediacy.’ Twitter’s innate feeling of urgency was utilised in November 2013 by Reich as a method of bringing the interview format closer to the public. On 8 November 2013 percussionist Colin Currie and Steve Reich participated on Twitter in a question and answer interview mostly focusing on Reich’s composition *Music for 18 Musicians* that was going to be performed by the Colin Currie Group two days later at Royal Festival Hall. The exchange began with Reich initially being interviewed (in the form of tweets) by Currie on particular moments in *Music for 18 Musicians*. This was followed by Reich responding to a series of questions selected by the Southbank Centre from a public call for questions tweeted to them (@southbankcentre) and marked by the hashtag #Musicfor18. The quasi-open format (as the Southbank Centre was moderating) allowed for some live interactions between Reich and his audience to occur, such as:

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Figure 3.2. Southbank Centre moderated Twitter exchange between @SteveReich and @TobyDeller on 8 November 2013.  

In this case Toby Deller’s question about his grandfather’s influence on Reich provoked a memory for the composer, making the exchange unique as Twitter users following #Musicfor18 were allowed to witness a personal exchange, making Reich appear informally accessible to his fan base, such as a candidate in a political race might hone their media image to appear respected yet approachable.

In 2015 the London Sinfonietta, Queen Mary University of London and app designer Touchpress combined their efforts to create a free game app that challenges its users to take on the shifting part of Reich’s *Clapping Music*. As Michael Cooper in the *New York Times* quipped, ‘[t]he app allows frustrated percussionists and bored commuters to try tapping out the patterns of “Clapping Music” on their iPhones ... As might be

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60 #Musicfor18 Exchange between Steve Reich and Toby Deller moderated by The Southbank Centre. @Steve Reich (SteveReich) and @Toby Deller (Toby Deller), 8 November 2013, 3:46 pm. Tweets.

61 Ronald Woodley has suggested to me that this is a case of false memory syndrome on the part of Reich as Alfred Deller’s voice was renowned for its continuous vibrato in most repertoires. This false memory of Reich’s could be a conflation between Deller’s sound and that of ‘early music’ practices that Reich has repeatedly found to be suitable for his music. See Steve Reich, “Chamber Music – An Expanded View (1989),” in *Writings on Music: 1965–2000*, ed. Paul Hillier (Oxford: Oxford University Press, 2002), 157.

62 In the political realm ‘Media management strategies are structured along three dimensions. The first two characterize the relationship itself: The accessibility of the candidate to the press, and the formality of their interactions. The third dimension concerns the content of the candidate’s messages to the media; the homogeneity of the candidate’s messages to the press.’ Cary R. Covington, Kent Kroeger, Glenn Richardson, and J. David Woodard, “Shaping a Candidate’s Image in the Press: Ronald Reagan and the 1980 Presidential Election,” *Political Research Quarterly* 46, no. 4 (1993), 785.
expected, clapping in unison is pretty simple. But as soon as the patterns go out of sync it gets difficult fast, and too many mistaps ends the game with a “Better luck next time” message. Moving beyond the game portion of the app, the ‘About the Music’ portion includes a section titled ‘Inside Electric Counterpoint’ which discusses the history and compositional components of the work. ‘Inside Electric Counterpoint’ is divided into sections on ‘Pulsing’, ‘Ostinato’, ‘Additive note patterns’, ‘Resultant patterns’, ‘Canon’ and ‘Counterpoint’. Each section includes an audio-visual example of Mats Bergström performing an illustrative example of the technique being discussed and a brief interview with Reich on the work, see Figure 3.3 for a still image of the ‘Inside Electric Counterpoint’ section of the app. The discussion of compositional components of Electric Counterpoint seems to be designed to encourage interested game users to engage with Reich’s music on a more profound level. It is clear that by including Electric Counterpoint material in the ‘Steve Reich’s Clapping Music’ app that the Counterpoints are once again acting as a bridge into Reich’s more complicated musical techniques. The presence of the app itself, also speaks to Reich’s continual engagement with the newest technologies as a medium for promoting his music.


As well as a pulse, Steve Reich often uses ostinato: a rhythm or melody that is repeated over and over again to provide a fixed point against which other ideas can be introduced and then gradually shifted. There are many different patterns in Electric Counterpoint and this one is taken from near the beginning of the first movement. Another good example is the pattern performed by the first player in Clapping Music, who continually repeats it while the other player changes.

The audio on this video has been adjusted to emphasise the ostinato pattern.

Additive note patterns

Figure 3.3. Screenshot of ‘Inside Electric Counterpoint’ from “Steve Reich’s Clapping Music” app.\textsuperscript{65}

\textsuperscript{65} London Sinfonietta, Touchpress and Queen Mary University of London, “Steve Reich’s Clapping Music.”
A less ephemeral online presence than Twitter or a smartphone application, and more reflective of private value judgements than Facebook is Reich’s personal website, www.stevereich.com. The webpage is divided into ten sections: Biography (already discussed), News, Discography, Works, Articles, Concerts, Contact, Multimedia, Three Tales and In Memoriam. The Articles section is split into two parts: articles and interviews, which are subsequently broken down into their respective authors; the set of eclectic articles included were written by people such as a visual artist, musicologists and composers. A few of the articles are texts reprinted from newspapers and magazines or were written for award ceremonies, but a number of them read as personal testimonials as to the effect that Reich’s music has had on their lives. Muhly’s contribution is taken from a personal standpoint, as he acknowledges in the start of the piece ‘Writing about Steve Reich’s music feels like writing about a family member or a childhood friend: there are too many stories and too many strange intimacies to really create a coherent narrative.’ Writing of points in his life where Reich’s music acted as a soundtrack, Muhly recalls walks to school in the winter, travels away from home, nights spent writing papers and how the music fused into the very fabric of that time. Reich’s music is so firmly integrated into Muhly’s experience that ‘it’s as much a part of me [Muhly] as where I was born, where I went to highschool, where I live in New York.’ Adams’ contribution focuses less on his personal experience with Reich’s music and more on the other composer’s career accomplishments and the influence that they have had in general on contemporary music, ‘pulsation and tonality were not just cultural artifacts ... He didn’t reinvent the wheel so much as he showed us a new way to ride.’

Whereas Lang’s experience with Reich’s music falls somewhere between Muhly and Adams, the connection is palpably personal although not peppered with as many anecdotes as Muhly’s and yet it also speaks of universal truths found in Reich’s music,

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67 The In Memoriam section currently includes information about the lives and deaths of the late James Preiss and Mort Silver, both formerly of Steve Reich and Musicians. Last accessed 16 October 2015, www.stevereich.com.
much like Adams’. The lesson of attempting to stretch and burst out from traditional music was what a young Lang took from his first listening to Reich’s music – one he never forgot.\(^\text{72}\) What Lang, Adams and Muhly, all successful composers in their own right, are advocating is an acknowledgement of the influence that Reich has had on their work and more generally contemporary music. By including these endorsements from other composers (typically younger than him) on his website Reich is able to demonstrate the continued repercussions and reverberations his music has throughout the contemporary music community.

**Performance Resonance**

The importance of the Counterpoints in contemporary repertoire is difficult to judge from our current time perspective, but glimpses of it – especially within Reich’s own oeuvre – are possible. A basic statistical evaluation of the Counterpoint’s recent performance histories provides a foundation for an esthetic assessment that has already been elaborated by reviews of their performances.

Reich’s online persona as portrayed through his website (www.stevereich.com) is entangled in layers of influence and prestige. The website section dealing with concert performances of Reich’s compositions is particularly intriguing when looking at the construction of a public persona for Reich and in terms of his compositions which are promoted as popular performance works.\(^\text{73}\) Reich’s website will be used for this data as it provides an official, collated source of information, and is essentially a digital self-portrait. Archived under the Concert tab is a partial listings of performances of Reich’s music from 2001 to present (see Appendix IV for a breakdown of performances numbers by compositions). By presenting only a partial list, Reich (or a representative of Reich who maintains his website) is executing value judgements on which performances should be included or excluded. As of 2001 only 78 performances were listed on Reich’s website; the following year, this more than doubled (see Table 3.2).

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\(^{73}\) The statistical information presented here is derived from Concert listings on www.stevereich.com as of 14 August 2014; it is presented in Appendix IV in tabulated form. Note that the arrangement of *Six Pianos* titled as *Piano Counterpoint* was included as a Counterpoint performance in these numbers.
The highest record of performances is listed as 721 in 2008; however, the mean number of performances (as listed on the website) rounds to 352 performances per year, so the 721 performances of 2008 are actually quite unusual (there were a number of tours of works, which inflated the number of performances). Counterpoints made up between 10% and 20% of the annual performances of Reich’s compositions in the thirteen-year span covered in Table 3.2. It should also be noted that *Cello Counterpoint* was not written and premiered until 2003, so the data from the first two years of the website does not include that work.

A yearly share of 10–20% of overall performance might not seem significant when taken alone, but when understood against the other forty-four compositions listed in Reich’s mature oeuvre it is a sizeable, constant, and significant number. For instance, *Octet* (or *Eight Lines*) can be performed by a chamber ensemble and does not require any specialist technologies. Yet performances of *Octet/Eight Lines* only ever account for 7% of the whole (in 2007) at their peak and more typically between 1–3%. In contrast, *Music for 18 Musicians* and *Drumming* capture a more sizeable proportion of the performances, averaging 10% and 13% respectively over a thirteen-year span of archived performances on Reich’s website, despite the need for such performances to require many more musicians. This leads to the conclusion that the popularity of particular pieces by Reich does not seem to be linked directly with such factors as technology or ensemble size.

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Table 3.2. Performances of Steve Reich’s music according to the partial listing of concerts divided by year on www.stevereich.com.74

<table>
<thead>
<tr>
<th>Year 20__</th>
<th>01</th>
<th>02</th>
<th>03</th>
<th>04</th>
<th>05</th>
<th>06</th>
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<th>10</th>
<th>11</th>
<th>12</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Counterpoints (Raw)</td>
<td>8</td>
<td>18</td>
<td>28</td>
<td>31</td>
<td>30</td>
<td>59</td>
<td>82</td>
<td>70</td>
<td>44</td>
<td>47</td>
<td>104</td>
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<td>76</td>
</tr>
<tr>
<td>All Listed (Raw)</td>
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<td>188</td>
<td>195</td>
<td>229</td>
<td>295</td>
<td>413</td>
<td>470</td>
<td>721</td>
<td>329</td>
<td>320</td>
<td>516</td>
<td>453</td>
<td>373</td>
</tr>
<tr>
<td>Percentage of Counterpoints (%)</td>
<td>10.3</td>
<td>9.6</td>
<td>14.4</td>
<td>13.5</td>
<td>10.2</td>
<td>14.3</td>
<td>17.4</td>
<td>9.7</td>
<td>13.4</td>
<td>14.7</td>
<td>20.2</td>
<td>17.9</td>
<td>20.4</td>
</tr>
</tbody>
</table>

74 All information derived from Concert listings on www.stevereich.com as of 14 August 2014.
Figure 3.4. Visual representation of overall (2001–13) performances of Steve Reich’s compositions versus the actual percentage of Reich’s compositional oeuvre.\(^75\)

\(^75\) Performance percentages were derived from the data presented in Appendix VI. Also included in Appendix VI is a listing of which compositions were considered as part of each of the categories of Large ensemble, Tape alone, Counterpoints, Phase Pieces, and Chamber ensemble.
As seen in Figure 3.4, dividing an overall average of the performances of Reich’s music between large ensemble and chamber works – with the chamber works of tape alone, the Counterpoint and Phase pieces highlighted separately and not included in the 41% total – demonstrates the significance of the proportion of performances of the Phase pieces and the Counterpoints. The Counterpoints and Phase pieces account for 14% of Reich’s actual compositional oeuvre, while performances of them amount to 23%. Furthermore, Figure 3.4 expresses the importance of the Counterpoints in comparison with the Phase works, with nearly a doubling of the percentage of performances between the Counterpoints and Phases. The Counterpoints are often the compositions that introduce new listeners to Reich’s music and can also be performed with minimal infrastructure on the part of the performer.

Furthermore, breaking down the performance popularity as emphasized on Reich’s website finds the triumvirate of 1980 Counterpoints all in the top fifteen most performed works.\(^{76}\)

1. *Drumming*  
2. *Triple Quartet*  
3. *Music for 18 Musicians*  
4. *Different Trains*  
5. *New York Counterpoint*  
6. *Electric Counterpoint*  
7. *Piano Phase*  
8. *Violin Phase*  
9. *Music for Pieces of Wood*  
10. *Octet/Eight Lines*  
11. *Double Sextet*  
12. *Vermont Counterpoint*  
13. *Clapping Music*  
14. *Six Pianos/Marimbas*  
15. *Sextet*

The Counterpoints’ newest addition, *Cello Counterpoint*, just misses out on a top twenty finish, coming in as the twenty-second most performed work. This is a significant feat for the ‘youngest’ work, considering that *Dance Patterns* and *You Are (Variations)*, composed just before and after *Cello* rank as 38th and 36th respectively. The other works found in the top fifteen list include two traditional ensemble types: the piano duo and the string quartet. This suggests that some of the performances of these works were pre-formed ensembles looking to expand their repertoire base, whereas performances of works such as *Drumming, Music for 18 Musicians* and *Octet* require an ensemble to be formed and to rehearse the work prior to a performance. The portable nature of the string quartets, duets,

\(^{76}\) It might be expected that *Clapping Music* would be the most performed of Reich’s compositions given the lack of instrumental gear required for a performance, and although this might indeed be the actual case an analysis of the data presented on Reich’s official website places it at number 13. This number is representative of what the website emphasizes and not necessarily reality, as will be discussed further along in this chapter in a detailed analysis of the programme of the Glasgow performance of the *Radio Rewrite* UK tour.
and solo works find an increase in single performances of a work, whereas ensembles are formed for the larger-scale works and the ensemble subsequently tours the piece – providing an explanation for the large number of *Music for 18 Musicians* performances recorded in 2001 (see Appendix IV).

Examining particular points in the thirteen-year period of concerts covered by Reich’s website illuminates how merely cataloguing performances of the Counterpoints can create an impression of Reich as a global authority in contemporary music. For example, for a week in 2004, between 31 October and 7 November a version of *Vermont Counterpoint* was performed no less than eight times, and by three different performers.\(^{77}\) Accounting for six of the performances, *Tokyo/Vermont Counterpoint* was performed on 31 October, and 2, 4, 5, 6 and 7 November as part of an Eliot Feld choreography project presented at the Joyce Theater in New York City. *Vermont Counterpoint* was also performed by Morwenna Collett at the Queensland Conservatorium of Music, Australia on 2 November and again in Australia by Timothy Munro at the Brisbane Powerhouse on 5 November. A similar cluster of performances of a Counterpoint can be found in May 2005, this time with *New York Counterpoint*. 13, 14 and 15 May all boasted a different performer and location for the work: on the 13th Reiner Wehle in Lübeck, Germany; on the 14th the Ensemble HMT Munich in Munich, Germany; and the 15th featured Meighan Stoops at The Knitting Factory in New York.\(^{78}\) These listings prove that Reich’s music is being taken seriously throughout the world and not simply being toured about by a single group, as was mainly the case during the 1970s.

Plotting the number of performances per year for each of the Counterpoints shows that, although there are spikes in the performance numbers, trends do emerge (see Figure 3.5). For example, performances of both *New York* and *Electric Counterpoint* in 2011 jumped substantially. Yet these two have, since 2007, steadily been performed more frequently than *Cello* or *Vermont*, so the basic reflection of which Counterpoint is the most popular (*New York*) still holds true.


Figure 3.5. Performances of Steve Reich’s Counterpoints as reported on www.stevereich.com between 2001 and 2013.\textsuperscript{79}

The popularity of *Electric Counterpoint* may be partially attributable to its inclusion as a set work on the UK’s GCSE music examinations.\textsuperscript{80} Other factors include the availability of performance scores and access to the technology required to multi-track each of the lines in a given Counterpoint. *Electric Counterpoint, New York Counterpoint,* and *Vermont Counterpoint* are available for purchase from Boosey & Hawkes, and many regional suppliers of sheet music will maintain a basic stock of them. On the other hand *Cello Counterpoint* – also available from Boosey & Hawkes – requires the interested performer to contact the publisher to have the work printed on demand.\textsuperscript{81} This extra stage in the acquisition process of the score would likely deter less intrepid performers.

While such statistics may be interesting on a purely intellectual level, it must be recognized that they are derived from a partial list. Understandably not all concerts that

\textsuperscript{79} Performance values were derived from the data presented in Appendix VI.


incorporate Reich’s music are included on the list, but more surprising is that, even when a concert is listed, not all of the works performed are always part of the records of the website. For example, the world premiere of Radio Rewrite\(^82\) took place at Royal Festival Hall, South Bank Centre, London on 5 March 2013. The London premiere was followed by a brief UK tour, which included performances at Birmingham and Brighton before heading up to Glasgow on 9 March 2013. The website listed two concerts in Glasgow that night, one with Brad Lubman conducting the London Sinfonietta in the Scottish premiere of Radio Rewrite and one performance of My Name Is by Powerplant/Joby Burgess. In reality these two concerts were one and the same, and included even more performances of Reich and other composer’s music than advertised on his website.

### Website Listing:\(^83\)
- Reich:
  - Radio Rewrite
  - 2x5
  - Electric Counterpoint
  - My Name Is

### Actual Concert Programme:\(^84\)
- Reich:
  - My Name Is
  - New York Counterpoint
  - Electric Counterpoint (xylosynth version)
  - Clapping Music
  - Electric Counterpoint
  - 2x5
  - Radio Rewrite
  - Double Sextet

- Harker:
  - NYC Re-Imagined

- Fitkin:
  - Chain of Command

The differences in the listings is significant – New York Counterpoint, Clapping Music, Double Sextet, and a xylosynth version of Electric Counterpoint are eliminated from

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\(^{82}\) Reich describes the stimulus for the work as ‘In September 2010 I was in Krakow for a festival of my music. One of the featured performers was Jonny Greenwood of Radiohead who has prepared all the backing tracks for my piece, Electric Counterpoint and then played electric guitar live against those tracks in concert. It was a great performance and we began talking. I found his background as a violist and his present active role as a composer extremely interesting when added to his major role in such an important and innovative rock group. Even Festival director Filip Berkowitz suggested I listen to Radiohead. When I returned home I made it a point to go online and listen to their music and the two songs mentioned above stuck in my head.’ See Steve Reich, Radio Rewrite (USA: Hendon/Boosey & Hawkes, 2012).


Radio Rewrite, 2x5 and Electric Counterpoint were linked as a performance of the London Sinfonietta directed by Brad Lubman, and Sound Intermedia. My Name Is was listed as a performance by Powerplant/Joby Burgess.

\(^{84}\) “Steve Reich in Glasgow” concert programme, 9 March 2013, Glasgow Royal Concert Hall.
website listing. This is not a case of a work being missed in typing when the programme was added to the website but a conscious decision to include some and exclude others. The website grouping of *Radio Rewrite, 2x5* and *Electric Counterpoint* illustrates a three-fold connection between the programme and rock band Radiohead’s guitarist and composer Jonny Greenwood, which would have been less apparent if the complete Reich repertoire was included. First, *Radio Rewrite* is based on two of Radiohead’s songs (‘Jigsaw Falling Into Place’ and ‘Everything In Its Right Place’). Second, *Electric Counterpoint* was the work that brought Radiohead (through Greenwood’s performance of it) to Reich’s attention. Third, *2x5* is arguably Reich’s most ‘rock and roll’ oriented composition, featuring two quintets (one on tape, one live) comprising piano, bass guitar, drums and two guitars each, which links back to Radiohead as a rock group. The construction of the Scottish premiere of *Radio Rewrite* was therefore curated to highlight Reich’s connections with popular music, such as Radiohead, over some of his more traditional western classical works.

More recently, Reich has tended to shy away from the words ‘popular’ and ‘classical’ to describe music using instead the terms ‘non-notated’ and ‘notated.’ Interestingly the use of these terms divides Reich’s own musical oeuvre between his entirely tape-based speech works as non-notated and the rest of his oeuvre as notated. While these terms, in a sense, dissolve an intellectual divide between popular and classical forms, they still maintain a type of distinction between varieties of music – and it should be noted that Reich is fluent in both varieties created by his division.

Reich’s music has also been the subject of remixes and sampling; and, these remixes are just beginning to come under the purview of serious scholarship. For example, David Carter has explored how the DJ Howie B’s ‘Eight Lines’ remix is best understood as an exceptional encounter with the work of Steve Reich precipitated by Howie B’s engagement with the *Reich Remixed* album. The Orb famously sampled *Electric Counterpoint* and many other works in their 1990 track ‘Little Fluffy Clouds’. *Adventures*

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Beyond the Ultraworld and its signature track ‘Little Fluffy Clouds’ brought The Orb critical acclaim by ‘[b]randishing swatches of dub, Eno, disco savvy, and a healthy sense of humor, the Orb’s unique flavor stood out in a sea of anonymous Chicago house tracks and the electro-pop of Depeche Mode.’

Reich has said that he finds such sampling to be flattering and that ‘It’s nice to know that you’re of use and interest to people, and especially if they’re musicians.’

Muhly finds further evidence of influence between Reich’s work and rock music:

In Radiohead’s “Idioteque,” we see them using a technique clearly stemming from Reich’s Electric Counterpoint: the texture, just before the midpoint of the song, reduces into a pattern of vocal melodic fragments, the drums, and a counterpoint, which is overtaken by a similar zoom-effect with the return of the pulse clouds that define the piece.

Less explicit connections between Reich’s oeuvre and popular music appear in Phil Kline’s boom box orchestra works which ‘not only take as their starting point but attempt to create an organic synthesis of “the tape loop and phasing techniques of Brian Eno and Steve Reich” with “the sound mass experiments of Glenn Branca.”’

Orbital, according to Robert Fink, seems to have made a coded historical reference to early minimalism by using an identical process to Reich’s tape works Come Out and It’s Gonna Rain in the looping of the voice of Star Trek’s Commander Worf sampled on the 1993 track ‘Time Becomes.’

John Girard has even postulated that Reich’s influence may be seen in the composite timbres found on the Chicago-based post-rock group Tortoise’s 1998 album TNT. This is not to say that Reich’s interaction with popular music has been one-sided, with Radio Rewrite popular music’s influence unambiguously reflected back onto Reich. As Robert Fink has pointed out, ‘postminimalism’s embrace of alternative rock/jazz culture is arty composers turning not away from artiness, but toward it ... for the first time, the production

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and consumption of contemporary art music has broken quite free of institutionalized classical music.\textsuperscript{95}

The rudimentary statistics point out that the Counterpoints are played with greater frequency and by a greater variety of musicians than a majority of Reich’s other compositions, while the partial listing of concerts from which they are derived also demonstrates an additional level of Reich’s construction and presentation of self in accordance with Goffman’s theories. The composer has continued to find resonance in popular culture, being hailed as a sort of father figure for DJ culture; as Michael Gordon put it on the liner notes to the ‘Reich Remixed’ album, Reich’s ‘music has filtered into the consciousness of our society, so much so that it has been copied and distilled into music now heard everywhere.’\textsuperscript{96}

**Critiques of The Counterpoints On Record**

Similarly diverse perspectives are found in reviews of recorded versions of the Counterpoints. In reviews of recordings when paired with other Reich works, the Counterpoints fair less well than when they appear alongside other composers’ works for the same type of ensemble. As was also noted in the reviews of *Cello Counterpoint’s* concert. When the Counterpoints did not have to battle against one of Reich’s more grand-scale compositions they are judged on their own merits and not in comparison with other works. The consistent aspect in these reviews is that Reich and his music do not tend to garner an apathetic response – if the work is reviewed then the critic takes a strong stance on it.

The Counterpoints have been released in a variety of formats and paired with both Reich and non-Reich compositions. Just as a non-Steve Reich and Musicians ensemble member premiered each of the Counterpoints, the work was also recorded and released by that artist who was a non-Steve Reich and Musician ensemble member. Both *Vermont* and *New York Counterpoints* in their original releases were paired with non-Reich compositions. The Angel Records album with Wilson’s recording of *Vermont* also included Claude Debussy’s *Syrinx*, Philip Glass’s *Façades*, André Jolivet’s *Ascèses (I)*, and Frank Becker’s *Stonehenge\textsuperscript{97}* all compact twentieth-century recital works. More

\textsuperscript{95} Fink, “Elvis Everywhere,” 146–7.
\textsuperscript{96} Michael Gordon, “Reich: Remixed” album liner notes, Nonesuch 7559-79973-2, 1999.
eclectic still was *New York Counterpoint*’s context on Stoltzman’s RCA release of the same name. The album, which concludes with Reich’s composition, also included: *Sky, Feast, and Song for Catherine* by Bill Douglas; *Pie Jesu* by Andrew Lloyd Webber; *The Circular Word* by Jeremy Wall; *Goodbye* by Gordon Jenkins; *G Song* by Bennett; *In the Morning* and *Serenity* by Charles Ives; and *Viderunt Omnes* by Pérotin.98 These chocolate-box selections lie in contrast with both *Cello* and *Electric Counterpoint*, which were released on Reich-only albums on Nonesuch: *Cello* paired with *You Are (Variations)* and *Electric* with *Different Trains*. The composer-based Nonesuch albums received a greater critical response than either *Vermont* or *New York Counterpoint*.

The *You Are (Variations)* and *Cello Counterpoint* album was released by Nonesuch two years after *Three Tales*.99 Reviewed by Dominique Leone for the online music magazine *Pitchfork*, *Cello Counterpoint* is mentioned as a mere afterthought to a lecture on urbanity and its reflection in Reich’s music:

> The “variations” in *You Are* take up most of the CD, but the closing track is Reich’s *Cello Counterpoint*, featuring cellist Maya Beiser (Bang On a Can) overdubbed eight times to create a surprisingly dense string ensemble. As Reich points out in the CD insert, the cello is great because its [sic] capable of resonating clearly in a very wide range-- this piece was actually written for a full string octet, but its marked accents and interweaving melodies sound great all performed by one person. There is a slight similarity to *Different Trains* for string quartet, though *Cello Counterpoint* is nowhere near as “industrial,” sounding more conventional, perhaps less confrontational, yet still unmistakably Reich. As with the *You Are* tracks, the constant rumble of motion fills up whatever mental space I have to drift away from the music.100

Aside from a factual error in Leone’s review, she makes an interesting link between *Cello Counterpoint* and *Different Trains*.101 Leone provides no information to substantiate her claim of a link, no particular moment of correspondence or even the most basic performance gesture is noted as being shared between the works. Instead, she concludes


101 *Cello Counterpoint* was written for Maya Beiser to perform as a soloist; it, however, like the other Counterpoints, can be performed by an appropriately sized ensemble of like instruments, in this case a Cello octet.
rather flatly that it is ‘still unmistakably Reich,’ and seems to be employing an unsupported comparison as a method of demonstrating her own knowledge rather than exploring the complex intertextual connections within the composer’s own oeuvre. It is as if by reminding the listening audience of the award-winning composition that Leone is hoping that *Cello Counterpoint* will gain some of its gravitas.

Ivan Moody of *Gramophone* relates the recording to how the work might be experienced in live performance, commenting that ‘while at times Reich’s contrapuntal chugging seems a little worthy, there’s no doubt that this is a work of real substance (and one that must be extremely effective heard live).’102 Rather than the composition name-dropping of Leone, Moody notes the experience of listening to the work, and how it might change depending on whether it was heard on record (as he listened to it to when writing the review) or live in concert with Beiser tangling herself up in a technological contrapuntal web.

Fairing notably better in the recorded reviews than in public performance was *Electric Counterpoint*. Paired with Kronos’ rendition of *Different Trains*, some reviews, such as John Milsom’s in *Gramophone*, found the work to be nothing more than a B-side.103 Still other reviews, such as Christopher Fox in *Tempo*, note the crossover similarities between Metheny and Kronos and wonder at how it was ‘the stuff of record company executives’ wilder dreams’ for reaching a new audience.104

After recounting a running commentary of *Electric Counterpoint*, and rehashing Reich’s programme notes, Brent Heisinger in a review of the Nonesuch disc for the academic journal *American Music* offers his own opinion of the work:

> This disc is a must for fans of Reich, minimalism, or new music in general … *Electric Counterpoint* is an important work because it treats the guitar uniquely with typical Reichian compositional techniques. While both works demonstrate Reich’s style-based-on-process, collectors will be interested to find that they also represent what I [Heisinger] believe is a trend in the minimalist school of

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103 Milsom, untitled review of *Different Trains/Electric Counterpoint* album.

104 Christopher Fox, “Steve Reich’s ‘Different Trains’,” *Tempo* 172 (March 1990), 2.
composition, which is to produce works that are increasingly dialectic, that is, dramatic in the Western sense.\textsuperscript{105}

With this review Heisinger is disagreeing with Milsom and Fox’s opinions that \textit{Electric Counterpoint} was simply released as a vehicle for furthering \textit{Different Trains}. Heisinger’s view is in line with other artists who have dealt with Hurwitz and Nonesuch, who claim that Hurwitz does not tamper with the performing artist’s vision. This is not to say that Hurwitz does not sometimes voice an opinion on what he likes or dislikes, but rather that it ‘isn’t for commercial reasons in any sense that he likes things.’\textsuperscript{106} Discounting an overtly monetary aim for the pairing of \textit{Electric Counterpoint} with \textit{Different Trains}, much of Milsom and Fox’s concerns over the work lose traction and one is left with reviews such as Heisinger’s that focus on the inherent qualities of the composition rather than how it stands up against a work for an entirely different ensemble type.

The Nonesuch releases of \textit{Electric} and \textit{Cello Counterpoint} received critical attention for the production choices of what other works were included on the discs, always with a lurking suspicion that the label was out to make Reich a commercial rather than an artistic success. This overshadowing suspicion begs the question of whether commercial success necessarily has to be at the expense of artistic freedom. Few critics can see beyond their perceived view of Nonesuch as a corporate entity just interested in the bottom line of record sales – and this prejudices their perspectives as surely as an annoying seatmate at a live concert might do. Even though Nonesuch is a large music corporation, and as such must be interested in the commercial aspect of their artist’s success, the reasons behind production decisions do not only have to be motivated by it. Certainly both types of success – commercial and artistic – can be achieved in one release, and existence of one should not taint the possibility of the other.

Insight into Reich’s reaction to newspaper critique can be found in his 1994 article ‘Beautiful/Ugly’ that, in a similar vein to Ned Rorem, focuses both on the writer and the words, rather than isolating one or the other. Reich opens by stating the obvious but often forgotten: ‘To evaluate the expression, “That’s beautiful” you have to know something

\textsuperscript{105} Brent Heisinger, “Different Trains by Steven [sic] Reich; Electric Counterpoint by Steven [sic] Reich,” \textit{American Music} 10, no. 1 (Spring 1992), 111.

about the person speaking." Further on in this brief essay, Reich notes that terms such as beautiful and ugly, when wielded by a critic, frequently become so politicized. The newspaper reviews, according to Reich, therefore, carry a certain political weight; however, this weight is less important than perhaps a more genuine aesthetic evaluation from an innocent non-politicised person such as a child, who is more likely to react spontaneously to a work.

Verging on the esthetic realm, but also intricately entwined with the poietic, are Reich’s own writings on the Counterpoints. With these writings he makes decisions about what information to reveal and what should be left up to the performer and listener to discover. Reich’s own views on the Counterpoints have been consistent through the years – namely that they are small-scale works that encapsulate the essence of his music. In writing about them, he provides detailed programme notes for the first three – *Vermont, New York,* and *Electric* – in his 2002 publication, *Writings on Music 1965-2000.* As *Cello Counterpoint* was composed after the collected volume, it does not appear in its pages; however an unofficial commentary is found in Beiser’s ‘World to Come’ programme notes (see Appendix V for the full text). The ‘World to Come’ programme notes differ slightly from the notes on the Boosey & Hawkes website; as they include an introduction by Beiser and lack details of the premiere date, the Beiser notes are used here.

In these texts, Reich reveals the foundation of an analytical approach to the Counterpoints, describing in brief how the basic elements of each work interacts with one another to create ambiguity – either metrical, harmonic, or both. These texts also often relate some anecdote about the effort involved in a performance of the work, the source material, or the original performers, making these terse writings snapshots into the intertextual branching of Reich’s music.

*Cello Counterpoint,* according to Reich, is one of his most difficult works to perform. Beiser concurs, noting that it ‘requires utmost discipline and precision.’ In the programme note Reich also reveals that he feels the structure is generally quite free, yet in the same breath he reports that there is an ambiguous harmonic motion between C minor

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and E-flat major over the course of a four-chord cycle—something common among the earlier Counterpoints. That Electric Counterpoint is built up from a theme derived from Central African horn music is revealed in his programme note for that work, along with a thank-you to Metheny for aiding the composer in writing more idiomatically for the guitar. The source of New York Counterpoint’s opening pulses is drawn from Music for 18 Musicians; however, the nature of the work’s patterns – with regard to harmony and tempo – are reflections of Sextet. Meanwhile the ambiguity uncovered by Reich’s programme note is the variety of ways that twelve can be grouped, 4 groups of 3 or 3 groups of 4. The text on Vermont notes links between it and Reich’s Phase works from 1967, focusing primarily on the concept of a soloist performing with a pre-recorded ensemble of their own creation. A level of uncertainty is created in the work by metric modulation and the building up of canons followed by playing the melodies that result from their combination.

Not all of Reich’s plans for the Counterpoints have come to fruition. In a 1994 interview with Schwarz for his book Minimalists, Reich revealed that he was contemplating a work to be called Percussion Counterpoint to be premiered by Evelyn Glennie in 1996. This work thus far has not come to pass, although sketches for it are found in the PSS Sketchbook 45. Even more recently, in 2010, Reich was working on a composition to be titled London Counterpoint; some of the e-sketches for this work are mentioned in Chapter 4. The work was commissioned by the London Sinfonietta and was to be the next chapter of his ‘hypnotizing Counterpoint series … composed for an ensemble of up to 15 musicians, each of whom will be playing against a pre-recorded line, employing the virtuosic solo sounds of the London Sinfonietta for its eagerly anticipated world première – scheduled for the 2013 season, or hopefully earlier.’ Reich reportedly moved away from the ‘giant counterpoint piece’ concept shortly after discovering

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110 Beiser, “Maya Beiser: World to Come Programme.”
111 Reich, Writings on Music, 1965-2000, 147.
113 Reich, Writings on Music, 1965-2000, 119.
114 Reich interview with K. Robert Schwarz Cassette Tape Side B, 22 July 1994, Box 55, Tape 332, K. Robert Schwarz Papers, Department of Special Collections and Archives, Queens College, City University of New York.
115 John Wheatley, “London, Royal Festival Hall: Steve Reich,” Tempo (June 2010), 89.
Radiohead, leading to the work *Radio Rewrite*, whose world premiere tour was discussed earlier in this chapter. It seems that for a Counterpoint concept to come into being requires Reich to be inspired and to focus on an individual performer and their capabilities.

Finally, realized but not originally a Counterpoint work, *Piano Counterpoint* is a 2011 re-working and arrangement of *Six Pianos* from 1973. Of the six piano parts from 1973, four remain intact and pre-recorded while the last two are combined into a single live part. Vincent Corver worked out the arrangement, and although for the performer to physically play the two combined lines ‘it was necessary to move some of the melodic patterns up an octave,’ Reich states that ‘this arrangement can be heard as improving on the original.’ While Reich is not currently active in arranging older works into the Counterpoint idiom, he has bestowed acceptance and appreciation towards Corver’s attempts.

* * *

The Counterpoints in the press seem to garner praise as little recital pieces but are never weighed down by mantles of significance or substance. Gann’s review of *Electric Counterpoint* goes further than the notion that these works simply lack significance when he posits that the Counterpoints are infinitely extendable and – as such – disposable. This view of the Counterpoints as fluff works used by a pragmatic composer to fill in gaps in concerts, or a cookie-cutter composition that can be adapted to any soloist, is one that is also reflected in the overwhelming lack of scholarly attention paid to these works in particular (see Chapter 1). Such ignorance about these compositions is especially galling when, as was demonstrated in the performance statistics gathered from Reich’s website, the Counterpoints actually comprise a substantial portion of Reich’s outlay of performances. The reviews of the Counterpoints provide an on-going thread through the media circus surrounding Reich’s compositional career. When comparing a Counterpoint to a Counterpoint we are comparing like quantities, and difference as well as similarities

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117 The performance statistics discussed in the esthetic level of this thesis accounted for *Piano Counterpoint* as a Counterpoint work and not a performance of *Six Pianos*, although only 13 performances of the work were even accounted for the Reich’s website. See Appendix IV.

are able to emerge more clearly – the concert critics largely picked up on connections between these works and the Phase pieces of the 1960s. With the release of the Counterpoints on record, the average listener was afforded the opportunity to experience some of the music reviewed by the critic and evaluate it for themselves, much like reading a review of a concert one has attended, and (dis)agreeing with the author while simultaneously adding your own views and perceptions into it. The brief exploration of Reich’s writings regarding the Counterpoints also helps to centre how the works are presented to (and subsequently received by) his listeners.

Reich chose to be represented in his biographies initially as a composer with a privileged formal education, perpetuating this idea of himself through lists of accolades and accomplishments the world over. This highly (self)conscious media persona was constructed by Reich and his PR representatives as a way of creating contemporary relevance for his works. This seems to have been a successful ploy, as the mantle of ‘the world’s greatest living composer’ might suggest, but it also creates expectation for masterpieces – and the Counterpoints are not considered to be those, in part due to their brevity. Such tensions become more apparent by exploring the esthetic response garnered by the Counterpoints. This chapter supplements the information provided in the preceding pages of the neutral-level analysis, which, when combined, begin to form a web of interpretants to be investigated in Chapter 6 and eventually a more holistic view of the works specifically, and Reich in general.
CHAPTER 4
FROM PENCIL ON PAPER

Poietic Level

I started out as a pencil on paper, and an ink on onionskin composer, who sat at the piano and wrote the music out on paper.¹

The following chapter delves into the particular poietics of Steve Reich’s compositional style before the adoption of the computer, through case studies of Vermont and New York Counterpoints, after bridging the gap between esthesic and poietic with a discussion of how Reich might have responded to the views of critics through an examination of his writings on the Counterpoints. Further discourse on the poietic level with regard to Reich’s computer-aided composition of Electric and Cello Counterpoints is found in Chapter 5.

As described in Chapter 1, the primary source material for Reich is extremely varied. The primary collection of materials was accumulated, collected, and maintained by Reich himself until 2008–9 when stewardship of the collection was transferred to the Paul Sacher Stiftung (PSS) in Basel, Switzerland. But there is, of course, more to the poietic dimension of Reich’s compositions than is housed at the PSS, although this contains by far the most exhaustive collection of materials. Letters, announcements, and flyers relating to Reich’s work are also available among the papers of William W. Austin, Vincent Persichetti, Gilbert Chase,² H. Wiley Hitchcock,³ Betty Freeman, and K. Robert Schwarz. In addition, the Brooklyn Academy of Music (BAM) collection includes recordings and programmes from premieres of Reich’s work being presented at BAM. Each collection supplies another piece in the puzzle of Reich’s compositional career, while concurrently

providing insight into what was deemed worthy of being kept, collected, and (in all of the aforementioned cases) entrusted to an institution for the purpose of academic research.

By asking questions such as: How does Reich use the sketching process? What elements from the sketch materials find their way into the final composition? Are the Counterpoints all sketched in a similar manner? Can a compositional method for Reich be determined by an examination of the sketches? And adapting the traditional ideas of sketch study to the peculiarities of the twentieth century, we can continue, as Potter and O’Brien (described in Chapter 1) have begun, to mine the sketch material housed in the Steve Reich collection at the PSS for factual information, stages of compositional development, and perhaps even insights into the final compositions.

Turning to the sketch material to reveal answers to questions concerning compositional intent and personal meaning is common practice where such documents are available to the researcher. These materials can aid the scholar in understanding why certain choices were made – or, just as importantly, not made – when arranged chronologically and read through the lens of the time in which they were created. The present discussion will centre on the analogue sketches of Vermont and New York Counterpoint. In current study, Vermont Counterpoint’s importance is drawn from the fact that it was the first of Reich’s works written for an outsider to Steve Reich and Musicians, while New York Counterpoint’s was the last Counterpoint composed entirely by hand, an analogue technology.

**Vermont Counterpoint Sketches**

For Vermont Counterpoint, the extant source material includes the following: three spiral-bound sketchbooks; loose draft pages (photocopies of sketchbook pages that have been subsequently written on, or sketched pages ripped from unidentified sketchbooks); publishing proofs of the score; notes and letters concerning the creation of the original recording; datebooks; and some concert programmes are housed at the PSS. In addition to these primary materials there is correspondence between Betty Freeman (Vermont’s dedicatee) and Reich; as well as William W. Austin and Reich relating to the

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4 Steve Reich Collection, Paul Sacher Stiftung, Basel, Switzerland.
5 Betty Freeman Papers. MSS 227. Special Collections & Archives, UC San Diego Library.
6 William W. Austin Papers, Box 8, Archives 14-20-2297. Rare and Manuscript Collections, Cornell University.
composition of the work. From these sources we can begin to construct a timeline of the genesis and conception of *Vermont Counterpoint* in 1982 (see Table 4.1).

<table>
<thead>
<tr>
<th>Date (all 1982)</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-14, 17-18 January</td>
<td>Sketchbook 24*</td>
</tr>
<tr>
<td>19 January</td>
<td>Sketchbook 24; Meeting with Ransom Wilson at 1pm</td>
</tr>
<tr>
<td>21-25, 28, 31 January</td>
<td>Sketchbook 24</td>
</tr>
<tr>
<td>3, 5, 7, 9-12, 14-15,</td>
<td>Sketchbook 24</td>
</tr>
<tr>
<td>21-22, 28 February</td>
<td>Sketchbook 24</td>
</tr>
<tr>
<td>2-4 March</td>
<td>Sketchbook 24</td>
</tr>
<tr>
<td>4-5, 13-14, 29 April</td>
<td>Sketchbook 24</td>
</tr>
<tr>
<td>6, 8 June</td>
<td>Sketchbook 24</td>
</tr>
<tr>
<td>13, 15, 17 June</td>
<td>Sketchbook 24</td>
</tr>
<tr>
<td>13, 29-30 June</td>
<td>Sketchbook 25</td>
</tr>
<tr>
<td>1, 7, 9, 11, 13 July</td>
<td>Sketchbook 25</td>
</tr>
<tr>
<td>15 July</td>
<td>Sketchbook 25; Letter from Reich to Freeman</td>
</tr>
<tr>
<td>16, 18-20, 22-28 July</td>
<td>Sketchbook 25</td>
</tr>
<tr>
<td>30 July</td>
<td>Sketchbook 25; Sketchbook 26</td>
</tr>
<tr>
<td>2-3 August</td>
<td>Sketchbook 26</td>
</tr>
<tr>
<td>5, 8 August</td>
<td>Sketchbook 26</td>
</tr>
<tr>
<td>11-12 August</td>
<td>Wilson in Vermont with Reich</td>
</tr>
<tr>
<td>23-26 August</td>
<td>Wilson and Reich in Los Angeles to record at Angel Records Studios</td>
</tr>
<tr>
<td>30 August</td>
<td>Letter from Reich to Freeman; Letter from Reich to Austin</td>
</tr>
<tr>
<td>9 September</td>
<td>Letter from Reich to Laursen</td>
</tr>
<tr>
<td>21 September</td>
<td>Letter from Laursen to Reich</td>
</tr>
<tr>
<td>23 September</td>
<td>Sketchbook 26; Letter from Reich to Freeman</td>
</tr>
<tr>
<td>24-25 September</td>
<td>Editing of Vermont</td>
</tr>
<tr>
<td>26 September</td>
<td>Meeting with Wilson 3pm</td>
</tr>
<tr>
<td>27 September</td>
<td>Meeting with Wilson 8</td>
</tr>
<tr>
<td>30 September-3 October</td>
<td>Premiere at BAM Next Wave Festival</td>
</tr>
<tr>
<td>7, 10 October</td>
<td>Letter from Reich to Freeman</td>
</tr>
<tr>
<td>16 December</td>
<td>West Coast premiere in San Francisco</td>
</tr>
<tr>
<td>1 January 1983</td>
<td>Letter from Reich to Freeman</td>
</tr>
</tbody>
</table>

Table 4.1. Timeline of Steve Reich’s compositional activities during 1982 relating to *Vermont Counterpoint*.

*The sketchbook number refers to the reference assigned to it within the Steve Reich Collection, PSS and is not a number given to it by the composer.*
As a composer, Reich has kept an on-going set of sketchbooks – when one work is finished the next one begins, usually with very little overlap of pages. The sketchbooks that include the initial sketches of *Vermont* consist of sketchbook 24, with entries from the middle of January through to the beginning of June 1982; sketchbook 25, with entries from the middle of June to the end of July; and sketchbook 26, comprising the final few entries from the end of July and beginning of August. The dates in Table 4.1 indicate only a summary of the extant dated material – undated material is not included here. Likewise, a dated entry in the sketchbooks does not specify a minimum of compositional work (such as an entire page in the sketchbook) on any given day, and Reich’s compositional output varied dramatically depending on the day in question. For example, in sketchbook 24 the entry for 13 April totalled six pages, whereas 14 April comprised a single page. The extreme fluctuations in the volume of writing in the sketchbooks continues in subsequent books: the entry for 20 July in sketchbook 25 contains nine pages, while the entries for both 18 and 19 July are both single pages. A similar, yet compressed, instance of this is found in *New York Counterpoint*’s sketches as well.

The following discussion draws heavily on dated entries from the three sketchbooks that comprise the basic sketch material of *Vermont Counterpoint*. These sketchbooks are largely (although not entirely) chronological. In order to lessen confusion as to the progression of the discussion through these books, a pagination of the relevant portions of each sketchbook with the dates present on each page is provided in Appendix VI, divided by composition. Dates presented in brackets indicate a likely date for the material based upon the nature of the material on that page and the preceding material, as when the entry is considered to be a continuation of the previous entry.

**Sketchbook 24**

On the first page of the *Vermont* sketches, the nascent composition is simply identified as ‘Piece for Ransom Wilson’ and the page bears a note in the upper right corner: ‘For flute: tremolos speed – up to fifth in lower octave? Up to major third in upper octave.’ While none of the six melodic ideas that are sketched out on this page appear in the final version of the work, the idea of transposing the melody does occur in the first movement. As Reich’s first comment/question could be read to suggest, the melodic line of movement one is transposed a major third in the piccolo and a perfect fifth in the alto flute.

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7 Sketchbook 25, Steve Reich Collection, PSS.
It should also be understood that the alto flutes in *Vermont* are written at concert pitch throughout the sketchbooks.

Throughout these initial sketches it is possible to see a continuation of developing ideas; however nothing occurs quite in its final format. The patterns and their final placements according to the Boosey & Hawkes score are listed in Appendices I and II respectively. In the sketches that date from 13–14 and 17–18 January, Reich never outlines the dotted quaver-semiquaver rhythm that appears in various guises in all but two of the motivic cells used in *Vermont*.

Additionally the possibilities for key signatures are explored through seven potentials: 0#/b, 1#, 2#, 3#, 5#, 2b, 4b. Likewise, Reich investigates a variety of tempos: on 18 January he notes crotchet equals 184, whereas on 13 January he tries a slower tempo of crotchet equals 112. These preliminary sketches from 18 January also demonstrate Reich’s basic idea of a single melody with overlapping canonic entries. The entry consists of two patterns labelled as ‘4 Flutes.’ Each features a two-measure melody in common time (although un-notated as such), with one pattern beginning on beat one and the second on beat four of the first pattern, while the end of the pattern loops back to the start. This positioning of the melody separated by a certain number of beats, or the pattern and their out-of-phase partners – a type of static phase – first appears in the 18 January entry and ultimately in three-part canons throughout the completed score of *Vermont*.

In the early months of 1982 (see Appendix VI) the sketch material is established quite considerably in the undated sketchbook page that faces the page with two entries dated 3 and 5 February. Here, Reich outlines four options to try in developing the work:

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8 The two patterns that do not feature the dotted quaver-semiquaver pattern are found in the Live Flute and Taped Solo Flute parts between rehearsals 43–57 inclusive.

9 The format of sharps being designated with a #-sign and flats with b-sign is found in Reich’s sketches and has been maintained here in order to prevent any assumptions about the tonality or modality of the music. In some contexts and generations the technique of writing with a key signature might be considered a relic of past compositional style. This was noted as a consideration of Reich as in a 2015 pre-concert interview he brought up a discussion he had had with the composer Nico Muhly about the use (and also non-use) of key signatures in the younger generation of composers. According to Reich, Muhly prefers as a performer to see an accidental in front of a note and play it that way rather than begin each stave with a key signature, and as such writes his scores that way. Alternatively Reich apparently feels that if you are writing in 4#s you are in E major, and should notate it as such. This argument apparently ended with Muhly sending Reich a postcard with a photo of a locksmith shop whose motto read “Keys Made Fast and Accurate.” Steve Reich, Svend Brown, and Colin Currie, Pre-concert talk, 3 May 2015, Glasgow Royal Concert Hall, Glasgow, UK.
1) Held note patterns against these
2) Held notes as part of patterns like these
3) Various patterns (rhythmic) as notes change
4) OVER ALL FORM: FAST - SLOW - FAST\textsuperscript{10}

The third option is applied to the final version of *Vermont Counterpoint*’s second, third, and fourth movements. In these movements, each of the taped trios (piccolo 1–3, flute 1–3 and flute 4–6, and alto 1–3) has an individual note pattern that shares the rhythmic profile with the other trios for that movement, so there are in fact various rhythmic figures occurring as notes change. Reich’s focus on the manipulation of the notes within the rhythmic framework is further emphasised on 7 February when he wrote to himself that he should ‘match lines more exactly harmonically + not necessarily parallel or even similar motion.’\textsuperscript{11}

Reich does not outline the melodic pattern that becomes the focal point of *Vermont Counterpoint* until 14 February, although he starts a draft of the ‘Multiple Flute piece for Ransom Wilson’ on 9 February that continues to develop a different melodic pattern through to 12 February. This figure is discarded by Reich on 14 February in favour of Pattern A (Appendix II) although it occurs in six flats rather than one. The rhythmic pattern and basic melodic contour of the material found in the published score from rehearsals 1–13 is further developed by Reich on the two sketch pages from 15 February, albeit still in six flats.

On an undated page of rough sketches found between the entries from 15 and 21 February (see Appendix VI for page chronology), Reich singles out the melody that he had previously been developing in six flats and places it into the final key of one flat. Additionally, he separates out three lines indicated as ‘Picc, Flute, Alto Flute’ and in the transpositions of a major third, none and a perfect fifth respectively. The melody is placed in 3/4 and the quaver beat is marked in the Flute line by number 1–6 for each measure, suggesting that Reich was using the quaver beat to mark particular points in the melodic pattern. Reich also places a variety of numbers ranging from 1–3 over the top of the piccolo line and underneath the alto line. From an examination of the final score in conjunction with this page it appears that the numbers indicate how the pattern will be revealed through the process of rhythmic construction described above. The piccolo line in

\textsuperscript{10} Sketchbook 24, Steve Reich Collection, PSS.

\textsuperscript{11} Sketchbook 24, Steve Reich Collection, PSS.
rehearsals 14–16 demonstrates Reich’s methodical unveiling of the melodic figure in accordance with the sketchbook numbers (see Figure 4.1).

![Figure 4.1. Transcription of rhythmic construction of ‘Picc line’ as indicated in Steve Reich sketchbook 4, page 71 (undated) and Piccolo 1 at rehearsals 14–16 from published score of Steve Reich, Vermont Counterpoint.]  

Pitches indicated with the number 1 occur in the first rehearsal of the material’s introduction (in Figure 4.1 these pitches therefore occur in the ‘Picc. 1 Reh. 14’ line). Those pitches in the melody that are designated with the number 2 appear along with the previously unveiled pitches in the subsequent rehearsal (in Figure 4.1 this is the ‘Picc. 1 Reh. 15’ line). Finally, the pitches labelled with number 3 complete the pattern in the final rehearsal (see Figure 4.1, ‘Picc. 1 Reh. 16’). This numeric code also occurs in sketches for the other Counterpoints, including New York Counterpoint. In an interview conducted in the spring of 1983, Reich indicated the significance of pacing and unveiling these melodic patterns when he commented: ‘[but] what notes and in what rhythmic order? That was an aesthetic decision and that was always important to me.’ These sketches make evident the value that Reich placed on the method of substituting rests with sounds.

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12 Derived from Sketchbook 24, Steve Reich Collection, PSS, and Steve Reich, Vermont Counterpoint (New York: Boosey & Hawkes/Hendon Music, 1982), reh.14–16.

Steve Reich, Vermont Counterpoint.

13 Sketchbook 34, Steve Reich Collection, PSS.

A mere twenty pages from the start of the *Vermont* sketches, the entry from 21 February titled ‘Flute Rounds or A Western Wind’ outlines the melodic material found in the first thirteen rehearsal marks of the work’s final version. This sketch, although following the same pattern of transference entries between live flute and tape described above, is notated as being in 6/8 rather than the 3/4 of the published version.

A subsequent entry in Sketchbook 24 from 22 February is crossed out with the written note to ‘Revise this to ADD piccolo.’ Except for the lack of a piccolo line, the material in the 22 February entry details matches the published version of the score between rehearsals 14 and 16. 28 February’s entry includes a revised rehearsal 14 to incorporate a piccolo line. Reich highlights this addition with a star in red ink and, unlike the final version of *Vermont*, the melodic pattern for the piccolo found in this entry does not have the same rhythmic profile as the rest of the section.

It is interesting to note that these pages are also found in the loose pages of sketch material. It appears that the sketchbook was photocopied and then the copies were marked up with red and blue pencil crayon. With the photocopied version we find that the time signature has changed from 6/8 to 3/4. Additionally, the tempo is maintained, but written as quaver equals 224. Furthermore, both of the possible titles have been discarded and the ‘change to piccolo’ has been modified to ‘change to alto’ instead. The dates on the headings of these loose manuscript pages were not modified when they were photocopied, so there is no way to tell exactly when these pages were ‘corrected’ to align with the published version.

Even the smallest corrections to maintain uniformity of the score are noted by Reich as the composition progresses. For example, the second page of sketches from 28 February notes that the bottom stave of music should be inserted below the top staff. A shift in attitude towards the content of the sketchbooks is observed in the March and early April entries, as they are, in fact, crossed out. These pages with discarded sketches remain in the book and, along with being crossed out, carry the note to see an insert for those measures. 4 March sketches rehearsal 23, giving the work’s title as ‘A WESTERN WIND

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15 The original sketchbook pages that Reich photocopied and marked up correspond to Sketchbook 24: p. 72 (2/21/82) rehearsals 1–9; p. 73 (undated) rehearsals 10–13; p. 75 (2/28/82) rehearsals 14–15; p. 76 (2/28/82) rehearsals 16–17; p. 86 (4/13/82) rehearsals 21–25. The page number indicated are based upon numbering from the start of the sketchbook and are not indicated on the pages, and the dates that Reich wrote relate to the Gregorian calendar are given in the accepted American format of Month/Day/Year.
for Flutes, Alto Flutes + Piccolo’ and, in place of the expanded pattern B that appears in the live piccolo’s final copy, has pattern A being constructed in position 19. Options for further melodic figures are sketched roughly at the bottom of this page, but these lines do not appear in Vermont’s final score.

Referring once again to Table 4.1 and Appendix VI, a compositional gap of a month may be found between the entries of 4 March and 4 April. This gap in the sketchbook material might be accounted for due to work done on the photocopied pages, described above, that outline rehearsal numbers 1–17. This solution is particularly attractive as it also provides an explanation for the timeline of the discarded material sketched from 2–4 March and 4 April, totalling seven pages of Sketchbook 24. There is little evidence to suggest that this may have been the case, however, as the other pages copied in a similar manner are from Sketchbook 26 written at the beginning of August and provide in part the adjusted material for rehearsals 18–20, including a corresponding ‘Insert for old 18–24.’

The first April entry is the last page that Reich crossed out in this section. Although this page was crossed out, it is possible to see that the second line from the bottom is an example of one of Reich’s condensed lines and is created by merging the above lines into a single one. From this condensed line Reich is able to choose notes that ‘result’ from the music that will therefore fit with the already composed musical patterns and simply reinforce various lines that are already interlocking – these lines are referred to by Reich as ‘resulting patterns.’ From 14 and 29 April, evidence of a return to the prevalence of the construction of patterns in Reich’s music is present, such as the following: ‘4/29/82 Change Patterns (not phase relations) change alto flute (3) or flute (3) or OR [sic] piccolo (3) – stay in 12/8 or (12/16) counter rhythm polyrhythm.’ This comment, and the development of the melodic figures surrounding it on the page, is evidence of Reich’s continued work with pattern-based composition. The intensity of Reich’s commitment to repeated figures in his music is strengthened by page 92 from sketchbook 24, also dated 29 April, as well as 23 May and 6 June. Reich marginalia comments written throughout this page refer to patterns and how they relate to one another (see Table 4.2).

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16 The original sketchbook pages that Reich photocopied and marked up correspond to Sketchbook 26: p. 5 (finished 8/5/82) rehearsals 87-88; p. 6 (8/2) rehearsal 18 ‘Insert for old 18-24’; p. 7 (undated) rehearsal 19; p. 8 (undated) rehearsal 20; p. 10 (8/5) rehearsal 87; p. 11 (undated) rehearsal 88-90; p. 12 (8/5) rehearsal 92.

17 Sketchbook 24, Steve Reich Collection, PSS.
<table>
<thead>
<tr>
<th>Reich’s writing</th>
<th>Indications &amp; references on the page</th>
</tr>
</thead>
</table>
| **4/29/82**    | 1) As resulting pattern  
|                | 2) flutes on tape fade  
|                | + this takes place of  
|                | Flute 1  
|                | 3) Add flute 2 build up  
|                | 4) " " 3 " " | Written beside a flute figure that has the same rhythmic profile as pattern C, the first four semiquaver notes differ in pitch. |
| **5/23/82**    | Consider melodic pattern which changes  
|                | Harmonically – particularly using G-A-D-E  
|                | and adding – below  
|                | find pattern | This comment refers to a figure of the transposed (for alto flute in G) concert pitches G, A, D, and E.  
|                | | The melody indicated by this comment has the same rhythmic profile as pattern A, but is written in 2#s |
| **6/6/82**     | 1) how is this as canon subject in 2–3 voices?  
|                | 2) what other patterns below + above? | This is written beneath two melodic figures, the first of which has the same rhythmic profile as pattern A" and the second which is pattern C (in the sketch it is in the key signature of 1b and in the final score it is in 2# but concert B, F and C are all not part of the pitch material used). |

Table 4.2. Transcription of handwritten commentary with corresponding references drawn from Steve Reich sketchbook 24, page 92. Dated 29 April, 23 May and 6 June 1982. Steve Reich Collection, PSS.

The last pages in sketchbook 24\(^\text{18}\) continue to outline the development of additional musical figures. An entry dated 6 June groups patterns D, C, and E as a trio at the top of the page and aligns possible options for the different endings underneath them. The option of reorganised notes which result in pattern E' – the only modified version of this trio to appear in the final score of *Vermont* – is foreshadowed in the last of the four possibilities that Reich lists here. In the same entry Reich provides pattern G in its entirety. The concept of reorganization and slight manipulation of resulting figures is played out in other

\(^{18}\) Except for the final page of Sketchbook 24 (p. 95), which outlines a comparative table of Torah Prophets ‘Song of Songs’ in the Lithuanian tradition. A typeset version of this page can be found in Reich’s collected writings; see Reich, *Writings on Music: 1965-2000*, 112.
Counterpoint sketches, in particular Sketchbook 34, which includes the first half of *New York Counterpoint*’s sketches.

Two days later on a left-facing page dated 8 June (see Appendix VI), Reich begins to frame the canonic spacings that will be played out in *Vermont*. Again patterns C, D, and E are grouped at the top of the page. However, this time the staves are headed by the instrument group that they are associated with in section II of *Vermont* (pattern C with piccolo, pattern D with C-flute, pattern E with alto). Directly following the first alto flute line (pattern E) are the two lines designating the second and third alto lines – again pattern E, but beginning at entry points 22 and 19 respectively. On the same sketchbook page (but this time under an entry dated 13 June), Reich works on combining and manipulating patterns D and E by changing a few notes but leaving the rhythmic profile intact. Reich’s comments in the margins question how best to transition to these figures. From the trio and canonic spacings sketched on 8 June, Reich has drawn an arrow across to the top of the right-facing page, which begins with the first four semiquavers of pattern C only to deviate to new material that does not align with any of the repeated melodic figures in the final version of *Vermont*. The rest of the right-facing page comprises two entries dated 15 and 17 June. These entries do not sketch out any material that exists in the published version of *Vermont Counterpoint* but they do demonstrate further instances of Reich’s consideration of the unravelling process described above in Figure 4.1. Reich describes the stages of unveiling the pattern here as ‘stops.’

**Sketchbook 25**

There is some overlap of dates in Reich’s transition to sketchbook 25, which begins with an entry dated 13 June in 1-flat with a piccolo line on pattern C and a trio of flutes sketching pattern A at positions 1, 22 and 19. This entry therefore corresponds to the melodic material found in the transition between movements I and II, as in the published score in rehearsal 26 through 30. Three pages later (skipping two facing pages, see Appendix VI) there is a continuation of the 13 June entry, sketching the format of rehearsals 28 and half of 29, which continues to rehearsals 30 and 31. The piccolo line at the bottom of the page – performing pattern C – is the only part written into the sketch, with the other lines simply notated with simile marks. The line is further highlighted by a star in red ink at its beginning. Rehearsals 32 and 33 outlining the exact transition from section I to section II appear on the subsequent page (although this happens a rehearsal earlier in the final score) in the published key signature and entry positions. Also included
on this page are sketches for rehearsal 39 (the sketched rehearsal 39 corresponds with the final rehearsal 38) demonstrating the development of pattern E in the alto flute in conjunction with pattern C in the piccolo. The development of these patterns is continued on the following pages from 29 June, which sketches patterns C22 and E22 in the piccolo and alto parts respectively for rehearsals 40–43. Again the piccolo lines are highlighted with red inked asterisks conforming to his system of indicating the live line. The margin notes on the first page of the entry for 29 June remind Reich to ‘GO BACK – combine 2 build ups at 18–24 into one build up of 3 bars’ – a task that, if completed, would account for the shift in correspondence between the rehearsal numbers found earlier. It is also on this page that the word ‘Vermont’ first appears in Reich’s sketch books, although it seems as much a reference to the location of composition rather than to the piece itself as Reich had probably moved from New York City to his summer residence in Vermont at this time. The bottom half of the final page of sketches from the entry for 29 June also lists two intertwined sets of compositional tasks that have a third organisational method imposed upon them, all of which are crossed through, see Figure 4.2.

Figure 4.2 Transcription of handwritten note found at bottom of Steve Reich sketchbook 25, page 9. Steve Reich Collection, PSS.

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19 The published score of Vermont Counterpoint includes a misprint in the alto trio on score page 19 (rehearsals 39 and 40), as the score is transposed the alto flute trio is not in the key signature of d minor that the piccolo and C-flute are in, but should be notated in a minor. The misprint only affects the key signature, and if the F-sharp is simply removed from the beginning of those three lines and the notes are played as written it will be correct.

20 Sketchbook 25, Steve Reich Collection, PSS.

21 Similar notes about Reich’s location appear throughout his sketchbooks, as such the word Vermont is featured on numerous occasions and in the sketches for works other than Vermont Counterpoint.
The two sets run into one another slightly, as might be expected from handwritten comments that were written quickly in a limited space. In the top right of this section Reich has written ‘Tighten up 3 WAYS’ and the boxed tasks also all have circled numbers associated with them: 1 being ‘TAKE OUT First (2 Pg) resulting pattern’; 2 being ‘Reduce # of repetitions throughout’ and; 3 being ‘Go back to 18-24 + combine to one build up’. These tasks demonstrate how Reich revised earlier work in order to arrive at the final outcome that he wanted to achieve; similar phrases are found throughout the sketches of *New York Counterpoint*.

Returning to the skipped facing pages from the beginning of the sketchbook (see Appendix VI, that intervene in the extended entry from 13 June) is an entry from 30 June bearing the inscription to ‘Re-Do Bar 18’ that has the three trios of piccolo, flute and alto flute outlining Pattern A (in the transpositions found in section I) also at the spacings of 1, 22 and 19. It is notable that in the second and third lines of the alto and piccolo, the figures are initially presented in a partially complete form, but that the unveiling stops are the same for both third lines and both second lines. The complete patterns (and intervening stages) for all four lines are found on the facing page linked by brackets across the spiral binding.

Reich summarises actions for further composition with four directions underneath the completed versions of pattern A:

1) Record Above + splice in place of old \(18-24\)
2) Then listen + see if first resulting pattern should be removed or not
3) Re-splice to less repeats + indicate once
4) Proceed with either expanded pattern or resulting pattern

The first three of these tasks are crossed off, leaving only the fourth possibly not completed. These steps in conjunction with the aforementioned (but chronologically later) task – to go back and combine the build ups between rehearsals 18–24, brings the melodic material more in line with the published version of *Vermont*.

Picking up from the 29 June entry, the pages from 30 June continue to draft material indicated as rehearsals 44, 45, and 46. These pages all consist of nine instrumental staves, for the three trios (piccolo, C-flute, alto), although only three of them are ever filled

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22 Sketchbook 25, Steve Reich Collection, PSS.
23 Sketchbook 25, Steve Reich Collection, PSS.
in on any given page. The rest of the staves feature the simile sign across their two measures. Writing out the substitution ‘stops’ of rests for notes over the course of these three pages, Reich gradually builds up pattern C18 in the third piccolo and pattern E0 and E'18 in the alto 1 and 3 lines respectively. Continuing with rehearsal 47, the 7 July entry shows Reich’s technique of transference between the live line to tape line with a crossfade in the piccolo parts.

Following the 7 July entry is an earlier sketch dating from the first day of the same month (see Appendix VI for a chronology of the pagination). This page works through a few identifiable patterns (D and H) alongside other melodic figures, ostensibly in order to discover the most appropriate transitional pattern likely from sections II to III. Reich’s pursuit of the ‘perfect pattern,’ as it were, continues further down on the page with a section from 9 July. Here Reich gives d minor as the scale that he contemplates using for the transitional resulting pattern and outlines other key changes (to 2-sharps and 1-flat) as the main form of control that he considers applying to these melodies. The consecutive page, undated, continues to explore pattern H with slight alterations of local note re-organisation and pitch changes (usually of one semitone). Reich also sets out two scalar groupings with which to compose new resulting patterns, namely a d minor harmonic scale and a whole-step/minor third scale beginning on D. The second passage (see Figure 4.3) displays many of the characteristic qualities of Vermont Counterpoint’s tonal language as the leaps of a minor third eliminate the scale degrees that would otherwise provide clear aural clues as to the tonality of the passage.

![Figure 4.3. Transcription of whole-step/minor third scale on D, title and analytical markings author’s own. Steve Reich sketchbook 25, page 15. Steve Reich Collection, PSS.](image)

The whole-step/minor third scale that Reich employs therefore pivots ambiguously between d minor and F major – the pitches of 3 and 6 that would identify the scale as major or minor are absent from it, making this a straightforward pentatonic collection.
13 July presents a full page of Vermont Counterpoint’s score, listed as rehearsal 48. A complete complement of taped voices, the three piccolos (patterns C18, C21, C0), three flutes (patterns D0, D21, D18), and three altos (E0, E21, E'18) are written separately and then are merged underneath the nine staves in a line headed as ‘all flts tp’ (all flutes tape). Beneath the condensed line is the first instance of pattern F to be played in the flute or piccolo. The figure is provided in full, although it begins on the fifth semiquaver beat, which is highlighted by Reich with a red ink asterisk and a pencil note to ‘Begin’ at that point. Although this page is listed as rehearsal 48, in fact it corresponds to the published score’s rehearsal 43, and the number added in black ink at the bottom of the page indicates that it is 21, which is the page number for rehearsal 43 in the final version of Vermont. Continuing on the following page, the 13 July entry sketches rehearsal 49 (or published rehearsal 45), without the merged line listed, the ‘piccolo or flute’ line that is found underneath the simile marked trios states pattern F, with an untitled line outlining pattern G underneath it.

Again, the dated order of the sketchbook pages is inconsistent with the facing pages, following the previous entry being composed two days earlier (11 July, see Appendix VI). These pages are filled with rough sketches of a variety of 24-beat patterns, some of which bear rhythmic similarities to patterns C, D, and E, but are set in 1-flat rather than 1-sharp and even in transposition to the correct key signature they are not the same as any of these melodies. Patterns F and G are rudimentarily outlined on these pages, which also feature Reich’s mathematical calculations for the metric modulation that occurs between movements II and III, although the final number differs slightly, this shows the conscious compositional decision to differentiate movement III’s pulse and tempo.

The following page’s return to 13 July’s entry continuing through rehearsal 50–57, before an attempt at rehearsal 58 as the start of movement III is abandoned. At this point in the sketches rehearsal 58 corresponds to the published rehearsal 53, and the metric modulation sketched on 11 July is achieved by the addition of a 5/8 measure. In place of simply beginning movement III with the material found at the published rehearsal 55, is an idea sketched and then scribbled out by Reich on this page. The next three pages, dated from 15 July, sketch out the beginning of movement III, placing the first measure of the figure in 8/8 and the second in 6/8; after this adjustment to accommodate the metric modulation from movement II to III, Reich resumes the pattern in 3/4.
On 15 July Reich also wrote to his consistent supporter and eventual dedicatee, Betty Freeman, mentioning for the first time *Vermont Counterpoint*. The Freeman-Reich correspondence comprises a number of letters, notes, cards, and faxes spanning the last three decades of the twentieth century. These materials outline the state of Reich’s compositions, news of shared acquaintances, and – as Freeman was a financial contributor to the Reich Music Foundation – the financial state of the organisation. The 15 July letter notes ‘in late August I’m [Reich] flying to LA to record a brand new piece I’m still composing now for Ransom Wilson the flutist. He will record it for Angel in August and it will be released probably in January.’ It is interesting and telling of Reich’s dual composer-promoter persona that halfway through a composition he was already arranging for the work’s rapid distribution to the general public, a task simpler with a solo work than with larger-scale, contemporaneous works, such as *Tehillim* (1981) or *The Desert Music* (1984).

Returning to the sketchbooks, the entry from 15 July also includes a page titled ‘Workpage’ by Reich that begins with a trio of patterns, the first of which is pattern I (although written in 1-b). The figure that Reich places beneath pattern I is not found in the final version of *Vermont*. The third pattern, however, is pattern H (again in 1-b). In the published version of *Vermont*, pattern I is assigned to the C-flute, and pattern H to the piccolo. These assignments correspond to the register that the sketches are written in. The middle sketch from this grouping is likely the original figure for the alto flute in section III that would have been discarded in favour of pattern J, as its rhythmic profile matches the H, I, J set. Further, Reich lists in the margin his next compositional tasks which include after recording all nine voices to ‘Listen carefully to Alto Flute watch out for confusion over too many low notes’ indicating the possibility that Reich believed that the sketched alto line would not be acceptable in the final composition. Pattern J, which does play against versions H and I in the published version of *Vermont* primarily remains within the stave, dipping to the B below middle C only once. Underneath the trio of figures, Reich lists a pair of patterns that is based upon the preceding ones, but beginning instead on the 22nd entry point and with the final seven semiquaver beats differing from the previously

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24 Reich’s letters to Freeman and some copies of her responses to Reich exist as part of the Betty Freeman Papers in the Special Collections Library at the University of California San Diego, La Jolla, USA.


26 Sketchbook 25, Steve Reich Collection, PSS.
composed figures. This sketched pair demonstrates Reich’s commitment to the
development of the pattern and his shorthand for notating the rhythmic construction of the
pattern over the course of a few rehearsal numbers although these repeated figures do not
appear in this particular guise in the published version of Vermont. The rest of the
sketchbook page includes an entry from 16 July, which continues the development of
pattern H and also encompasses the process of rhythmic construction. This portion of the
sketchbook page has been heavily erased and smudged, over the top of which Reich has re-
written. Those pitches that can still somewhat be read underneath the current entry are
lower in pitch than those Reich left in the final copy – perhaps another instance of the
composer feeling that there was confusion over too many low notes.

The facing page’s entry, from 18 July (see Appendix VI), expands on the work
from 16 July, and the final version of pattern H is listed in a line headed ‘Piccolo 1.’
Reich’s penchant for locally reorganising pitches in order to create variation within the
melodic lines (as previously described) is highlighted in this entry, although the patterns
themselves do not appear in the final version of Vermont Counterpoint. The bottom half of
the page has five staves labelled, from top to bottom Picc 1, Picc 2, Alt 1, Alt 2, and Alt 3,
respectively. The Alt 3 pattern is the same as the Alt 1 pattern except for a segment in the
first measure which is bracketed underneath and features a reorganisation of the pitches in
the same rhythmic position as the Alt 1 pattern. Other examples of bracketing on this page
include changes to the pitches given in the first pattern: a unique use of pitch
reorganization for Reich.

Not all of Reich’s sketchbook commentary is brought to bear in the final version of
Vermont. On the 18 July entry Reich notes in the upper right corner of the page ‘at end in
last section extend length of patterns (ostinato) to 3, 4 or more bars long!’ 27 In movement
III and throughout the majority of Vermont the melodic patterns are only two measures
long, with the exception of pattern B in movement I, which is the only pattern that is four
bars long. Likewise, on subsequent pages of sketchbook 25, Reich continues to develop
pattern H alongside other patterns that do not appear within the published version of
Vermont. Reich’s desire for both cohesion of the pattern and subtle variation within it is
found in an entry dated 20 July stating that the fifth quaver note might be further broken
down into two semiquaver notes in the third piccolo and alto parts.

27 Sketchbook 25, Steve Reich Collection, PSS.
Reich’s sketchbooks are not only places for him to work out new and novel patterns but also to evaluate the worth of those patterns. In an entry dated 20 July Reich has amalgamated a number of lines into a single line that he has titled ‘combination of 69.’ Underneath this he has filtered out resulting patterns, the first of which focuses on the notes that are three semiquaver-beats in length – momentary pauses in the constant pulse of *Vermont*. In this orientation of the two measure motives, the possible pauses begin on the last semiquaver-beat of the second pulse in the first measure, the first semiquaver-beat in the second measure and the second semiquaver-beat of beat two in measure two (see Figure 4.5).

![Figure 4.4. Transcription of rhythm of resulting pause pattern derived from ‘combinations of 69’ included in 20 July 1982 entry, Steve Reich sketchbook 25, page 33. Beat numbering author’s own.](image)

It is the rooting of such pauses within the melodic patterns of *Vermont Counterpoint* that aurally orientate the listener to the possibility of repetitive patterns within the kaleidoscopic swirling of semiquavers. Continuing through the filtered patterns, in the third line Reich uses only the second position as a pause within the pattern. This line is subsequently labelled as ‘Pedestrian’ by Reich, which could be a reference to a slower tempo or, more likely, a dismissal of the line as uninteresting. Following the ‘pedestrian’ pattern, Reich arrives at pattern L22 in its complete form written in the sounding octave of the piccolo, which involves sufficient leger lines for Reich to indicate the top notes of the pattern, in this case D6 as ‘D’ in brackets beside the written pitch. Also included in the filtered patterns are patterns H, I, and, J, listed as a set of three designated as such by a box drawn around them. Between this set and pattern L22 is a stave titled ‘Flt or P. 4,’ that could only refer to the taped solo line (which alternates between solo flute and piccolo) as the taped trios are denoted by piccolo 1 through 3 and the live line is also indicated as such. This pattern does not appear in the published score of *Vermont* and is also in 2-sharps while the other patterns surrounding it are in 1-flat, but its rhythmic profile is the same as

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28 Sketchbook 25, Steve Reich Collection, PSS.
pattern L22. The entry is completed by a line, separated from the amalgamated and filtered lines by an empty stave, which does not match the rhythmic profile of any of the melodic patterns catalogued in Appendix II. Additionally this pattern is sketched more roughly than its counterparts on the same page and includes the circled numbers over pitches that, in previous sketchbook entries, have indicated the unravelling of rhythmic construction. It appears that Reich abandoned this pattern almost immediately, as the next page of the sketchbook (undated) provides a score for the sketch version, rehearsal 64 (see Appendix VI). The published version of rehearsal 64 does not include any piccolo lines (the pairing indicated in the top two lines of the sketchbook page) but the basic rhythmic profile of those lines does appear in the flute parts that double the piccolo (Flutes 4–6 and Piccolos 1–3). This malleability of instruments for particular parts is interesting as it suggests that Reich did not necessarily have certain instruments pre-selected for the patterns. The concept of Reich making slight alterations to the pattern in order to keep the motif interesting is furthered on this page with a margin note appearing alongside two circled semiquavers (written over now unknown erased pitches) that reads ‘note change of notes here!’

In the following pages Reich continues to sketch out the consecutive rehearsal numbers up to and including rehearsal 69 in full. The patterns that Reich uses in these pages contain both those patterns that occur in the published version, such as patterns H and I that even appear in the correct canonic spacing and also patterns like Figure 4.5, which appear in the correct spacings of 0, 14, 19 but do not appear in the final version of Vermont.

![Figure 4.5. Transcription of pattern for ‘Alto 1 Tp’ line from Steve Reich sketchbook 25, page 39, rehearsal 69. Steve Reich Collection, PSS.](image)

The entry for 22 July, which follows the final score’s rehearsals from 64 through 69, is itself a scored rehearsal; however, this time Reich returns to rehearsals 61–63. Only the second piccolo and alto lines are filled in, the picc 1 and flute 1–3 lines that are given space are filled in with simile marks. Although the system of composition is familiar, with

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29 Sketchbook 25, Steve Reich Collection, PSS.
Reich focusing on the extremities of the pattern’s design and building it up to its full form by the third rehearsal iteration, only the rhythmic pattern (which is the same) is found in entry position 19 of patterns H, I, and J in the final version of *Vermont Counterpoint*. The pitches, however, do not conform to one of these patterns; rather they are pieced together from bits of each of them. Beginning as pattern H19 and then switching to pattern J19, the second piccolo line then returns to pattern H19. The sectional combination of patterns H and J brings the relationship of these patterns under closer scrutiny. When examining the two patterns in this one line further, they can be understood to allow the listener to pivot between the two possibilities (see Figure 4.6). Note that ‘Pic 2’ (as listed in Figure 4.6) has been standardized to follow the format of Appendix II, as it appears in sketchbook 25, page 41 it would start on the G semiquaver in position 19.

![Figure 4.6. Transcription of patterns H and J, in conjunction with ‘Pic 2’ pattern from Steve Reich sketchbook 25, page 41, sketch rehearsal 63. Steve Reich Collection, PSS.](image)

The page of sketches is divided by a line drawn horizontally across it with four staves appearing underneath the line, of these four staves the bottom three are filled in with lines headed ‘pic 3,’ ‘alt 3,’ and ‘alt 1,’ which consists of patterns H14, J14, and J0 respectively. These lines are also marked with Reich’s numbered stops, which indicate the pattern’s unfolding over the course of three rehearsal numbers. With sketched rehearsal 63 in sketchbook 25, the numbers and patterns match the addition of new material in the published version of rehearsal 60. In the sketches, Reich only marks the first and second notes, and the unmarked pitches are those left for the third and complete version of the

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30 The entirety of this figure does not appear in Sketchbook 25, only the melodic pattern titled ‘Pic 2’ does. Additionally all analytical markings here are the author’s own.
pattern. The following page of sketches marks out the fading out of this pattern in the live line and their concurrent fading in as part of the taped line. In subsequent sketched rehearsal numbers, the live line is replaced with the same pattern through the process of rhythmic construction described in the short form of stop number. 23 July continues the process of composing out the pattern sketch from the previous day and, with the sketchbook version of rehearsal 68 Reich again explicitly displays the transfer of live to tape line. The piccolo 3 line fades out over two repetitions of the rehearsal while the piccolo 3 tape line fades in to a dynamic level of *mezzo forte* at the same time.

The sketched version of rehearsal 69 is given the date range 23–26 July (see Appendix VI), indicating that the compositional process took place over a number of days. Every line is written in full form on this sketch, unlike many other pages, which are marked with a simile sign. Underneath the nine complete lines, Reich sketches out the placement of the tied semiquaver-quaver note that create the melodic pauses within the live line. Having established the pauses that anchor the listener’s orientation within the pattern, Reich then completes the melodic line below as pattern K.

On the succeeding page Reich enumerates the stages involved in the manipulation of the patterns for the conclusion of the third section as:

1) More resulting pattern’s [*sic*] at end of III  
   Begin here as result in III  
   Then this pattern + fade  
   out 1) Alto, 2) Picc + 3) Flutes  
   leaving solo piccolo  
3) Metric modulate change of tempo  
4) Build up 3 flutes simultaneously  
5) Expand patterns to 3 or 4 Bars  
6) Build up 3 Alto +  
   2 Piccs  
7) Find result  
or end31

The second step is unnumbered, but the phrase ‘Begin here as result in III’ is clearly indicated next to pattern L1 and in the sketches it is written in the piccolo range. Two additional two-bar patterns are sketched beneath pattern M, the second of which is pattern N. The intervening pattern has the same rhythmic profile as pattern set L, M, N, but is not one of them or their variations. This pattern has the same centre as pattern M, but the

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31 Sketchbook 25, Steve Reich Collection, PSS.
beginning and ending of the pattern is unique to it and does not appear in the final version of *Vermont*.

Reich did not simply use his sketchbooks as a location to work out musical patterns, he also jots notes for commissions and compositions that might follow. In the *New York Counterpoint* sketches he refers to the St. Louis piece and the MTT piece. For the *Vermont* sketches the only entry found in the sketchbooks for 25 July is in fact a written note for his ‘Cologne Piece,’ which is how Reich referred to *The Desert Music* in his own work and correspondence prior to its completion. Further down the same page there is an entry from 26 July, which outlines four patterns, one of which is highlighted by Reich with an arrow and exclamation mark heralding the words ‘flute and piccolo.’ This melody is in fact pattern K, while the other patterns do not appear in the final version of *Vermont*. This entry also includes timings for the first three movements given as: first, 2 minutes 46 seconds; second, 5 minutes 34 seconds; and third, 7 minutes and 59 seconds. According to the published score the movement’s timings are:

<table>
<thead>
<tr>
<th>Movement</th>
<th>Timing</th>
<th>Runtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>2 minutes 41s</td>
<td>2 minutes 41s</td>
</tr>
<tr>
<td>II</td>
<td>2 minutes 7s</td>
<td>4 minutes 48s</td>
</tr>
<tr>
<td>III</td>
<td>2 minutes 6s</td>
<td>6 minutes 54s</td>
</tr>
<tr>
<td>IV</td>
<td>2 minutes 37s</td>
<td>9 minutes 31s</td>
</tr>
</tbody>
</table>

By considering Reich’s notes as the runtime at the end of each section, we see that Reich had planned for movement II – at the very least – to be more substantial then it ended up being. The section had to be trimmed, likely of additional repeats within rehearsal numbers.

A few pages later, yet still dated 26 July (the final entry of that date, see Appendix VI), Reich outlines the changeover from movement III to IV, as it appears in the published version of *Vermont*. This transition is intriguing, and although the abstraction of the patterns found in Appendix I does not demonstrate it accurately, it is one of the most easily

---

32 Sketchbook 34, Steve Reich Collection, PSS.
33 Calculated based upon the number of crochets per movement multiplied by 60 seconds, divided by the metronome marking, e.g.: \( x = \frac{\text{Movement crochet’s}}{\text{Tempo (crotchets)}} \times 60 \) seconds

- Movement I crochets = 624
- Movement II crochets = 491
- Movement III crochets = 326
- Movement IV crochets = 606
identifiable aural moments in the work as the lush texture of interlocking flutes lines are reduced to a solo piccolo line with an off-kilter 1/8 measure inserted shifting into pattern L0 with the start of section IV. The manner of linking of movements III and IV with the same pattern in the same line but in a different position is unique to that moment of Vermont. Whereas the transition into movement III includes splitting the pattern over the break with two measures in different time signatures, the pattern here is both extended and shifted forward, as the beginning of pattern L22 is the end of pattern L0. The entry from 28 July continues the expansion of the pattern over the course of the initial rehearsals of movement IV, listed in the sketches as 74 through 77, but which begin on rehearsal 71 in the published score.

Sketches dated 27–28 July on the following page, are also inscribed with the note: ‘For 7/29 Build up: 1) Alto 2 + Picc 2 2) Alto 1+3 + Picc 3.’\textsuperscript{34} The sketches that these refer to are, in fact pattern M, listed in the positions 0, 21, and 18. The melodies also include the numbered stops indicating how the pattern will be revealed to the audience. Underneath the three versions of pattern M (which are the three that are found in section IV’s flute trio) are patterns L, M, and N grouped together. An additional fourth pattern, based upon pattern N, is included under the identifiable first three, but is ultimately discarded by Reich and crossed out in the sketch material. Further down the page, pattern N is treated in the same manner as pattern M above with the three versions 0, 21, and 18 grouped together. Additionally, Reich attempts to develop pattern N through changing the last two beats of the pattern (as they occur in patterns 21 and 18) with material sketched on the facing page and indicated by arrows crossing the spiral binding. Although pattern N has two other forms (as found in Appendix II), neither of them matches the options that Reich sketches here. Pattern N is subjected to further attempts at development on the subsequent page, none of which are found in the published version. Some of these versions of pattern N however do demonstrate Reich’s move towards locally reorganising pitches, which only slightly manipulates the contour of the pattern. This page also includes one of Reich’s longer written notes providing himself with directions for finishing the composition:

\textsuperscript{34} Sketchbook 25, Steve Reich Collection, PSS.
End of Piece after Build ups
Use change of Bass Alto line + maybe
Change of the bar lines
to create changes
of overall pattern
the other 2 solo flutes
(maybe 3) pick out
+ emphasize or add harmony
too\textsuperscript{35}

This text focuses on the importance of how the line is unveiled to the listening audience, as it is that unveiling process that Reich refers to as a ‘Build ups.’ Further, we find that a resulting pattern that highlights features of the melody is central to Reich’s overall plan for the work. The concept of moving the bar lines in order to create larger pattern changes is not found in the final version of the work, with all of Vermont’s fourth section resting comfortably in 3/4 time. However, it is this idea that allows Reich to shift gears from the second movement into the third and back to the fourth. More entries from 28–30 July continue to write out the pattern the Reich sketched on 26 July. The final page of sketchbook 25 is a separately dated entry from 30 July that outlines a plethora of possibilities surrounding patterns L and N. These sketches show Reich moving towards the final (‘) and (”) versions that are found in Appendix II and as well as in the published score of Vermont.

**Sketchbook 26**

Sketchbook 26 includes the final sketches for Vermont Counterpoint and also the initial sketches for The Desert Music, which is identified on the notebook’s cover as ‘WCW Piece Beginning’.\textsuperscript{36} The top of the first sketch in the book is covered with six contenders for the title of the work, including: Interweave for flute + tape; Vermont Canonic Studies; Counterpoint for flute + tapes; Close Counterpoint; Polyphony for Flute + tapes; and Vermont Counterpoint. Unlike the previous mention of Vermont in the sketchbook, this is referring to the title of the work. From this listing the only one that is discarded is Interweave, which is crossed through. This page also sketches the score for a rehearsal number identified as 84, which matches the published version of rehearsal 82. Reich again indicates a slight modification to the pattern as presented in the alto 2 line with

\textsuperscript{35} Sketchbook 25, Steve Reich, Collection, PSS.

\textsuperscript{36} WCW referring to the text by William Carlos Williams. Cover (recto) of Sketchbook 26, Steve Reich Collection, PSS.
the written command to ‘NOTE CHANGE HERE!’ In the following entries, also from 30 July, Reich continues to write out the complete score for consecutive rehearsal numbers.

The fifth page of Sketchbook 26 (see Appendix VI) includes the date of Vermont’s completion as 5 August and is titled Vermont Counterpoint with Polyphony crossed out next to it. Sketched in full score with no simile markings are the final measures of Vermont. Reich has listed the two measures patterns in the taped trios from piccolo down through alto, with an alternate ending of held pitches. The live line is pattern O and Reich has left it titled as ‘flt or pic.’ On the two empty staves Reich sketched the chords that result from a combination of the alignment of the dotted quavers in the taped lines. Crushed into the bottom right corner of the page Reich has sketched out two additional melodic patterns, the first measure of the first pattern which matches pattern P. Four pages further into sketchbook 26 in a sketch from 3 August Reich sketches slightly altered piccolo and flute patterns for a new tape part, a mere 2 days before the assigned completion date of Vermont. Working out from pattern N, sketches nine additional patterns, three of which he identifies on the page with letters: Reich’s A = Appendix II’s Pattern O; Reich’s B = Appendix II’s Pattern P; and Reich’s Pattern C = Appendix II’s Pattern P with a held ‘A’ in the middle of the line. Reich’s written note on the same page provides insight into the use of these patterns, see Table 4.3.

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37 Sketchbook 26, Steve Reich Collection, PSS.
38 The intermediate pages being the original pages labelled ‘Insert for old 18-24’ dated 2 August that were photocopied and marked up with corrections by Reich, see Appendix VI.
### Table 4.3. Transcription of handwritten commentary with corresponding references drawn from Steve Reich sketchbook 26, page 9. Dated 3 August 1982. Steve Reich Collection, PSS.

<table>
<thead>
<tr>
<th>Reich’s writing</th>
<th>Indications &amp; references on the page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Build up Flute changing to high E after 8 repeats hold for another /6 rep.</td>
<td>Written on the right side of the page alongside the majority of the sketched patterns.</td>
</tr>
<tr>
<td>2) Piccs same</td>
<td>Written on the right side of the page alongside the majority of the sketched patterns.</td>
</tr>
<tr>
<td>3) All altos change after 8 rep</td>
<td>Written on the right side of the page alongside the majority of the sketched patterns.</td>
</tr>
<tr>
<td>4) overdub result patterns as below</td>
<td>Written on the right side of the page alongside the majority of the sketched patterns.</td>
</tr>
<tr>
<td>1</td>
<td>Written next to Reich’s pattern A (Appendix II Pattern O), a few staves below instructions 1–4.</td>
</tr>
<tr>
<td>2 change Bass (other egs)</td>
<td>Written a few staves below instructions 1–4.</td>
</tr>
<tr>
<td>3 Add B</td>
<td>Written next to Appendix II Pattern P, a few staves below instructions 1–4.</td>
</tr>
<tr>
<td>4 Change A to C</td>
<td>Written next to Appendix II Pattern O (changed to a modified pattern P), a few staves below instructions 1–4.</td>
</tr>
</tbody>
</table>

On the following pages Reich works through the composition rules he set for himself above, introducing pattern P (Reich’s C) in the live line and Reich’s pattern C, with the held ‘A’ in the middle of the line.

The second to final page of *Vermont Counterpoint*’s sketchbook material is dated 5 August (see Appendix VI) and outlines the final three measures of the work as they appear in the final published score. Just following the final double bar line, Reich notes the locations of the composition as New York and Vermont, and the date of completion as 8/5/82 Av. 15, 5742. Interestingly – although perhaps unsurprisingly – Reich’s sketchbooks from the early 1980s also bear indications of his desire to embrace his Jewish heritage. Throughout *Vermont* he dates the sketchbook pages using both the Gregorian and Hebrew calendars. Not every entry is dated with both – most are only inscribed with one or the other. Nearly every page (or entry) in the top left corner of is annotated with "ה", the
Hebrew acronym for B’ezrat Hashem, translating as ‘with G-d’s help.’ This abbreviation is used by many observant Jews to request help with, or a blessing on, the work that it is written on. The use of B’ezrat Hashem continues through in New York, Electric and Cello Counterpoint’s sketchbook entries.

According to Reich’s datebook from 1982, Ransom Wilson visited him in Vermont between 11–12 August, just a few days after the last sketches in Sketchbook 26 were written. Wilson’s account of those two days in August reads as:

By the time he’d [Reich] completed the work, still untitled, our recording of it and its concert premiere were imminent. I [Wilson] travelled to Steve’s summer residence in Vermont to work with him on the finer details of playing it. After days of intensive concentration amid Vermont’s green hills, the music became inextricably tied to the place. Hence its mutually-arrived-at title, Vermont Counterpoint.

The vague details of this version of events without the support from the sketch material and datebooks perhaps gives the impression that Wilson exerted a greater influence on the events of the composition than he actually did. According to the dates in the sketchbooks, much of what appears in Vermont’s final version was composed prior to any possible input from Wilson. Likewise, as there is no sketch material that includes any writing in a hand other than Reich’s, Wilson’s supposed contribution is questionable.

About two weeks after Wilson’s visit to Vermont, Reich and Wilson travelled to Los Angeles’s Angel Records studios to record Vermont Counterpoint. The recording took place between 23–26 August, and although the basic melodic material and formal structure had been finalised before their arrival on the west coast, in 1987 Wilson candidly described the process of recording with the composer in attendance:

And you can imagine trying to put down eleven perfect tracks of a piece that is ten minutes long. If I made one mistake on a track I had to go all the way back to the beginning and fix it. So the tension began to mount in the studio, to say the least. And Steve was up in the control room and I was trying to just maintain my sanity and the quality of playing on stage, and we had finally finished a very difficult section with some very difficult high notes on the flute, and everyone seemed satisfied. We went got to the hotel and it was, uhm,

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39 Thanks are due to Matthias Kassel and Heidy Zimmerman of the Paul Sacher Stiftung, Basel, Switzerland for the initial identification and translation of ה'ב'.
eleven…midnight, after midnight and I got this telephone call from Steve and he said “Ransom we have to completely redo the last section, I hate it on flute, I want to have it on piccolos instead”…I thought…I thought I was going to jump through the phone and strangle the man. But actually we redid it and he was absolutely right.\(^{41}\)

The frustration of trying to record the first version of the piece before the work’s premiere, along with Reich’s continued editing of the work, resulted in the Angel Records version of the piece being a different length to the version performed off the published Boosey & Hawkes score. Additional changes were intended and made after the fact to the score and the recording itself. Canadian flautist Robert Aitken claims that part of the dramatic difference in timing between Wilson’s version and other recordings is due to the fact that there was no metronome brought to the recording session, and as a result Wilson played against a click track, which consisted of a loop of Reich tapping a pencil against a desk.\(^{42}\) Referring to the composition timeline established in Table 4.1, it is notable that the final editing of the score did not take place until 24–25 September, a month after Wilson recorded it. In a letter to William Austin on 30 August, Reich noted ‘The piece [Vermont Counterpoint] has the dubious distinction of having been recorded before it was ever performed ... In any event the score is being revised post recording and the tape is being mixed down.’\(^{43}\)

Also on 30 August Reich wrote to Freeman informing her of the recent recording project and the dedication of the work to her:

> I [Reich] have dedicated a piece to you [Freeman] entitled Vermont Counterpoint. It is for flute and tape – actually 3 flutes, 3 alto flutes and 3 piccolos on tape and a live player playing flute, then alto and then piccolo live against the tape ... Vermont Counterpoint is in my more usual style of repetition of short patterns played against each other in different rhythmic positions. It’s quite a tour de force when everything gets going and I think you will really enjoy it.\(^{44}\)

Reich had previously dedicated Variations for Winds, Strings, and Keyboards to Freeman but at the time of Vermont’s composition Variations had yet to be recorded. Reich

\(^{41}\) Williams, Steve Reich: A New Musical Language [Great Performances], 1987, 47:08-47:59.

\(^{42}\) Personal communication with the author, Oakville, ON Canada 1 July 2013.


\(^{44}\) Letter from Reich to Freeman dated 30 August 1982, Box 8, Folder 8. Betty Freeman Papers, MSS 227. Mandeville Special Collections Library, UCSD.
acknowledges that *Vermont* would likely be a work that Freeman would enjoy, as it was characteristic of Reich’s previous style. This comment presumably implies that other works (at this time) by Reich were developing in a different direction.

Reich’s next letter concerning *Vermont Counterpoint* was written on 9 September and addressed to Patti Laursen of Angel Records. In this two-page document Reich outlines directions for the mixing of the record, and he enclosed with it a revised score of *Vermont* and a cassette of him playing it a little roughly on synthesizer. In the post-script of the letter, Reich explains part of the reason for the difference in recorded length versus score calculated length (from number of notes and tempo marking) as:

At 22, 24, 32, 42, 48, 49, 55, 77 & 86 you will see markings in red like (2x on record) and what they mean is that the number of times marked in black in the score for repeats applies to the live performance tape, but for the disk recording the number of repeats is less. This is obviously since Ransom needs extra time to change instruments.\(^45\)

As the live version accommodates a single performer who requires extra time to physically change between three instruments, the time for the recorded version should work out to less than the calculated score length – the opposite of what happened with Wilson’s recording. Laursen replied to Reich’s instructions a little over a week and a half later enclosing her remix and editing notes, which mark the edits that Wilson preferred. Her notes, along with Reich’s annotations on them, show the further development of *Vermont*’s dynamic landscape. Laursen’s notes focus mainly on fading and balancing the instrumental trios in the tape part. While Reich acknowledges these comments, he also includes questions about melodic registers and instrumental switching in the live line.\(^46\)

Reich’s evaluation and additions to Laursen’s notes likely coincide with his final editing of *Vermont*’s score on the 24–25 September.

Chronologically, before Reich’s editing of *Vermont*, on 23 September, he wrote again to Freeman in order to arrange a special performance of the work, ‘I will definitely speak to Ransom Wilson about giving a “sneak preview” of *Vermont Counterpoint* at your

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\(^{45}\) Letter from Reich to Laursen dated 9 September 1982. *Vermont Counterpoint* Folders, Steve Reich Collection, PSS.

\(^{46}\) Letter from Reich to Laursen dated 9 September 1982. *Vermont Counterpoint* Folders, Steve Reich Collection, PSS.
house ... I’ll let you know as soon as I can.”47 After the final edits were completed, Reich met twice with Wilson prior to the premiere of the work at the Brooklyn Academy of Music,48 presumably to confirm any last minute changes that might have been written into the score during the editing process. The published score lists Vermont Counterpoint’s premiere date as 1 October 1982, as does D. J. Hoek’s bio-bibliography;49 this would have been a Friday evening in 1982. However the Next Wave Festival, which according to the printed programme began on Thursday 30 September and apparently included a performance of Vermont.50

Following Vermont’s premiere, Reich’s correspondence about the work continues with Freeman. On 7 October Reich wrote to Freeman about the positive reactions Vermont Counterpoint had received noting that the ‘Brooklyn Academy concerts also went very well with good reactions to your Vermont Counterpoint which will be out on Angel Records in November.’51 A single page handwritten note from 10 October continues on from the letter of 7 October and reads ‘Here’s your (newest) piece. Score + cassette. Hope you like it.’52 The New Year brought Reich’s continued thanks for Freeman’s support:

Well here it is 1983 and the first order of the day is to write and tell you in black and white what I’ve already told you on the phone twice, which is – thank you! ... I hope that Variations and Vermont Counterpoint can be just the beginning of trying to thank you for the help you’ve been giving me for what seems to be ten years or so by now.53 After this admission, extant Reich-Freeman correspondence falls silent on Vermont until Reich began work in 1984 on New York Counterpoint, but the references there to Vermont are simply by way of comparison.

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48 1982 Datebook, PSS.
49 Reich, Vermont Counterpoint, cover.; D.J. Hoek, Steve Reich: A Bio-Bibliography (Westport, CT: Greenwood Press, 2002), 34.
**New York Counterpoint Sketches**

The Reich-Freeman correspondence does not make more than logistical comments about *New York Counterpoint*, primarily referencing a possible performance by Stoltzman in a private concert for Freeman in her living room:

> As far as my [Reich’s] concert at Avery Fisher Hall goes, the date is January 20, 1986. There will be three premieres: 1) New York Counterpoint for Richard Stoltzman playing clarinet and bass clarinet against a tape of himself also playing those instruments. A follow up and extension of Vermont Counterpoint. (Be great to do that in your living room – perhaps in March ’87 in conjunction with CalArts?)

Mentions of *New York Counterpoint* in the Reich-Austin correspondence focus on the premiere date and that Stoltzman would be performing. Writing on Austin on 20 October 1985 Reich notes that he ‘[j]ust recorded New York Counterpoint with Stoltzman for RCA. He [Stoltzman] will give world premiere at Avery Fisher along with Sextet and chamber version of The Desert Music Jan. 20, 1986.’ In addition to Reich’s correspondence about *New York*, the extant material includes extensive entries in two sketchbooks (PSS Sketchbooks 34 and 35), and two folders that hold loose manuscript pages and early corrected scores. The sketchbooks are the most substantial of the materials, and will be dealt with chronologically here.

**Sketchbook 34**

The *New York Counterpoint* section of Appendix VI catalogues the dates found on each sketchbook page and as with *Vermont Counterpoint*’s sketches dates in parenthesis are estimates. Also included are any rehearsal numbers that have been written into the sketches. These rehearsal numbers are intended to help situate the reader of the poietic text. In Reich’s sketches, the rehearsal numbers are boxed or circled to distinguish them from other numerical markings.

Although the cover for sketchbook 34 – written by Reich in pencil – is covered with dates (see Figure 4.8), none of these dates seems to match the actual contents of the book, as inventoried in Appendix VI. According to the dates found in the sketchbook’s contents, Reich began sketching *New York Counterpoint* on 5 February 1985. The first

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sketch outlines a melodic arc in the lower end of the bass clef, beginning on the C# below the staff and ascending to the C# on the staff, through an E-F#-B progression. The musical figure drops from the C# on the staff to a lower G# that is tied to nothing. This incomplete musical gesture is followed by a lower E that doubles back on itself to a higher F, creating a melodic trajectory of C#-E-F#-B-C#-G#-E-F, see Figure 4.7.

![Figure 4.7. Transcription of initial sketch of a musical gesture for New York Counterpoint as found in Steve Reich sketchbook 34, page 1. Steve Reich Collection, PSS.](image)

Situated directly below this music notation is a scribble of three circles, each accompanied by a squiggly tail that runs horizontally across the page. These circles are staggered, so it is reminiscent of canon entries, for which it might be a visual cue. This first sketchbook page is concluded by four chords, with a second inversion triad in the treble clef part and a sometime related bass note in the bass clef. Of the three distinct sections of the sketch page – melodic bass arc, circle scribbles and, chords – only the second could be remotely considered to resemble part of the final composition of New York, and it is perhaps for this reason that Reich chose to date the work’s beginning on the cover of the notebook as 1 May 1985, eleven pages into the book.
Figure 4.8. Representation of Steve Reich sketchbook 34, cover. Steve Reich Collection, PSS.

The intervening pages are revealing – in the written notes that Reich makes in the margins, beginning on the third page, dated as 17 April (see Appendix VI) with:

I want 1 figure that will give rise to
whole piece
That will be worthwhile inverted
That will move slightly harmonically -similar
to ending of SEXTET\(^{56}\)

With this commentary Reich privileges the idea of a small musical motive, that he wants to be responsible for the musical content of the whole work – much like the

\(^{56}\) Sketchbook 34, Steve Reich Collection, PSS.
construction of his Phase pieces. Reich continues his written commentary on the still nascent work on the following page, dated four days later on 21 April, see Figure 4.9.

\[
\text{Piece: ABA}
\]

\[
\text{Goes back}
\]

\[
176 \text{ Between C# Dorian + E Lydian}
\]

\[
B = 1/2 \text{ or } 2/3 \text{ Tempo + ?}
\]

\[
C = 176 + G# \text{ Dom + ?}
\]

**Figure 4.9. Transcription of handwritten commentary Steve Reich sketchbook 34, page 4. Dated 21 April 1985. Steve Reich Collection, PSS.**

As is evidenced by Figure 4.9 Reich was also concerned with the harmonic function of the work, which in a sense distances it from the previous Phase works. The fifth page of sketchbook 34, offers the following addition to the written annotations, see Figure 4.10.

\[
\text{WORK OUT First Mvmnt.}
\]

1) Pattern 1 Bar
   (pref) no held notes
2) Pattern 2 Bar
   1 Bar has held notes
3) Pattern 1 or 2
   both (or 1)
   with held notes
   Going 6/4 1\text{=4sc}
   so you can cut
   tempo to \text{=QF}
   or tempo 1/3 \text{ QF}

**Figure 4.10. Transcription of handwritten commentary Steve Reich sketchbook 34, page 5. Dated 28 April 1985. Steve Reich Collection, PSS.**

Reich is obviously still interested in pattern construction as seen in Figure 4.10, and is also concerned with the aural hallmark of a held note in the pattern. With such a concern perception of a repetitive figure is something that Reich clearly believes to be an important consideration, likely something that would make the pattern worthwhile to hear when inverted.

The commentary in the margins of the sketches continues to be informative and reflective of Reich’s thought process during the process of composition. Before embarking
upon a multi-page, multi-stave sketch of *New York Counterpoint* on page 8 of sketchbook 34, Reich outlines significant plans for future composition, see Figure 4.11.

For Thurs. 5/2:
Try bass cl. line(s) against med + hi Bbs
1) should there be patterns of 1 Bar + multiples there of? (with bass)
2) should there be a change to 2 Bar length
   RIGHT NOW: BEFORE BASS CL.s enter?

possibilities: 1) Resulting patterns now (before Bass Cl.s enter)
               2) Resulting pattern immediately after " "
               3) Pattern switches to 2 Bar length before Bass Cl.s enter
               4) Pattern switches to 2 Bars length immediately after Bass Cl. enter

Figure 4.11. Transcription of handwritten commentary Steve Reich sketchbook 34, top of page 7. No date. Steve Reich Collection, PSS.

Directly following these directions, Reich sketches three distinct bars of musical pattern in the bass clef as viable options, before continuing his extensive written commentary on the same page. In reference to the last bar of music he wrote a brief comment to ‘match below + above.’ However, in reference to the first pattern Reich wrote across the bottom of the page, see Figure 4.12.

What is evident from these margin notes is that Reich was certainly engaged in pre-compositional decisions about *New York Counterpoint* prior to the date that he gave on the cover of the sketchbook, and that the decisions that he was making had to do with patterns. These patterns were conceived at times in terms of tonality, as in the entries from page 3
and 4, and at others in terms of tempo, as in the entry from page 5 but the comments almost invariably centre on the construction of the correct melodic plan – in fact some sense it seems like a continuation of the sketches of Vermont Counterpoint. Another instance of such conscious continuation of the established model can be found in the entry dated 24 April (page 5 see Appendix VI) where Reich again utilizes the numbering ‘stop’ system to work out how the rhythmic construction of the first movement will be unveiled to the audience. The encoding of this sort of material is again located in sketchbook 34, page 16 in an entry dated 7 May.

A second false start (the first attempt is on pages 8 through 12) is found on page 18 in an entry date 9 May, and, unlike the first attempt at sketching a draft score for New York Counterpoint, Reich strikes through this sketch. Both attempts focus their attention on melodic development through rhythmic construction – much as Reich begins Vermont Counterpoint, which is very different from the pulsing chordal waves that characterise the published version of New York Counterpoint. The idea for the pulses first appears in an undated entry from page 24, becoming formalised by a comment on the facing page that state ‘Do entire pulse: then add other rhythms’ referring to a dotted crotchet in parentheses before going on to note the entries of the pulses would be staggered. Reich’s determining of the pitches for, and the length of, the pulsing sections that start of New York Counterpoint consume the rest of the page. Testing these pulses immediately, the following ten pages map out the ebbs and crests of the pulsing chords.

References in the sketchbooks made external to the composition in question are relatively rare – the occasional telephone number jotted down, date of personal importance (birthdays and anniversaries) or doodle in the margins aside – yet on page 36 Reich makes both an external reference and to another composer at that:

57 Sketchbook 34, Steve Reich Collection, PSS.
58 Sketchbook 34, Steve Reich Collection, PSS.
(1) re-arrange octaves for voicings of chords
(2) Take Melodic patterns directly from octave placement of pulse pitches ie. Horiz + Vertical are 1 + the same then: change horiz. by melodic change to create a harmonic progression
QED/J.S.B.

connect pulse to pages
overlay combined (interlocking) melodic patterns with pulses\(^{59}\)

Here the reference is to Johann Sebastian Bach and utilises the short hand of a mathematical or logic proof – *quod erat demonstrandum* (QED) – to acknowledge the source of Reich’s inspiration for integrating the melodic and harmonic content of the work. This is written alongside a chord comprising C#, D#, B, F#, A#, B and F#, spaced as in Figure 4.13.

![Figure 4.13](image)

*Figure 4.13. Transcription of C#, D#, B, F#, A#, B and F# chord configuration from Steve Reich sketchbook 34, page 36. Steve Reich Collection, PSS.*

Reich then goes on from this page to sketch a recognizable draft of *New York Counterpoint*’s first movement, before again referencing work somewhat external to *New York*. Commenting on the need to use long tones in the second movement like are found in *The Desert Music*, Reich also observes that the orchestration of *New York Counterpoint* should be gradual, before noting that ‘HARMONIC organization is very important for St. Louis piece’ and that he should ‘use voices in San Francisco + be sure to get MTT_slow movement = 2#s D or b.’\(^{60}\) These comments reference Reich’s own works, with the indication to the St. Louis piece being a reference to the *Three Movements*, which was premiered in April 1986 just a few months after *New York Counterpoint*. The comment about San Francisco and MTT refers to the commission of the San Francisco Symphony as conducted by Michael Tilson Thomas in honour of the ensemble’s 75th anniversary, and

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\(^{59}\) Sketchbook 34, Steve Reich Collection, PSS.

\(^{60}\) Sketchbook 34, Steve Reich Collection, PSS.
became *The Four Sections* and was premiered in the autumn of 1987. The intertextual references are more common (see also the previous reference to *Sextet* from an entry dated 17 April on page 3 of sketchbook 34) than external references, and as a whole the intertextual references can be understood as Reich situating the current composition within his own oeuvre.

**Sketchbook 35**

Sketchbook 35 begins with 19 pages of a hand-drafted version of *New York Counterpoint* that is remarkably similar to the published version. Between the published version and the draft here is a slight redistribution of the lines beginning on sketchbook 35 page 6 (see Appendix VI for a complete pagination), circa rehearsal 3 – note that the rehearsal numberings are consistent between published and draft form. The redistribution of parts is due mainly to the lack of a clarinet 3 line in Reich’s sketches, in which he skips over the number moving from clarinet 2 directly to clarinet 4. The sketches continue to miss out the clarinet 3 part until rehearsal 8, found on sketchbook 35 page 15, where a clarinet 3 line is once again included. Between pages 15 and 19 of sketchbook 35 Reich’s sketches again produce almost exactly the same details as the published score up to rehearsal 34, although Reich’s sketches are written in C, while the published score is in B-flat.

In a set of undated entries on page 20 Reich outlines the next three melodic figures that occur in the published version of the live clarinet line between rehearsals 36 and 39. Reich not only outlines these melodic figures but also numbers them as they would eventually appear in his score. The following page, dated 28 June (see Appendix VI) outlines rehearsal 35, even though it is not marked as such; this sketch is followed by chord change possibilities. Page 22 from 30 June picks up the complete score sketch at rehearsal 35 and continues for a dozen pages through to the end of rehearsal 43 and the end of the first movement of *New York Counterpoint*.

On page 36 of the same sketchbook Reich begins the plans for *New York*’s second movement, or the slow movement as he sometimes refers to it. The fragments found on page 36 are those that start the second movement. A written comment suggests that Reich would: ‘Try fading out voices 2, 3 + 5 + 6 leaving only 1 + 4 going to slow movement.’

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62 Sketchbook 35, Steve Reich Collection, PSS.
This method is in fact the one that Reich uses to transition between the movements, and this use is noted by an enthusiastic ‘Yes!’ scrawled beside the comment.

Following a makeshift title page, on pages 38 and 39, Reich begins exploring the melodic materials that he put into use in the second and third movements of *New York Counterpoint*. Following these very brief deliberations, Reich drafts *New York Counterpoint*’s second movement straight through in its entirety (sketchbook pages 40 through 57). Only one change is noted in Reich’s sketches, on page 44 two bars before rehearsal 50 the live clarinet part was originally designated as fortissimo and has been changed in red ink to the mezzo forte found in the published score.

Again Reich sketches ideas for only two pages (58 and 59) or four days (10 through 14 July, see Appendix VI). These pages are rich with the compositional questions that Reich asked (if not answered) prior to beginning *New York Counterpoint*’s third and final movement. He enumerates six ideas, or as he terms them ‘elements’:

1) Build up 4 voice 6 voice texture
2) Build up Bass clarinets -2 or 3?
3) change phase as you change phase of Bass clarinets from 4 + 4 + 4 to 3 + 3 + 3 + 3
4) change key to 3#s as a ‘blockage’ 63 or Db dominant
5) Add live Bb on tape with resulting patterns
6) Have as long held Dom or fade out basses + move higher. Leave B maj. 64

These elements are realised in the following pages of the sketched draft. At first it seems like Reich will compose movement three in the same through-composed manner as the second movement, beginning on sketchbook 34’s page 60. However pages 62 and 63 are devoted to the development of melodic patterns that find their way into the musical material of *New York*’s third movement. Like in *Vermont Counterpoint*, here Reich marks the ‘stops’ in the process of unravelling the melodic pattern’s rhythmic construction.

Reich resumes his draft score on page 64 with perfect correspondence to the published score until rehearsal 66 on page 66. The entry date 15 July begins a section of the draft score that is not laid out identically to the published version. In the sketch version, the live line is listed as a bass clarinet, and in the published score it is a B-flat clarinet. As

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63 The word directly preceding this footnote is difficult to decipher in the sketchbook as Reich’s handwriting is quite messy on this page, ‘blockage’ is my best estimate for what the word might be.

64 Sketchbook 35, Steve Reich Collection, PSS.
the musical content of the sketches still matches the published version, the parts were necessarily reassigned between the sketches and published version: Bass Cl. 9 in the published version appears as the live clarinet line in the sketches of rehearsals 66 through 70 inclusive, with the Bass Cl. 1 part in the sketches being lowered to Bass Cl. 10 in the published version.

Sketched melodic fragments are once again interjected into the draft score on pages 70 to 73. These sketches include the final melodic pairing (page 72) that Reich uses in the published version of *New York Counterpoint*, specifically in the clarinet 7 and the live clarinet lines at rehearsal 90, although transposed up an octave. The decision to use the pair for the conclusion of the work is noted simply, yet firmly ‘END’ and dated in both Gregorian and Hebrew calendars (see Appendix VI) alongside the *B’ezrat Hashem* blessing.

Resuming the draft score on sketchbook page 74, the arrangement of the bass clarinet and live clarinet is the same as it was previously – this time from rehearsal 71 to 74 inclusive. Beginning rehearsal 75 on page 77 Reich leaves out the melodic material found in the live B-flat clarinet line in the published version of *New York Counterpoint*. The status quo of flipped live clarinet line and bass clarinet line is returned to in sketch rehearsal 76, page 78 and continues through to rehearsal 85 on sketchbook 87. Here once again Reich misses out two measures of melodic material found in the published version, before returning immediately to a complete (although rearranged) complement of the lines as found in rehearsal 86 through 88. The penultimate and final used pages of sketchbook 35 (pages 91 and 92) only differ from the published score in that the outermost parts – Live Clarinet and Clarinet 7 – are swapped. *New York Counterpoint*’s sketches were completed on 5 August 1985, with a smattering of brief mentions in Reich’s correspondence in the days leading up to and away from its premiere.

*     *     *

An examination of the sketch materials for both *New York* and *Vermont Counterpoint* suggests that Reich continued to focus on the interlocking qualities of tightly constructed melodic patterns, well past his later self-declared dismissal of the feature of overt phasing in 1971. Although the patterns might sound lengthy and quite diverse in material, they are in fact most often based on Reich’s core twelve-pulse pattern, and interact in accordance with phase points.
The sixteen patterns that are employed in the final published version of *Vermont Counterpoint* all appear first in the sketchbooks. Table 4.3, outlines the pattern according to the name given in Appendix II, and the first occurrence in the sketchbooks.

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Date (1982)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>21 February</td>
</tr>
<tr>
<td>B</td>
<td>5 April</td>
</tr>
<tr>
<td>C</td>
<td>29 April</td>
</tr>
<tr>
<td>D</td>
<td>6 June</td>
</tr>
<tr>
<td>E</td>
<td>6 June</td>
</tr>
<tr>
<td>F</td>
<td>13 July</td>
</tr>
<tr>
<td>G</td>
<td>13 July</td>
</tr>
<tr>
<td>H</td>
<td>1 July</td>
</tr>
<tr>
<td>I</td>
<td>15 July</td>
</tr>
<tr>
<td>J</td>
<td>20 July</td>
</tr>
<tr>
<td>K</td>
<td>23–26 July</td>
</tr>
<tr>
<td>L</td>
<td>23–26 July</td>
</tr>
<tr>
<td>M</td>
<td>23–26 July</td>
</tr>
<tr>
<td>N</td>
<td>23–26 July</td>
</tr>
<tr>
<td>O</td>
<td>3 August</td>
</tr>
<tr>
<td>P</td>
<td>3 August</td>
</tr>
</tbody>
</table>

Table 4.4 Initial occurrences of *Vermont Counterpoint*’s melodic patterns in Steve Reich’s sketchbooks.

Table 4.4 demonstrates that Reich planned all of the melodic patterns that he used in *Vermont*. The selection was considered and careful, and even the instrumentation was adjusted as composition progressed. Similar claims can be made based upon the examination of *New York Counterpoint*’s sketches. In the spring of 1983, less than half a year after the premiere of *Vermont* and just two years before the composition of *New York*, Reich responded to a query in an interview about the concept of audible processes:

> The idea of the process hanging out there in its skeletal form perceptible to all was not a thrust of later pieces [post 1968] which are really more concerned with things like making the harmony and instrumentation more interesting. But, the turn
of mind that produced that essay [‘Music As A Gradual Process’] is still me. In this statement Reich is not denying the possibility of audible process and the patterns that are clearly found throughout Vermont Counterpoint and by extension New York; rather, he is acknowledging both their existence and how fundamental they are to his personal musical style. In the same interview Reich delineates the three basic processes that he was working with in the 1960s as:

1. Changing phase between two repeating patterns
2. Augmentation
3. Substitution of sound for silence

Vermont demonstrates all three of these process: with a more refined and controlled concept of phasing with the static canon points; the development of pattern A from A' in the first section; and the interlocking patterns that gradually appear typically over the course of three rehearsal numbers. Similarly New York shows the continuation of his interest in sophisticated canonic techniques, based on the process pieces from the 1960s.

Vermont Counterpoint originated from a request for a flute concerto in the minimalist idiom. What resulted was a tour de force for a soloist and ten technological reflections of themselves. New York Counterpoint was conceived as the first step in expanding the concepts of Vermont. The systematic layering and transferring of melodies produces what sounds like and actually is a highly developed expression of the core ideas found in Reich’s phase pieces from 1967 – not, in fact, a rejection of his earlier stylistic characteristics for a more palatable melodic music.

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65 Morgan, “Steve Reich,” 2.
CHAPTER 5

TO FLOPPY DISCS AND FIREWIRE DRIVES

Poietic Level

My archive goes from paper, to floppy discs, to Syquest drives, to Jaz drives, to various small FireWire drives.¹

In 1991 the computer programmer Mark Weiser noted that ‘the most profound technologies are those that disappear’ as they are woven ‘into the fabric of everyday life until they are indistinguishable from it,’ a particularly apt observation that should be kept in mind during a discussion of early music notation software.² Unlike the pencil-on-paper sketches of Chapter 4, digital sketch study has fewer examples of precedent, although now commissions are arriving into performers’ e-mail inboxes rather than through the post in hardcopy.³ Ross Feller’s contribution to Patricia Hall and Friedemann Sallis’s A Handbook to Twentieth-Century Musical Sketches, focusing on the computer files of one of Britain’s so-called ‘new complexity’ composers, Brian Ferneyhough, is the most comprehensive example of the challenges facing digital sketch study scholars. Feller has also suggested that the seeming rarity of scholarship on e-sketches might spring from a lack of opportunity for musicologists to view e-sketches which could in part be due to composers not publicizing such sketch material.⁴ By focusing on Ferneyhough’s e-sketches, Feller demonstrates how exciting yet troublesome sketches of a digital nature can be. Computer files contain extensive metadata that can be utilised to create detailed timelines of composition, and the manner in which the files are organised (or not) into folders can provide insight into the composer’s intentions. However, as Feller notes, it is often what is not retained that is of the most interest, as he points out, ‘we can learn just as much, if not

³ Colin Currie mentioned the shift from hardcopy to digital in a pre-concert talk, stating that he had received the score for Reich’s Quartet (2013) in his email as a PDF attachment. Steve Reich, Svend Brown, and Colin Currie, Pre-concert talk, 3 May 2015, Glasgow Royal Concert Hall, Glasgow, UK.
⁴ Ross Feller, personal e-mail communication with author, 31 October 2014.
more, from discarded materials. The use of the computer makes it all too easy to discard unused materials. Feller discusses the addition of computer files and how they can and should be used, but the problem of technology as its place in musicology continues to grow.

The addition of digital sketches, allows us to ask more questions than before. Added to those questions asked in the poietic section about Steve Reich’s paper-based sketching process and how much material from the sketches subsequently finds its way into the final compositions, are issues of compositional speed, and the minutiae of day-to-day compositional practice (including the time of day that composition occurred and the order of part creation). The Counterpoints are particularly apt for asking these questions as they encompass both the paper and e-sketch realm, allowing for a more accurate comparison to occur.

**Compositional Processes and the Computer**

In his 2006 doctoral dissertation ‘The Effects of Music Notation Software on Compositional Practices and Outcomes,’ Chris Watson has sought to provide the first scholarly study of music notation software (MNS) divorced from specific composers through a questionnaire-style survey (of 106 New Zealand composers) mediated through his personal experience of composing with MNS and a discussion of literature on parallel technologies. Watson’s fourth chapter deals specifically with the nature of the MNS work environment, calling into question preconceived notions of what the tools of the compositional trade are, and how the composer interacts with them (along with questioning the generational gaps present in his composer sample group). Notably, Watson breaks the working realm of MNS into six segments:

1. Conflict between physical tool and the Romantic ideal
2. Observable differences between MNS and pencil/manuscript
3. MNS and changes in cognition
4. Minimizing distance between thought and realisation
5. ‘Natural’ vs. ‘Artificial’
6. MNS as virtual reality, simulation, prosthesis or real?

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The argument that Watson posits highlights the conflict between a lack of physicality in the tool of MNS, housed as it is in the computer, and the physical tools of the romantic ideal of the composer:

The historically acculturated romance and simplicity of the chair and desk, the quill, ink well and manuscript is gone, replaced by the plastic of the CPU, screen, keyboard and mouse. The enduring nature of the Romantic ideal renders such notions as the members of the First Viennese School ordering Sibelius software upgrades via e-mail, or meeting at drinking houses to discuss RAM requirements for the rendering of WAV files as absurd. Musicology offers no depictions of Bach chatting with his patrons via Skype, Brahms hunting for a wireless router at his local Dick Smith or Webern hiking in the alps with his iPod.7 Yet the adoption of computer software for musical notation according to Watson is widespread, a situation predicted in 1996 by Reich: ‘I [Reich] would be quite surprised if, in less than five years, most young composers were not generating their scores via computer.’8

The nature of the MNS work environment needs to account for the observable differences between it and the preceding technology of pencil on paper, which are sub-categorised by Watson into appearance, increased speed of input and editing, part-making, and publishing. A score created in MNS presents the appearance of a perfect engraving, amplifying typographical errors (to be caught by the composer before rehearsal), and aiding performers in reading the work. Conversely the nature of a ‘clean score’ existing in the computer is, as Watson argues, different from what the composer might experience when working with paper. Paper-manuscript-based composers ‘might stack scores as piles of pages, or spread works out on a desk or possibly pin them sequentially to a wall.’9 None of these compositional activities are possible to a composer operating exclusively in the digital realm of MNS. The increased speed of composition that is possible (provided that the composer is [nformation] T[echnology] literate), along with the ease of part-making and the ability to self-publish professionally engraved quality scores, also set MNS users apart from their solely manuscript contemporaries. Composer Dennis Báthony-Kitsz argues this is true in the overall composition process. Noting that he can draft a

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7 Watson, “The Effects of Music Notation Software,” 111.
composition more quickly in the form of a paper manuscript, but that the time spent re-copying from draft, editing, proofing, and creating parts without the aid of MNS is enormous.\footnote{Dennis Báthory-Kitsz, “The Good, the Bad, and the Background Noise,” Accessed 24 June 2014, http://www.maltedmedia.com/people/bathory/waam-20060622.html.}

Another feature that Watson maintains occurs in the MNS work environment are changes in cognition. More broadly this refers to an increased ease for the composer to approach the compositional task in non-linear ways (and changes to the planning process) and the removal of the compositional burden of ‘constant sonic imagining’.\footnote{Watson, “The Effects of Music Notation Software,” 119–23.} Writing about the effect of the adoption of the word processor on writing, Michael Heim is less positive about the non-linearity inherent in a shift from working on paper to working on the computer, noting that:

The fragmentary or dynamic approach to thinking and writing fostered by word processing is now upon us and its advent may make increasingly difficult the task of determining the connections that make for a continuous tradition. Transitions are privileged locations for philosophical reflection.\footnote{Michael Heim, Electric Language.1st ed. (New Haven, CT: Yale University, 1987), 10.}

For Watson, however, the option of a fragmentary thought process is more freeing than fracturing. Referring to the computer as the composer’s ‘digital surrogate’, Andrew R. Brown concurs with Watson’s assessment of it bettering the process especially with the shifting of some of the more menial (yet important) compositional tasks, such as ‘sonic imagining’, to the computer.\footnote{Andrew R. Brown, “Music composition and the computer: an examination of the work and practices of five experience composers,” (Ph.D. diss., University of Queensland, 2003), 256.} The transfer of the sonic imagination to the computer feeds into Watson’s fourth point, regarding the nature of MNS work environments – that MNS reduces the distance between compositional thought and realisation. With current MNS the ability to generate aural feedback (of varying degrees of sophistication) is instant. Chris Nash and Alan F. Blackwell in an investigation of human computer interaction (HCI) with specific regard to music composition and creative flow find that,

Authoring software, including music production software, has seen the provision of increasingly complex functionality, which can not only be difficult for the user to understand, but can also take time to execute, reducing the perceived responsiveness of the system. An interaction designer, in
automating trivial yet laborious tasks, must also take note of the period a user must then spend idle. In both cases, the goal is to keep the user active and engaged, and avoid interrupting the flow of action.\textsuperscript{14}

In debating the ‘natural’ versus the ‘artificial’ in relation to MNS, Watson explores the composer’s loss of the ‘signature of myself’, tactility, and the face that all compositional technologies, including pencil and manuscript paper are artificial.\textsuperscript{15} Following from this discussion, Watson interrogates the conception of MNS as virtual, simulation, prosthesis or real; concluding in the end that all of these variants are to some degree true.\textsuperscript{16} Nash and Blackwell also note that ‘[e]ven when using digital tools, users often support more complex interaction with pen and paper, to make notes, reminders, calculations, or sketches of representations not easily or quickly executed in the U[ser]I[face].’\textsuperscript{17}

Matthew B. Crawford has argued that intuitive interfaces such as the electronic desktop adds another level of abstraction to the process of creation, ‘as it screens the user also from the human-generated logic of the program running the software … it introduces as little psychic friction as possible between the user’s intention and its realization.’\textsuperscript{18}

Crawford goes on to contend that:

It is such resistance that makes one aware of reality as an independent thing. If all goes well, the user’s dependence (on programmers who have tried to anticipate his every need when constructing the interface) remains well beneath his threshold of notice, and there is nothing to disturb his self-containment.\textsuperscript{19}

If the programmer foresees the user’s needs with a high level of accuracy, then the user does not perceive that there is a limit to the software; the technology blends into the everyday and becomes ubiquitous. The dependency of the computer user, in this case the


\textsuperscript{15} Watson, “The Effects of Music Notation Software,” 129–34.

\textsuperscript{16} Watson, “The Effects of Music Notation Software,” 142.

\textsuperscript{17} Nash and Blackwell, “Flow of Creative Interaction with Digital Music Notations,” 395.


\textsuperscript{19} Crawford, \textit{Shop Class As Soulcraft}, 61.
composer, is therefore based on the anticipation of their needs by the programmers; the more that the programmers predict what the composer will want, the more that perception of the computer fades as an obstacle and the more that it gains as a tool.20 A highly intuitive interface, in the form of an electronic desktop, was the prerogative of Macintosh computers. Blackwell and Collins note that it is difficult for the programmer to match and map onto an unknown user’s exact internalized representation of musical expression and that this unintentionally leaves marks on the composer’s creative process.21

In Reich’s compositional output we see the generic ‘composer’ of Watson’s study emerging occasionally. Although there is a perceived conflict between the use of MNS and the Romantic ideal of the composer, and likewise there are observable differences between MNS and pencil/manuscript technology, the roles these play are not necessarily negative in Reich’s case. For Reich, the debate over loss of self and tactility in the ‘natural’ versus the ‘artificial’ is bridged by the production of intermediate hard copy drafts and the nature of the computer files he committed to the hard disc. Reich can therefore be seen to partake of both ‘old’ and ‘new’ technologies at various stages during his compositional development.

This chapter aims to expose the foundations of the now ubiquitous technology of MNS and Reich’s subsequent move away from the use of the traditional composer’s tried-and-trusted sketching methods. The shift away from pencil and paper, as was discussed previously in the extensive examination of Vermont and New York Counterpoint’s sketches – towards digital technologies such as Professional Composer and Sibelius, first through the composition of Electric Counterpoint and further with Cello Counterpoint. Electric Counterpoint – being one of the first of Reich’s works to incorporate MNS – provides an interesting example of his compositional practice in the 1980s, while Reich’s other Counterpoint work with e-sketch material, Cello Counterpoint, affords insight into Reich’s continuing evolution as a MNS-aided composer, this time utilising Sibelius software fifteen years after his initial employment of MNS.

Reich’s engagement with a readily identifiable analogue technology, specifically that of recording, dates back to his student days in 1958, including listening retroactively

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20 This differs from a situation where the computer user is also the programmer, such a condition is found in the style known as minimal Techno and is described by Philip Sherburne as creating a type of feedback loop ‘whereby the predominant stylistics engender tools designed specifically to further them.’ See Philip Sherburne, “Digital Discipline: Minimalism in House and Techno,” in Audio Culture: Readings in Modern Music, eds. Christoph Cox and Daniel Warner (London: Continuum, 2004), 322.

to recordings of his compositions during intermediate stages of the creative process. This process of writing, listening, and then re-working – a hallmark of Reich’s compositional technique – began almost concurrently with his serious consideration of becoming a composer. In the early summer of 1958 Reich wrote to his former musicology professor at Cornell University, William Austin, noting that:

I’ve been spending the evening listening to a disk I made of the tape. There’s a big ‘jump’ at the end of the Sonata, which means I’m going to make the people re-do it. However, everything else is o.k. thus enabling me for the first time to hear my music as I hear almost all other music; on records.  

Listening to his work is therefore an important part of Reich’s compositional process – and this was aided by the technology of recording. Reich’s subsequent move out to the West Coast and eventual return to New York saw a continuation and extension of the employment of the technology of tape as performer in the speech pieces of the 1960s, which span the gap between the juvenile compositions of the late 1950s and early 60s and the mature works of the late 1960s and early 1970s.

Throughout the course of his career, Reich has continually been required to navigate incessant waves of technological development. The adaptability he demonstrated in the 1950s and 60s by using the tape recorder as, first, a tool of aural audition, and then as the performer of his music, has served him well throughout his entire career. As Reich remarked, in a 2007 interview with Peter Catapano, ‘I started out as a pencil on paper, and ink on onionskin composer… my archive goes from paper to floppy disk, to SyQuest drives, to Jaz drives, to various small FireWire drives.’ Resistance and suspicion were not Reich’s initial reactions to technological developments; rather a balanced course of consideration, adaption, and appropriation characterise his approach towards such innovations.

Table 5.1 outlines an approximate chronology of Reich’s technological involvement, both analogue and digital, in relation to his compositional work.

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22 Letter from Reich to Austin, dated 9 June 1958, William W. Austin Papers, 14-20-2297, Box 8, Folder ‘SMR 1954-1968’.


24 Reich quoted in Catapano, "Steve Reich Talking Music."
<table>
<thead>
<tr>
<th>Date</th>
<th>Technology</th>
</tr>
</thead>
</table>
| 1950s            | • pencil and manuscript paper  
                    • recordings:  
                        • for playback (aural audition of sketch material)                                                                                       |
| 1960s            | • pencil and manuscript paper  
                    • recordings:  
                        • for source material (speech works)  
                        • to extend ensemble capabilities (*Violin Phase*)  
                        • phase-shifting pulse gate (with Larry Owens at Bell Labs)  
                        • electrical glitches as music (*Pendulum Music*)                                                                                             |
| 1970s            | • pencil and manuscript paper  
                    • electronic instruments (*Four Organs, Phase Patterns*)  
                    • amplification of ensemble                                                                                                                      |
| 1980s onwards    | • pencil and manuscript paper  
                    • recordings:  
                        • extend the ensemble (number of players, and possible source material)  
                        • amplification of ensemble  
                        • MNS, computer sequencers, synthesizer                                                                                                           |

*Table 5.1. Approximate timeline of Steve Reich’s adoption of technology by decade.*

The progression of Reich through these forms of technology demonstrates how he shifted his perspective, finding new uses for older technologies. For example, with *Pendulum Music* (1968), Reich exploited an amplifier’s feedback and turned it into a pure musical process; or in the case of both the Phase and Counterpoint works the use of recording as an extension of the ensemble capabilities was paramount. Significantly, in the 1980s Reich employs MNS for the first time, and the shift he described to Catapano began to take effect, first with *Electric Counterpoint* and Professional Composer and later on with *Cello Counterpoint* his adoption of Sibelius.

Taking the material presented in the sources described earlier in conjunction with the scholarship previously completed on Reich’s compositional method (which sometimes draws on additional primary sources yet unavailable to the public), it is possible to construct a general overview of Reich’s compositional process. Brown’s 2003 doctoral dissertation ‘Music Composition and the Computer’ explores the creative processes of five composers, one of whom was Steve Reich. Brown’s aim was to advance the understanding of how composers worked with computers as a compositional tool. To this end his source material included ‘interviews with, and observations of, the composers and

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25 Audio cassette and reel-to-reel technologies are not distinguished here as the letters and interviews do not always make the format clear.

26 Brown, “Music composition and the computer.”
an inspection of their tools and processes.

Reich was selected by Brown as a case study of a composer who utilized ‘the computer primarily as a scoring and publishing tool but whose works increasingly integrated elements of technology into predominantly acoustic performances.’ Brown’s observations took place during the composition of *Three Tales*, a piece that was composed prior to *Cello Counterpoint* (2003) but a significant time after the 1980s Counterpoints. It is possible to construct a basic understanding of Reich’s compositional process by using Brown’s description as a basis, and introducing the variants suggested in the archival documents for works prior to *Three Tales*. Brown’s work is currently the most substantial scholarship that pays attention to Reich’s compositional process with regards to the computer, and as such will be quoted at length here. By focusing on the composer’s interaction with the computer, Brown finds differences and similarities among composers such as Reich, Paul Lansky, David Hirschfelder, Brigitte Robindoré and David Cope:

Reich, Lansky and Hirschfelder captured ideas as CPN [common practice notation] on paper. Mostly these notes were minimal, amounting to about an A4 page of material per composition. The material consisted mainly of thematic and harmonic ideas. Often this activity was combined with instrumental performance, usually at the piano keyboard, and manuscript was used to capture ideas worth remembering. Audio recording was an important source of material for Robindoré, Lansky, and Reich each of whom usually recorded onto digital tape then sampled segments into the computer for storage and manipulation. For Hirschfelder and Reich, who worked with video/film during their projects, the requirements of synchronising with film and providing draft recordings for the film director were added compositional activities.

For three of the five composers, Reich included, pencil on paper remained the most common form of idea capture. But according to Brown, Reich also relied on technology as a source of musical inspiration, recording samples for later use or manipulation. When utilizing computer technology Brown noted that:

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Compared with idea capture, which was spread over numerous media, the activities of manipulation and working-out of ideas were more obviously centred around the computer ... For each composer a computer provided audible and visual renderings of the composition, as a compositional guide or as final product. The visual representations can be divided into three types: symbolic notation (mostly CPN), audio waveform display, and alpha-numeric listings of data and code. CPN displays were utilised by Cope, Reich, and Hirschfelder, audio waveforms were utilised to varying degrees by all composers except Cope ... 31

According to Brown’s assessment of Reich’s compositional situation, the initial musical ideas should be found in the pencil-on-paper sketches and after the adoption of the computer the ‘working-out of ideas’ should be found in the e-sketches. The validity of this observation is explored more fully later on in this chapter but to some extent the employment of this delineation is more truthful in the Cello Counterpoint sketches than in the Electric Counterpoint sketches, as the Electric Counterpoint e-sketches also include the ‘idea-capture’ quality that Brown describes. Brown goes on to explore the reliance of the quintet of composers, who provided the material for his thesis, on the aural audition process:

The prominence of audio feedback in the compositional process was, to me [Brown], surprising given the level of experience of these composers and what one would assume to be very well developed audition skills. While this group of composers is in no way a significant sample of their profession, it seems reasonable to extrapolate from these cases the composers utilising computers appreciate the ability to hear back their compositions. The composers themselves go further. “Oh, I have to have that!” says Reich whose compositional process, even as far back as the early phasing tape pieces and scored phasing pieces, relied on audible feedback ... Amongst these composers the representation systems for compositional output were either digital audio recordings or CPN scores printed on paper. Both Cope and Reich found it useful to have recordings of the computer audio versions of their scores to assist performers in learning the parts. The range of activities involved with working with the representation systems can include instrumental performance, drawing on paper, recording, MIDI sequencing, score and sample editing at the computer, synthesizer 31

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As Brown’s aim was to evaluate the process of Reich’s compositional practice after his adoption of computer notation software, he distinguishes between Reich’s utilization of the computer and Reich’s continued use of paper manuscript. Brown’s account of the compositional process of ‘Hindenburg’ from Three Tales, notes that the paper sketches were only used to record essential thematic ideas. With the Counterpoints, it is also possible to see this shift from solely paper-reliant works to computer-assisted ones. This is especially evident in the number of sketchbook pages devoted to Vermont Counterpoint (which, at 118 pages, is in stark contrast to the 20 pages required for Cello Counterpoint). In both Cello and Vermont Counterpoint’s paper sketches, as in Brown’s description of the ‘Hindenburg’ sketches, the sketch material consists of thematic and melodic ideas being worked through. Likewise the text notes written into the margins of the Vermont sketchbooks joined with the letters concerning Vermont’s production, suggest that Reich relied on hearing the work either through a taped synthesizer version, or having Ransom Wilson perform early drafts for him. Similar sentiments and commentary are found in relation to New York Counterpoint. With the composition of Electric Counterpoint, Reich was able to utilize sequencer software (Performer) in conjunction with the MNS of Professional Composer, which would have allowed him to listen back to melodic ideas nearly instantaneously. Finally with Cello Counterpoint, Reich had adopted Sibelius, which included a MIDI playback feature within the software package—a function presumably utilized by Reich, as in more recent public talks he has spoken of the usefulness of creating MIDI-mock ups for the performers. Brown concludes that Reich’s practice of listening to his work as a stage in composition back to the early phase pieces (both tape and scored works).

Even attempting to present a general flow chart-like operating system (see Figure 4.1) for Reich’s rudimentary compositional practice is problematic. Pre-computer-assisted composition suggests a much less fragmentary pattern, marked through Figure 5.1 with the

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33 Sketchbooks 24, 25, 26 and 49. Steve Reich Collection, PSS.
34 Letter from Reich to Patti Laursen, 9 September 1982, Vermont Counterpoint Folders, Steve Reich Collection, PSS.
grey arrows indicating a possible path that the composition of a work could take. Reich’s compositional practice post-computer adoption features many more feedback loops, indicated through the black arrows on Figure 5.1. Rather than a simple audio feedback loop of sketch material and recordings of that material, adjustments to that material, recordings of the material etc., the addition of the computer and its associated software allowed Reich the possibility of near instantaneous aural feedback, both computer and manual generated sketch material, or a combination thereof.

Figure 5.1. Rudimentary flow-chart of Steve Reich’s compositional process.36

36 This flow-chart is merely a graphical representation of some of the possibilities in Reich’s basic compositional process. Furthermore this chart only approximates some of the acts necessary for scored works and does not consider the process involved in Reich’s solely tape-based compositions.
The options found in the multiple loops and even the ordering of the loops, complicates the process nearly beyond utility. What can be considered useful from this graphical reduction of the stages of Reich’s compositional process – as Joseph Kerman might call them – is the reliance on aural feedback (noted by Brown) and use of the computer as an extension of the paper realm (this is easily seen by understanding the information contained on the right side of Figure 5.1 as a modified version of the left). Agostino Di Scipio explains that ‘[t]he computer can be seen as a lens through which one can examine a composer’s own conception of the materials, structures, and forms of his/her art.’

To Di Scipio then, Reich’s compositional process with the computer is seen as an extension and reaffirmation of his pre-computer paper and pencil compositional style.

Rather than espousing the view that Reich’s compositional style for Electric Counterpoint and later Cello Counterpoint was to a greater or lesser extent shaped by the software he was using, the extant e-sketches, and their corresponding hardcopies, illustrate the process of Reich becoming familiar with the capabilities of the relatively new technology of MNS. These documents indicate the familiarisation of Reich with MNS during the composition of Electric Counterpoint and the results of an established computer-assisted composer utilising the newest software with Cello Counterpoint. Both works demonstrate the composer embarking on a ‘learning curve’ and cause our understanding of Reich’s experience to fall somewhere between symptomatic technology and technological determinism.

**Professional Composer Sketches**

A mere five years after completing Vermont and two after finishing New York, Reich began work on Electric Counterpoint. Fittingly, Electric was one of the first works written by Reich that incorporated MNS as a compositional tool, specifically the software program Professional Composer. During the interim between Vermont and Electric, Reich explored possibilities for printing music from a mechanized source. Previously, this act was both time-consuming and expensive, as illustrated in a story related by Reich about

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38 Following Raymond Williams’ definitions ‘symptomatic technology’ is the idea that technology develops in accordance to social pressures; whereas, ‘technological determinism’ is the notion it is the development of technology that drives progress. See Raymond Williams, Television: Technology and Cultural Form, 2nd Edition, ed. Ederyn Williams (London: Routledge, 1990), 13.
The Desert Music. Reich had received a commission for $15,000 for the work, but the copyist fees totalled $17,000, meaning that he was financially worse off after the composition.

On 27 June 1983, Reich wrote to the scholar and critic K. Robert Schwarz mentioning that he was ‘looking at [the] Music Printing capability of [the] Synclavier at Dartmouth nearby.’ In 1983 the Synclavier II had a number of possible functions including ‘FM and additive synthesis, audio sampling and resynthesis, multitrack sequencing, hard-disk recording, graphic waveform analysis, music-notation printing, and a velocity-sensitive keyboard.’ A month after writing to Schwarz, Reich contacted his patron Freeman expressing his desire to purchase a synclavier to solve all of the copying responsibilities:

I’m also looking into trying to buy a Synclavier which is an instrument-machine that has computer-print out of musical score + parts!! It will cost about $25,000 but that would solve my copying problems [for] the rest of my life.

The desire to seek out a ‘better’ or more efficient method for copying and part creation seems to have strongly influenced Reich to embrace MNS technology.

Following Reich’s unrealised wish to purchase a synclavier he explored other avenues for efficient copying and part creation. The next logical step in Reich’s digital technological development was the acquisition of a personal computer. In 1986, Reich purchased an Apple IIC for his young son, which led him to consider the possibilities of MNS. In a letter to Austin, dated 19 June 1986, Reich expanded on the topic noting that:

with the Macintosh and a program called “Professional Composer” I can input full scores (up to 40 staffs!) and then the program will generate all the parts! Now, that would make a real difference in my life. So I may be trading in my pencil for a mouse. We shall see.

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39 Reich quoted in Catapano, “Steve Reich Talking Music.”
40 Letter from Reich to Schwarz, dated 27 June 1983, K. Robert Schwarz papers, Box 49, Folder 23. Department of Special Collections and Archives, Queens College, City University of New York.
43 Reich, “My life with technology,” 19.
Reflecting ten years later in an article written for *Contemporary Music Review*, Reich described the situation as:

In 1986, to my surprise, I [Reich] became interested in computers ... which in turn led to my buying a Macintosh Plus so I could use the Professional Composer notation program and later the Performer sequencer software as well. I found both programs to be a tremendous practical help, especially in preparing parts, since these are extracted automatically from the score. With the addition of music fonts and printout on a laser printer, the notation is now camera ready for publication, with a little hand finishing from my copyist. The computer is not only a time saving device, but it is also a great economic help since copying costs, as most composers know, can easily consume most or all of a commission fee.45

Elaine Cousins, reviewing the arrival of the Professional Composer software to the University of Michigan’s Microcomputer Education Center a year prior to Reich’s own purchase of it, echoed Reich’s sentiments of the product finding that, composers ‘should consider the Professional Composer program because it imposes so few constraints on notating musical ideas, because of its ease of use for notating and manipulating musical symbols, and [because of] its integration with MacWrite.’46

Professional Composer was designed to work with the Apple Macintosh computer, whose interface in the mid-1980s was ‘mouse-driven software using icons, multiple overlapping windows, and pull-down menus within the context of an “electronic desktop.”’47 The Macintosh computer and its digital workspace, being comparable in analogue terms to a writing desk, had substantial ramifications for the intention of its users. In order to assess the computer’s impact on musicology, Walter B. Hewlett and Eleanor Selfridge-Field delineated between the IBM PC and Macintosh on the most basic level as the PC being code-dependent, whereas the Macintosh was typically picture-dependent, meaning that a Macintosh would be better suited to producing printed copy, but weaker than a PC for analytical computing tasks.48 This quality of the Macintosh was not lost on

45 Reich, “My life with technology.” 19.
Professional Composer’s developers Mark of the Unicorn (MOTU), whose publicity campaign hailed the product as one that would allow the user to

use the Macintosh’s mouse to edit music that has been composed on the machine. Once the music is composed, an additional graphics package allows you to display any musical image in high-resolution bit-mapped graphics and print a paper copy.\(^{49}\)

Further exploitation of Macintosh’s picture orientated software code to create aesthetically pleasing scores is found in a promotional flyer for an early version of Professional Composer by MOTU which asked potential customers to:

Imagine an end to messy scores, illegible sketches, and time-consuming copying. Now imagine an efficient musical assistant who not only copies beautifully, but also performs lengthy tasks like transposition, part extraction, and a multitude of score formatting and printing jobs – a smart assistant who knows all instrument ranges and checks for errors in your score. What you’ve imagined is now a reality. It’s called Professional Composer, from Mark of the Unicorn.\(^{50}\)

MOTU’s flyer goes on to suggest that there would be no learning curve as all the commands required by the program would be *intuitive*, working the way a musician would.\(^{51}\)

In 1985, composer Christopher Yavelow compiled a survey and evaluation of seven of the available music notation softwares for Macintosh computers. Yavelow proclaimed Professional Composer to be ‘the grand-daddy of all current Macintosh music programs’ and it was ‘not likely to be eclipsed within the foreseeable future.’\(^{52}\) A sizeable manual accompanied the software package, which introduced the user to:

1. The basics of MNS and peculiarities of Professional Composer,

2. How to use the built-in qualities of Professional Composer as an extension of the basic MNS tools provided in part 1,

3. An overview of what each command screen and menu element was capable (turning away from the task-based tutorials of the first two sections).

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\(^{49}\) “New Programs: Macintosh carries a tune,” *InfoWorld*, 4 June 1984, 44.

\(^{50}\) Mark of the Unicorn (MOTU), *Professional Composer Flyer*, no date.

\(^{51}\) MOTU, *Professional Composer Flyer*, n.d.

\(^{52}\) Yavelow, “Music Software for the Apple Macintosh,” 61.
Accompanying these three main chapters in the manual were seven appendices that outlined things such as the music font, and transferring files between Professional Composer and Performer. The software (version 1.1) came at a considerable cost, but offered a number of options and features, listed in Table 5.2.

<table>
<thead>
<tr>
<th>Function</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Macintosh editing conventions</td>
<td>Selection, editing (cut, copy, paste), menus and mouse conventions of the Macintosh computer environment are adhered to in the program.</td>
</tr>
<tr>
<td>Document set up</td>
<td>Dialogue boxes on running the program prompts decisions concerning number of staves required (up to 40), along with pre-set options of single staff, piano or piano/vocal.</td>
</tr>
<tr>
<td>Basics Menu</td>
<td>Seven options: Staves (add/delete), Key signatures, Meter signatures, Tempo indication, Metronome marking, Instruments, Measure numbers; which have to be selected individually from Basics pull-down menu in the main horizontal menu bar, each selection triggers a dialogue box which prompts users with actions having to do with the option selected.</td>
</tr>
<tr>
<td>Symbols Menu</td>
<td>Six submenus: Notes, Rests, Clefs, Dynamics, Ornaments and Articulations, Special; which have to be individually selected from the Symbols pull-down menu in the main horizontal menu bar.</td>
</tr>
<tr>
<td>Variations Menu</td>
<td>Six options: Transpose parts (generate playing parts from a C score), Transpose key (whole work or part of transposed to specified major or minor key), Transpose Interval (differentiates between minor second and augmented unison), Rebar, Change rhythm (doubles or halves rhythmic values of selected portion of work), Merge Staves; which have to be selected individually from Variations pull-down menu in the main horizontal menu bar, each selection triggers a dialogue box which prompts users with actions having to do with the option selected.</td>
</tr>
<tr>
<td>Extras Music</td>
<td>Eleven options: Title Page, Show Grid, Rehearsal Mark, Go to Rehearsal Mark, Go to Measure, Insert Text, Text Style, Show Names, Hide Margin, Check Rhythm (faulty measures highlighted; can be left as is), Check Range (faulty measures highlighted; can be left as is); which have to be selected individually from the Variations pull-down menu in the main horizontal menu bar, each selection triggers a dialogue box which prompts users with actions having to do with the option selected.</td>
</tr>
<tr>
<td>Groupings Menu</td>
<td>Fifteen options to apply to selected notes: Beam, Triplet, Tuplet, Slur, Tie, Crescendo, Decrescendo, Stems Up, Stems Down, 8va/8vb. 15va/15vb, Ending, Roll, Bracket, Grace Note; which have to be selected individually from Groupings Menu pull-down menu in the main horizontal menu bar, each selection triggers a dialogue box which prompts users with actions having to do with the option selected.</td>
</tr>
</tbody>
</table>

Table 5.2. Options available in Professional Composer Version 1.1.

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54 In 1985 Professional Composer was listed at a price of $495.00 USD, while the other software packages reviewed by Yavelow were priced at: ConcertWare $49.95, MacMusic $89.95, MusPrint $79.95 (CDN), MusicWorks $46.00, Song Painter $59.95 and, Music Character Set $49.95. See Yavelow, “Music Software for the Apple Macintosh,” 52–67.
55 Not all of the dialogue boxes that included a scrollable selection would automatically respond to the selection of the first character of a word by scrolling to other selections beginning with that letter.
These features would provide Reich with many compositional options, in conjunction with the ability to reduce copyist fees. The visual interfaces that users of Professional Composer were confronted with are demonstrated in Figures 5.2 through 5.6. Figures 5.2 and 5.4 show the symbols menu at different settings. Tick marks alongside the terms in the symbols menu in Figure 5.4 indicate that the selected submenu is engaged. The entirety of the possible symbols available in Professional Composer in version 1.1 is found along the left side of the screen in Figure 5.5.

![Figure 5.2. Screen capture of Professional Composer (version 1.1) Main menu and Symbol submenu (no options selected).](image)

Yavelow’s report on Professional Composer noted that under the Basics menu the staves options allowed the user to adjust the number of staves in a work by adding or deleting them. When a submenu option was selected a dialog box providing standard options would appear. Key signatures and time signatures could also be changed within the file as often as the user wished, and flexibility was built into the tempo indications option,

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which included some pre-sets but allowed the user to create their own as well. Bars could be numbered every 5 or 10 bars, every system, or all or none of these options – a case of the programmers anticipating the composer’s needs.

Figure 5.3 shows an expansion of one of the most powerful functions included in the Professional Composer software, the Instruments option. This option allowed the user to designate an instrument: name, abbreviation, transposition, range (defined through upper and lower notes; these could be adjusted from the pre-set to account for a particular performer’s abilities), and hide or show the key signature.57

![Figure 5.3. Screen capture of Professional Composer (version 1.1) Basics menu, Instruments option.](image)

The Variations menu in Professional Composer provided many interesting possibilities for transposition and rhythms (see Table 5.2). Cousin’s review notes that transpositions could ‘be to a new key or to a specific interval (up a minor third, down a major second, etc.)’ but that key transpositions were ‘limited to keys of the same modality.’ The Professional Composer manual lists four transposition abilities corresponding with the options found in the menu bar: ‘Transpose Parts’, ‘Transpose Keys ...’, ‘Transpose Interval ...’ and, ‘Transpose Diatonic ...’. According the user manual it was easy and convenient to apply and reverse the transposition tools. Cousin, however, noted that the transposition tools in early versions of Professional Composer were not without flaws citing that the ‘transpose interval’ command would ‘only carry out exact intervallic transposition’ meaning that ‘[i]f one wanted to retain the original key signature of the fragment being transposed, one would have to make that adjustment on a note-by-note


basis after the transposition was completed. The Variations menu also offered composers the option to ‘Merge Staves’, which was additionally possible through the key command "⌘ M", which combined ‘two or more single staves together. MOTU’s user’s manual allowed that it would be difficult to edit a merged staff and recommended unmerging the staves to edit with tools such as Invisify Rests, Tuplet Visible and stem direction in order to create a more readable merged score.

![Figure 5.5. Screen capture of Professional Composer (version 1.1) Extras Menu.](image)

The Groupings menu, shown in Figure 5.5, allowed the option (beam tool) of any number of notes to be ‘beamed together for ease of reading and any grouping of notes came to be combined into the appropriate “tuplet.” Hewlett and Selfridge-Field note that in the 1986 MNS such flexibility in beaming was uncommon and that many commercial

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programs had ‘defects in their ability to handle beams appropriately in all situations.’

Yavelow voiced a similar complaint about beaming ‘permissions’ in a review of ConcertWare, a competitor of Professional Composer. Observing that a software that would not permit the use of ‘beams, triplets, or any other type of tuplet’ would be effectively useless ‘for the professional composer or copyist.’

Reich’s experience with Professional Composer’s grouping tool was likely not overwhelmingly positive as in the past decade he has described the situation by saying that the score appeared ridiculous in print if he did not have his copyist add curved lines to the Professional Composer printed note heads. Figures 5.6 and 5.7 shows different options in the grouping menu, Figure 5.6 is taken from the Professional Composer manual circa 1985–6 and Figure 5.7 from the Yavelow review. These additional steps do not necessarily detract from the innovation inherent in the use of Professional Composer, as some of Reich’s issues should be seen through the lens of his contemporary computer capabilities – software in 2007 was faster and more reliable than it was in 1985, as both the technology and the user have become more capable.

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67 Hewlett and Selfridge-Field, Directory of Computer Assisted Research in Musicology, 16.
69 Catapano, “Steve Reich Talking Music.”
Figure 5.6. Screen capture of Professional Composer Groupings Menu options.\textsuperscript{70}

Figure 5.7. Screen capture of Professional Composer (version 1.1) Groupings Menu.\textsuperscript{71}


\textsuperscript{71} Yavelow, “Music Software for the Apple Macintosh,” 63.
Professional Composer also provided the option to playback the inputted notation. The 1985 version of the software limited playback to a tempo of crochet equals 60 beats per minute, and only four lines of music (not including the effect of simulating orchestral instrument’s sounds) could be played simultaneously. Cousins’ review noted that a hook-up to MIDI would make the orchestral instruments an option for the future.\(^72\) Yavelow identified the fact that the 1985 MOTU was developing a software known as Professional Performer that would have a MIDI interface and be entirely compatible with Professional Composer.\(^73\)

These features as well as the concept of using of the computer itself as a compositional tool were first explored by Reich throughout the composition of *Electric Counterpoint*. The resulting e-sketches are a miscible conglomerate of developing thoughts and ideas that must be viewed through a consideration of the adoption of the digital technology of Professional Composer and its sibling software Performer. As Reich, in the computer folders for *Electric Counterpoint*, organised the work by movement, the same consideration of the documents will be used in this section’s discussion.

**Electric Counterpoint Movement I**

The impact of Reich’s adoption of MNS was felt particularly in the format of sketch materials found in the *Electric Counterpoint* files,\(^74\) which include the following: sketchbooks, loose sketch pages, and three varieties of computer files (Professional Composer, Performer, and text documents). The text documents (referred to here as an e-journal) were particularly valuable to Reich as they provided him with a forum where he could include text notes to himself that seem to previously have been the sole domain of the sketchbooks. Appendix VI’s *Electric Counterpoint* section shows a chronology of the dated materials for divided by format. Undated material is incorporated with as much precision as was possible based on surrounding material, but those documents are nevertheless indicated with a question mark in the table. A file tree showing the organisation and volume of the files for *Electric Counterpoint* can be found in Appendix VII.

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\(^73\) Yavelow, “Music Software for the Apple Macintosh,” 65.

\(^74\) All of the computer files referenced in this section are part of the holdings for *Electric Counterpoint* in the Steve Reich Collection, PSS. Files are referenced by their name, and not necessarily their format.
Electric Counterpoint’s earliest dated sketch material is a Professional Composer file labelled ‘African horn polyphonie’. The date of the file might suggest that Reich was focused on utilising the computer and MNS for the entire compositional process; however, the first pencil sketches are undated. In Appendix VI, these pages, Sketchbook 38 pages 82 and 83, appear after the 24 June entry and before the 26 June sketchbook page date. The entry was not placed at the start of the table due to any lack of concrete evidence, but the sketch material suggests a kinship with the early May material, as the top line of page 82 bears familial resemblance to the melodies explored in the ‘African horn polyphonie’ file. Also a distinctive difference between the pre- and post-digital Reich sketch is the inclusion of the time stamp on some of the sketch material, also indicated in Appendix VI.

Figure 5.8 shows the derivation of Electric Counterpoint movement I’s basic melodic pattern from an example in pioneering ethnomusicologist Simha Arom’s *Polyphonies et Polyrhythmes Instrumentales D’Afrique Centrale - structure et méthodologie*.75 The example that Reich transcribed for his own use came from the chapter ‘Polyphonie par polyrythmie: La Hoquet’.76 David Isgitt states that Reich had become aware of Arom’s work in 1975, finally receiving a copy of the printed book (in French, which Reich had a limited knowledge of) during the composition of Electric Counterpoint, marking the first instance of Reich incorporating an African theme into his music.77 But, as can be seen in Figure 5.8, the use of the theme was not a simple dropping in of a musical pattern; instead, the music underwent a series of transformations that are delineated on the left side of the figure, and found in the sketches.

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76 Arom, *Polyphonies et polyrhythmes instrumentales d’Afrique-Centrale*, 569. In the English translation Example 59, page 368. Mathew Dudley identifies the Arom melodic example as coming from page 449 of the English translation, occurring part way through Example 138, which has no immediate or apparent resemblance to any musical figure used in Electric Counterpoint.

The first line of the ‘African horn polyphonie’ Professional Composer file from 10 May 1987 is as following through Figure 5.8, the upper line of the merged staves of Arom’s transcription. Temporal augmentation of the pattern is suggested in the undated first handwritten sketches (Sketchbook 38, p. 82), but is found exactly in the first line of the Professional Composer file from 14 May, ‘horn polyphonie’. The expansion of the pattern by direct repetition is not located in the sketches; instead, rhythmic deconstruction occurs. Figure 5.8’s final pattern is found in two documents, dated 12 and 18 July, before appearing in the final published score (mm. 102–5 for the first time). These two documents are demonstrative of Reich’s fusion of MNS with his earlier pencil sketching practice.

Figure 5.8. Derivation of Steve Reich Electric Counterpoint Movement I basic melodic pattern.

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78 ‘African horn polyphonie’ Professional Composer file, Electric Counterpoint Computer Files, Steve Reich Collection, PSS.
‘First Resulting Patterns’ from 12 July 1987 and ‘Resulting Patterns’ dated 18 July 1987 were partially computer-generated and partially handwritten, and illustrate Reich’s auditioning of resulting patterns. Both contain sixteen staves of material, the top 10 of which are computer-generated, presumably from Professional Composer files (see Figure 5.9). Unfortunately, the exact configurations found in these printouts are not present in any of the existing Professional Composer files at the PSS. On both documents, lines 9 and 10 (the bottom two computer-generated staves) comprise a composite of lines 1 through 4, and lines 5 through 8 respectively. These lines were most likely the result of Reich taking advantage of the option to ‘merge staves’ found in the variations menu within Professional Composer. Lines 1–4, and 9 are the same in both documents, with their variations occurring in Guitars 5–8, and the resulting line 10. This aligns with the fact that lines 5 and 6 were scribbled out in pencil on the earlier document ‘First Resulting Patterns’.

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79 Electric Counterpoint Folder 1/2, Steve Reich Collection, PSS.
Between the creation of ‘First Resulting Patterns’ (12 July) and ‘Resulting Patterns’ (18 July) (see Appendix VI), Reich returned to the tried-and-trusted method of pencil on paper in his sketchbook. The bottom four staves of Sketchbook 38, page 85 outline the rhythmic profile of the basic pattern (Line 1) from the printed documents in different keys and transpositions. The first line is in the key of 1-sharp but unlike Line 1 begins on F-sharp a sixth below. Bracketed together, the bottom three lines are in 3-flats and, as a composite, begin by outlining a seventh chord missing the third, with the lowest pitch.

Figure 5.9. Layout of loose sketch pages ‘First Resulting Patterns’ and ‘Resulting Patterns’ from Electric Counterpoint folder. Steve Reich Collection, PSS.
being a ‘G’. Reich deviated slightly from the melodic contour of the basic pattern over the course of the four measures by not including an exact transposition of all the intervals. On the repeated crochets that conclude each measure of the pattern he sketched an expansion from a three- to a four-note chord. This addition did not complete the seventh chord and Reich seems to have doubted it himself, as is evidenced by a question mark placed alongside the first addition.

Despite, or perhaps because of, Reich’s return to the sketchbook between the creation of ‘First Resulting Patterns’ and ‘Resulting Patterns’ further layers of similarity are to be found within the documents. Lines 1 and 3 are simply transpositions of each other; Line 3 being in the original key of the Arom example and Line 1 being the transposed version that appears in *Electric Counterpoint* (see Figure 5.8). Likewise, Lines 2 and 4 are the same pattern as Lines 1 and 3 but are shifted four quavers ahead of the basic pattern of Lines 1 and 3. The rejected lines 5 and 6 of ‘First Resulting Patterns’ are transpositions of Line 1, down a ninth and tenth respectively. Reich did not discard lines 7 and 9 of ‘First Resulting Patterns’ outright, but the transpositions of Line 2 (same as Line 1 four-ahead) were both down an octave. These transformations were likely achieved through the transposition option in the Variations submenu of Professional Composer, which would have accelerated the process of auditioning variations of the pattern against itself. Reich may not have by this time signed up completely to a form of technological determinism, but his use of the tool to merge staves in the same document – and the fact that the options appear in the same submenu of Professional Composer – suggests that he was in fact availing himself of the opportunity to mass-transpose portions of the sketch material. Although he obviously could still perform the transpositions manually as is evident from Sketchbook 38 page 85.

Reich continues to transpose (whether manually or through the Professional Composer Variations submenu transposition option) the basic pattern on Lines 5 through 8 of the ‘Resulting Patterns’ document from 18 July. Unlike the earlier ‘First Resulting Patterns’ document, in ‘Resulting Patterns’ from Lines 5-8 inclusive, Reich transposes Line 1 three times: Line 5 down a sixth from the original; Line 7 down an octave; and, Line 8 down an octave and a fifth. The compound transposition of a fifth and octave

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80 Sketchbook 38, p. 85, Steve Reich Collection, PSS.
81 Sketchbook 38, Steve Reich Collection, PSS.
82 Sketchbook 38, Steve Reich Collection, PSS.
appears in the melodic canon of the first movement of Electric Counterpoint, specifically in the Guitar 8 line of the published score’s rehearsal 29.⁸³

Alongside the sketchbooks, loose sketches, and Professional Composer files Reich also employed two other computer file formats: text documents and Professional Performer files. The text documents (e-journals) are comprise digital entries that chronicle the composition of Electric Counterpoint and are included as a source in some of the composer’s earliest computer-assisted compositions. There are two text documents that contain source material for the first movement of Electric (see Appendix VI). The first was created on 17 May and the second on 24 June 1987. The second document is one that Reich returned to with additional entries over the course of composing. What is most interesting about the abandoned first set of written notes – which include only a single entry from 17 May – is that between the writing of the words in the document and the Professional Composer file ‘Elect. Cntrpnt. Note Book 1’ created on 23 June, no other dated documents exist for Electric Counterpoint. The gap in composition might be explained by the message that Reich left himself in the first document. Not satisfied with the figures that he had transcribed into Professional Composer on the 10 and 14 May, Reich wrote a note to himself to find a better pattern than the one he had found in Arom. Reich’s stated criteria for the pattern included a larger spread of notes and a reminder to consider the rhythmic profile, polyrhythms, and stacked fifths that might result from the composition.⁸⁴ The extant computer files reveal three possible Professional Composer documents that he could be referring to, all of which are found the folder ‘Elec. Cntrpnt. Pre-Nt.Bks.’; subfolder ‘African Polyphonie/Guitar’, and some of which have previously been discussed as discrete documents in detail. Here they will be discussed as a grouping. The earliest file, ‘African horn polyphonie’, dated 10 May 1987 was created at 13:17, followed closely by the document ‘African Vocal Polyphonie 1’ which was created the same day at 13:27; the final extant file that Reich could be referring to in the entry is ‘horn polyphonie’ from 14 May 1987 at 19:30. Of the three files, the least likely candidate for being the document referenced is the final one mentioned above, ‘horn polyphonie’, because only its date of creation matches the comment from the e-journal, whereas the other two documents were created on 10 May and further modified on 14 May. Indeed

⁸³ Steve Reich, Electric Counterpoint. USA, 1987, 16.

⁸⁴ ‘Notes-Electric Counterpoint’, Text file, Electric Counterpoint Computer Files, Steve Reich Collection, PSS.
based on the time of last modification at 18:33 on 14 May 1987, ‘African horn polyphonie’ could be a precursor to ‘horn polyphonie’ created just under an hour later; the musical material found in these two files seems to suggest such a correspondence (see Table 5.3).

<table>
<thead>
<tr>
<th>File</th>
<th>Created</th>
<th>Last Modified</th>
<th>Metrical Division</th>
<th>Length (bars)</th>
<th>Listing of Staves</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Date</td>
<td>Time</td>
<td>Date</td>
<td>Time</td>
<td></td>
</tr>
<tr>
<td>African horn polyphonie</td>
<td>10 May</td>
<td>13:17</td>
<td>14 May</td>
<td>18:33</td>
<td>Semiquaver 8</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>1A</td>
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<td>1-5th down</td>
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<td>1A-5th down</td>
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<td></td>
<td>1-2 5ths down</td>
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<td>1A -2 5ths down</td>
</tr>
<tr>
<td>African Vocal Polyphonie 1</td>
<td>10 May</td>
<td>13:27</td>
<td>14 May</td>
<td>19:49</td>
<td>Quaver/Semiquaver 1 [6 unnamed staves]</td>
</tr>
<tr>
<td>horn polyphonie</td>
<td>14 May</td>
<td>19:30</td>
<td>15 May</td>
<td>01:09</td>
<td>Quaver 16</td>
</tr>
<tr>
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<td>1A</td>
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<td>1A-2 5ths</td>
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<td>1-2 5ths</td>
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<td>1-10th</td>
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<td></td>
<td></td>
<td></td>
<td>1-Bass</td>
</tr>
</tbody>
</table>


As previously discussed, the melodic material of ‘African horn polyphonie’ is temporally expanded in ‘horn polyphonie’. The material found in ‘African Vocal Polyphonie 1’ is not a constant stream of quavers (or semiquavers) like the other two documents, but rather is a rhythmic mixture of quavers and semiquavers. The bottom four unnamed staves are two identical sets (i.e. lines 3 and 5, and lines 4 and 6 are the same), whereas the top two staves are unique musical material that does not appear in the final score of Electric Counterpoint; this like ‘African horn polyphonie’ is drawn from Arom’s text, this time from a ten-stave song with six instruments accompanying, from the ten staves, Reich selected lines 1 through 3 and 7; Arom’s line 3 matches Reich’s lines 3 and 5, while Arom’s line 7 matches Reich’s lines 4 and 6. The unused six lines in the Arom example all exhibit similar but not identical features as the ones that Reich selected. Reich returned to the work on 23 June, and the following day the entries in his e-journal were

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85 Arom, *Polyphonies et polyrythmies instrumentales d'Afrique-Centrale*, 858. In the English translation Example 14 Āgōā on page 639.
now in a different text document to the one created in May, titled simply ‘Note Book - Elect. Cntrpnt’.

By the following day Reich had selected the basic pattern and established the phase of canons. The e-journal also offers insight into the partially printed and partially handwritten documents from 12 and 18 July. An entry dated 16 July notes Reich’s dissatisfaction with lines 5 and 6, which appear scribbled out in pencil in the hard copy found in the PSS files. The following day’s entry proclaims compositional success and ends with the direction to begin composing the canons that would dominate the central portion of Electric Counterpoint’s first movement.86

Another interesting feature of these computerized sketches is how Reich kept track of the many files that he created for Electric Counterpoint. A somewhat dizzying array of folders and subfolders containing seventy-plus files with extremely similar names comprise the e-sketch material for Electric Counterpoint (see Appendix III). Reich, who was at the time still a computer novice (he had acquired his first computer less than a year previously, in the summer of 1986), would organise his files by movement, and used the default setting for saving his work. The default would assign the prefix of ‘C’ for Professional Composer files87 and ‘P’ for the Performer files (see Appendix VI and VII). Within his e-journal he also referred to the file names such as ‘P-ELECTRIC COUNTERPOINT’ as a way of maintaining which e-document held the material that he was interested in pursuing through the composition. By 21 July Reich had completed Electric Counterpoint’s first movement.88

Electric Counterpoint Movement II

Reich’s e-journal states that the second movement of Electric Counterpoint was completed on 16 August, and the sketchbooks indicate a start on the movement on 22 July, thus totalling 26 days of composition from start to finish. Appendix VI continues to chronicle the extant documents relating to the second movement. The e-journal goes on to reveal some of Reich’s questions about what the second movement should include, bearing in mind what he thought would occur in the third and final movement.

86 ‘Note Book -Elect. Cntrpnt’, Text file, Electric Counterpoint Computer Files, Steve Reich Collection, PSS.
88 ‘Note Book -Elect. Cntrpnt’, Text file, Electric Counterpoint Computer Files, Steve Reich Collection, PSS.
What becomes clear in the second movement sketch material is Reich’s increasing familiarity with the MOTU software and capabilities of the computer. The documents compiled in Appendix VI suggest that minimal work was completed in the sketchbook before Reich started exploring Professional Composer. Reich’s engagement with Professional Performer appears to be centred on the work completed between 28–30 July, which in 1987 fell in the middle of the work week. The following week Reich returned to a mixture of handwritten documents and Professional Composer files.

The work done in the final week of July 1987 shows some of Reich’s use of Performer. On 29 July, according to the file’s metadata, the ‘2nd Mvmnt. New Start’ was created at 11:27,89 while a Performer file with a paired name ‘P-2nd Mvmnt. New Start’ was created just over an hour later at 12:42.90 This timing and naming convention suggests that Reich likely generated the Performer file from the Professional Composer one. Any discussion of the content of the Performer files is purely speculative, as the current configuration of hardware and software being run at the Sacher Stiftung precludes the ability to run the file. It is, however, possible to deduce from the names of the files the likely matched sets. The organisation of the files (see Appendix VII) in computer folders by file format (found in the third movement files) also implies that Reich created files as both Performer and Composer versions. It should be noted that these Performer files (and their corresponding folders) may have been automatically generated by Professional Composer. However, even if this is the case, Reich makes reference in the e-journal to the Performer documents by name, indicating that he at the very least was aware of them and utilized them in the process of composition.91 Using Performer would afford Reich the option of aurally auditioning the notation he had inputted into Composer, a carryover from Reich’s analogue technology days of having performers create rough recordings of sketch material for him.92 By extending his use of compositional tools to include Professional

89 All times given are in 24-hour format.
91 ‘Note Book -Elect. Cntrpnt’, Text file, Electric Counterpoint Computer Files, Steve Reich Collection, PSS.
92 This can be seen in comments about recording and listening found for example at the bottom of Sketchbook 25 page 3; at the top of Sketchbook 25 page 14; on the right side of Sketchbook 25 page 30 and in a letter from Reich to Austin dated 9 June 1958; among others. See: Sketchbook 25, Steve Reich Collection, PSS; and, Reich to Austin, dated 9 June 1958, William W. Austin papers, Archives 14-20-2297, Folder ‘SMR 1954-1968’, Cornell University.
Composer and Performer Reich continued to demonstrate a willingness to embrace technology and adapt his methods to meet its demands and challenges.

As with the sketch material for the first movement, Reich continued to blend elements of analogue and digital technology during the composition of *Electric Counterpoint*’s second movement. There are two computer-generated printed documents that have handwritten results relating to *Electric Counterpoint*. Of the two documents, only one is dated, 6 August. It is, however, likely that the undated document is from approximately the same time, as both documents are computer-generated, consist of seventeen staves – the top twelve of which are created in Professional Composer – and bear identical stave headings and page title, as shown in Figure 5.10.
Lines 10–12 once again feature composite lines, which were likely the result of Professional Composer’s merge staves tool. The staves are somewhat awkward in appearance, as the lines that are combined are literally overlapped with no adjustments made by the program to accommodate unique rhythms or slurs. Where the two documents diverge are in the handwritten resulting patterns. The dated document demonstrates – in annotations found on the bottom right-hand corner of the page – Reich’s frustration with the results that he was realising, with such phrases as ‘This is a waste’-but perhaps not...
compositional?’; ‘This is more shit then [sic] yesterday’; and, comments about the strangeness of the results scrawled across the bottom of the page.\textsuperscript{93} The ‘yesterday’ comment suggests that perhaps the undated document came first. What is surprising is the time difference in the printed and e-documents. A document titled ‘2nd Mvmnt. -Results’, which is the same as the printed documents, was created much earlier on 28 July, while the computer documents from early August (the same time as the half printed/ half handwritten documents, see Figure 5.10) are mostly focused on music for rehearsal numbers 67–78 and 67–120 in the score.\textsuperscript{94}

Reich’s adoption of Professional Composer and Performer, as illustrated through the e-sketches, demonstrate his engagement with learning the capabilities of the software. This learning curve was compounded by the ongoing challenge of learning to use a personal computer. In the e-journal Reich did not report any issues during the work on movement II, but that all changed with the advent of Electric Counterpoint’s third and final movement.

\textit{Electric Counterpoint Movement III}

Computer problems frustrated Reich’s initial work on Electric Counterpoint’s third movement. Choosing to begin work in the sketchbook slightly less than a week later, Reich noted in the e-journal that he was having issues with Professional Composer – a moment when the intuitive interface designed by the programmers apparently cracked – and had just begun working on the digital version of the third movement (see Appendix VI for a chronology of documents; note that undated material is listed at the conclusion of the table). Because only the initial page of work in sketchbook 39 is dated, it is not possible to determine with any level of certainty whether Reich continued to rely on hardcopy throughout the composition of the third movement, or simply worked with paper when he could not manipulate the computer program to do what he wished.

The undated loose sketches are entirely computer-generated (there are no entirely handwritten manuscript pages torn or photocopied from other sketchbooks), although some of the loose sketches include a combination of handwritten and computer-generated notation similarly found in Figures 5.9 and 5.10, though not in those same configurations.

\textsuperscript{93} ‘Electric Counterpoint -2nd Mvmnt. -Results -8/6/87’, \textit{Electric Counterpoint} Folders, Steve Reich Collection, PSS.

\textsuperscript{94} \textit{Electric Counterpoint} Computer files, Steve Reich Collection, PSS.
of MNS-generated versus handwritten. The handwritten portion of the loose sketches is substantially smaller in the third movement documents than in the previous movements, often with only a line or so of resulting patterns being sketched or corrected. In the first e-journal entry for movement three dated 20 August, Reich mentions that he selected the basic pattern in three rather than seven because it allows the meter to fluctuate between 3/2 and 12/8 dependent upon the bass line. The shifting bass patterns alluded to in the e-journal are explored by Reich especially in the computer printouts. Some of the dates of these documents can be estimated to be with the computer files that have timeframes attributed to them. For example, the undated document titled ‘Next to last’ includes a single hand-sketched measure in addition to the computer-generated portion of the document, which otherwise matches the 18:45 Professional Composer document of 2 September 1987 with the same name. Likely, the slightly later 19:50 Performer document titled ‘P-Next to last’ (see Appendix VI) was created as a printout from the Professional Composer document that was marked up by Reich in a later stage of composition.

In the third movement, Reich’s e-journal continues to be a useful tool to trace how he interacted with the notation software capabilities. The entry from 23 August continues to detail how Reich used Performer in conjunction with Composer, noting that particular tracks worked best together. Due to the use of the terms ‘track’ and ‘feeling’ in Reich’s e-journal entry, it is likely that he created a sequencer file and aurally auditioned individual lines against each other, selecting those lines or tracks that created a sense or feeling which he wanted to cultivate in the third movement of Electric Counterpoint. Entries from 25 and 29 August also mention Performer files and the process of composing and listening back to the sequenced files.

The final entry in the e-journal exhibits a culmination of the confidence that Reich had built over the course of the composition. After enumerating five final key signatures and the voices that he would spin into ‘Five 5 voice relationships’ a single line entry reads simply ‘Permute the above and end’ demonstrating that Reich no longer felt the need to

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95 ‘Note Book - Elect. Cntrpnt’, Text file, Electric Counterpoint Computer Files, Steve Reich Collection, PSS.

96 ‘Note Book - Elect. Cntrpnt’, Text file, Electric Counterpoint Computer Files, Steve Reich Collection, PSS.

The user manual for Professional Composer mentions that by using Professional Composer in conjunction with Performer ‘you can convert your sequences into conventional music notation and play the scores you create with MIDI-equipped synthesizers.’ See MOTU, Professional Composer User’s Manual, 155.
remind himself of each compositional step needed in order to complete the work. While simultaneously shedding light on the composer’s growing computational strengths, these documents demonstrate that Reich had established a working procedure with the computer in just over three months, and the conviction that he felt for his adaptation to this new technological tool can be seen in the lack of his need to produce a step-by-step guide for the final stages of the work.

**Sibelius Sketches**

Technology developed and progressed in the sixteen intervening years between *Electric* and *Cello Counterpoint*. Over the course of his career Reich continually adopted and adapted to the introduction of new technologies and software. After taking up the digital challenge with Professional Composer in 1986, Reich switched to the MNS program of Finale before most recently using Sibelius. *Cello Counterpoint* was composed over the course of a year, and the e-sketches demonstrate Reich’s foray into the Sibelius notation software, although the first few sketches are in the Finale format. These files might be evidence of the transition between Finale and Sibelius, as by the second edition of Sibelius issued in October 2001 it was possible to convert Finale files into Sibelius, but there is no further documentation to support the claim.

Sibelius appears slightly more sophisticated than its predecessor Professional Composer (though in Reich’s compositional practice it must be remembered that the software Finale played an intermediary role). The sleek interface of Sibelius was designed to streamline compositional decisions. Like earlier versions of MNS, Sibelius offered compositional tools from a palette, although in Sibelius the options are collected into the ‘Properties’ window. Of the seven panel options possible in the ‘Properties’ window, the most frequently utilised is known as ‘Keypad’ and this linked to the numeric keypad on the right hand side of a traditional QWERTY keyboard, therefore creating keyboard shortcuts. Figure 5.11 demonstrates the ‘look and feel’ of the ‘Keypad’ panel open in the ‘Properties’ window, which like Professional Composer uses graphics to indicate the function of each virtual button.

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The *Sibelius User Guide* indirectly stresses the importance of the keyboard shortcuts for increasing the speed of the computer user entering music notation (as well as the ease of use), with comments like those found in the discussion of creation of magnetic slurs which read:

> If you switch on either or both of these options, the mouse creates magnetic slurs. Creating magnetic slurs with the mouse can be a little confusing – for example, if you want to input an up-arching slur (shortcut $S$) and try to put it over some notes whose stems point upwards using the mouse, the slur will appear below the noteheads instead. However, if you’re married to your mouse, this could be a useful feature for you!  

With this sort of commentary the Sibelius designers are light-heartedly encouraging the adoption of the keyboard over the mouse, as the software was designed to be faster and more reliant with the key commands.

Sibelius automated many of the more mundane aspects of score layout – listing the instruments in score order (grouped with brackets outside of the staves and section barlines within the staves), providing the full and correct instrumental names on the first page, correct standard clef for each instrument, and formatting the score to fit comfortably on a

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The user was able to select from lists of such options when beginning a new document, and rather than a blank manuscript page would be met with a computer screen such as Figure 5.12 when beginning their composition; note that the ‘Properties’ window of Figure 5.11 appears here in the bottom right side of the screen.

![Figure 5.12. Basic screen for a solo piano composition in Sibelius, Edition 2.](image)

As Sibelius was the product of more advanced computer technologies than Professional Composer, the sophistication of the score that was possible to produce increased. The psychic friction required to use Sibelius versus Professional Composer was significantly reduced; however, this was likely due in part to the fact that Sibelius was designed for digital natives rather than those learning to use computers (in addition to learning the software) and as such some interactions with the interface are taken for granted.

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The dates for sketch material related to *Cello Counterpoint* as of Spring 2015 (some of the material for this work was sent to the PSS as this study took place, and the possibility remains that more material may yet exist) are found Appendix VI, the earliest work on *Cello Counterpoint* dating from the summer of 2002. There are numerous Sibelius files from early August, followed by no dated sketch material until some sketchbook entries in October, and another flurry of Sibelius files in December. Reich then alternates with Sibelius MNS and his handwritten sketchbook with a little more regularity, but there are still long lists of files with little difference between them (both in file name and content) for many days in the spring of 2003.

Although relatively few sketchbook pages are actually used, the entries are rather extensive, as seen in Appendix VI. Beginning with Finale documents and sketchbook work on 30 June 2002, the *Cello Counterpoint* documents extend until 5 June 2006, but that file is an alias for the programme note, the last MNS file for *Cello Counterpoint* is dated 18 November 2003 – yet the score for *Cello Counterpoint* gives the conclusion of the work in both Gregorian and Jewish calendar systems as ‘May 20, 2003 Iyar 18, 5763’. Given the mostly sequential naming convention of the files, it is possible that Reich either saved-over, or renamed some of the documents. Such an action would provide a plausible reason for there being no Sibelius documents named ‘Cello Counterpoint -s_1’ through ‘Cello Counterpoint -s_15’ in the collection, when documents labelled ‘Cello Counterpoint -s_16’ through to ‘Cello Counterpoint -s_52’ do exist. Appendix VI shows documents titled such as ‘Cello Cntrpnt -new sk_1’ through ‘Cello Cntrpnt - new sk_26’ so it is not that Reich had an aversion to single digit drafts. It also should be reiterated that these documents represent only what Reich has sent to the PSS and may not represent all the steps of composition, as he might not have retained a complete collection of his e-drafts or might have saved the files with another work’s sketches, as some of *Dance Patterns* e-sketches are mixed in with the *Cello Counterpoint* files.

Like Reich’s adaptation and adoption of Professional Composer with *Electric Counterpoint*, for *Cello Counterpoint* he integrated Sibelius software sketches with his pencil sketches. This resulted in a blend of extant document types. However, as Appendix

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103 Steve Reich, *Cello Counterpoint* (USA: Hendon Music/Boosey & Hawkes, 2003), 38.
104 *Cello Counterpoint* Computer files, Steve Reich Collection, PSS.
VI demonstrates, Reich did not tend to mix compositional formats in a day, working either on computer or in his sketchbook. The middle segment of Cello Counterpoint’s composition, as seen in Appendix VI, shows a greater integration of file-types and also an unprecedented number of drafts in quick succession. For example, work from 4 August 2002 includes twenty-four separate Sibelius documents, all of which were created within two discrete spans of composition. The first span of time is likely a hold over from the previous evening’s composition session based on the early morning hour of its composition, while the second span comprised five hours in the evening. The sketchbook entry for 4 August 2002 is made up of twelve bars two crotchets in length and five chords equalling four crotchets without any bar indications. Within the first eleven bars Reich sketched an alternation quaver note / quaver rest in the treble voice and quaver rest / quaver note in the bass voice. This causes the sketches to appear as if they were written as alternating patterns for the right and left hands of a pianist or perhaps a mallet percussionist. In these sketches Reich also cycles the alternating quavers through a variety of key signatures (five, four, two, and one sharps; and four, two, and one flats). In terms of pitch class the treble clef quavers are chords which comprise a stacked third and a second; the bass clef quaver chords are made up of an open sixth, a whole tone (pitch-wise, but transposed down an octave) above the bass of the treble’s stacked third. These paper sketches do not seem to align with the computer sketches from the same day, a situation that appears to continue on the following day.

On Monday 5 August Reich created twenty-two Sibelius files, as well as a MIDI file and continued work in his sketchbook. The following day saw the creation of more Sibelius files, Digital Performer files, and another entry in the sketchbook (on the same page as the Monday entry). This working process with the MNS seems to be very integrated, with Reich moving between programs and formats with some degree of ease. It should be noted that the creation of one of the Tuesday Digital Performer files was likely part of a Monday composing session that extended beyond midnight. The validity of this claim is backed by the file’s metadata which times its creation at 00:06 the morning of 6 August, and the name ‘P/Cello Cntrpnt-sketch-Emaj’, which in the tradition of the Performer files of Electric Counterpoint bears the same name as the notation file along with the suffix of ‘P’. In between the Sibelius file and the Digital Performer file, Reich also created a basic MIDI file, perhaps to use as a personal MIDI mock-up from which he
could audition the material he had just composed. The second Digital Performer file dates from just eleven minutes later.

Interestingly, again none of the Sibelius files created on 5 and 6 August 2002 resembles the paper sketches made on those dates. The 5 August sketchbook entry outlines two chords in 3-sharps and three right-hand chords in a neutral (no flats or sharps) key signature, under which Reich sketched six more chords (one of which he dismissed). These chord progressions do not appear in the e-sketches, which present approximately 28 measures of music that suggest similarities to the initial movement in the published score. The 6 August entry outlines additional chord progressions and also four measures of melody in two harmonies. The 3/4 time signature of the sketched melodies found in Figure 5.13, and the quavers tied across the barline all suggest the earliest section of *Cello Counterpoint* without actually being identical to any of the published material.

![Figure 5.13. Transcription of sketchbook entry from 6 August 2002, Cello Counterpoint sketched melodies. Steve Reich Sketchbook 49, page 44. Steve Reich Collection, PSS.](105)

Certainly the material of Figure 5.13 does not exactly mimic any of the material found in the Sibelius e-sketches, but a blend of the two could easily become the known version of *Cello Counterpoint*.

Integration of the formats becomes progressively evident in the entries from December 2002 and January–April 2003. Also a correspondence between the Sibelius sketch materials and the published score is increasingly obvious, as in documents such as ‘Cello Cntrpnt-Slow test 6’ from 17 March 2003; it appears that Reich is auditioning

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105 Sketchbook 49, Steve Reich Collection, PSS.
harmonies against the melodic figure found in the second cello line of the published version of *Cello Counterpoint*’s bar 287 (beginning of the second movement).

The Sibelius documents from 18–31 March 2003, feature a naming convention of ‘Cello Cntrpnt 1+ begin’ followed by an alphanumeric combination. This refers to the fact that the document includes the first movement of *Cello Counterpoint* and a variety of different beginnings to the second movement. ‘Cello Cntrpnt 1+ begin 2A’ from 18 March 2003, 04:08 includes five measures of the nascent second movement, that is recognizable as such, see Figure 5.14 for the last five measures of the file.

![Diagram](image)

**Figure 5.14.** Transcription of final five bars of Sibelius MNS file ‘Cello Cntrpnt 1+begin 2A’. Dated 20 March 2003, 03:01. *Cello Counterpoint* computer files. Steve Reich Collection, PSS.

Also noticeable in the transcription in Figure 5.14 is a time marking just below the double barline. Here it notes that the composition is five minutes, 12.7 seconds in duration. This marking is a valuable tool for comparing documents. In ‘Cello Cntrpnt 1+ begin 4C’ the
cascading melodic sequence heard in the published version of *Cello Counterpoint* is sketched in and the duration marking lists the composition as last 7'06.0". While in ‘Cello Cntrpnt 1+ begin 3’ is only 5'49.5", Reich however utilises some of the features of Sibelius to include an e-text note at bar 301 which reads ‘Counter melody here in Vcl. 5&6.’ This function is used again in the document ‘Cello Cntrpnt 1+2+3-A’ from 8 May 2003 at bar 518 which reminded Reich to ‘figure out harmony to the end.’

As in Vermont’s documents, a note to the recording engineer is found in the *Cello Counterpoint* sketch materials. This time, however, it is a Rich Text File (and not a letter) titled ‘Read Me-for Kilgore’ dated 12 August 2003, 17:48. In it Reich details a variety of pre-recording session materials that would aid the engineer in preparing for the event, which was scheduled for 29–30 September of that year. These materials include things such as Digital Performer files, cello samples in the audio interchange file (aif) format, and some MIDI files. With this note, which was presumably sent to John Kilgore of John Kilgore Sound & Recording, New York, Reich continues to maintain precise control over how his compositions are performed and demonstrates another pragmatic tendency towards maximizing the time allotted to the recording studio for the creation of a CD, as the dates in the document match the recording dates for the work in the Nonesuch release *You Are (Variations)* 79891-2.

The *Cello Counterpoint* files date from another point of change in Reich’s compositional career, one in which he was moving from Finale to Sibelius software. Reich’s shift from Finale to Sibelius could be read as merely an upgrade to a new software, whereas in fact outside pressures complicated matters slightly as his software choices were becoming more publicly scrutinized. A simple but effective example of this is that Avid – the company that produced and marketed Sibelius software in the mid 2000s – used an endorsement by Reich as part of the software’s promotional package. The ‘Who uses Sibelius?’ section of their website showed Reich proudly proclaiming:

> “I genuinely enjoy working with Sibelius. It’s a superb notation program and composing tool” (Steve Reich, composer)

Personal pragmatic economics and judgments of music publishers have long played a role in Reich’s music, and the choice to switch – however great the creative benefits may have

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been – were not really for Reich to make. In 2004, Reich revealed to John Kaefer that Boosey & Hawkes requested the change, but that within two weeks of switching to Sibelius he felt that he ‘was up and running’ and that he ‘would not go back’ – as he no longer would need to carry a ‘telephone book’ of a software manual around with him.\textsuperscript{107} The new software’s intuitive interface seemed to have captured Reich’s compositional interest and he has continued to use the Sibelius software system with additional sound samples. In 2010, at the Red Bull Music Academy in London, Reich stated:

> My entire arsenal of equipment at this stage of the game is Macbook Pro with Sibelius and Reason as a software sampler and I don’t use anything in Reason except the NN-XT sampler. I’ve got stacks of them filled with musical instruments…What I’m doing is making midi-mock-ups of what will be live compositions and I make them sound as good as I can because I will send them to the performers. The performers can use them to play along with and when they come into rehearsal they’re two or three rehearsals down the road because they’ve played at tempo, they know what the context is.\textsuperscript{108}

The MIDI mock-ups Reich created are therefore a practical application of one of the capabilities of the Sibelius software. Blending the practicality of MNS with the passion for Sibelius that Reich has developed since his adoption of it, one might believe that he would do away with his paper sketches, or perhaps more of his sketching process would occur on the computer or that there would be a more definitive process of sketching first in the paper sketchbook and then transferring ideas to the computer. The chronology found in Appendix VI, however, demonstrates that this was not in fact the case in \textit{Cello Counterpoint}.

Since \textit{Cello Counterpoint}’s premiere and publication in 2003, Reich has not released any other Counterpoints, but was working on an ensemble piece provisionally called \textit{London Counterpoint} before he abandoned the work for \textit{Radio Rewrite}. In an interview with Alexis Petridis of \textit{The Guardian} Reich stated that

\textsuperscript{107} John Kaefer, “‘Reich Counterpoint’: Steve Reich, Minimalism, and Music Before 1750: A Historical and Comparative Analysis of His Four Counterpoint Pieces,” (DMA diss., The Juilliard School, 2006), 60.

The piece, commissioned by the London Sinfonietta, wasn’t initially intended to have anything to do with Radiohead, he [Reich] says: he was trying to write “a giant counterpoint piece” in which 15 musicians played against a recording of 15 other musicians, but that “was like an elephant, it was going absolutely nowhere.”

The e-sketches for the unfinished *London Counterpoint* are also held by the PSS and demonstrate another aspect of Reich’s adoption but not manipulation of MNS technology. In his implementation of Professional Composer Reich needed to find an output for his previously integrated margin notes, which he did with the e-journal discussed at length above. With the composition of *Cello Counterpoint* much of the written commentary had returned to the sketchbook page. However, *London Counterpoint* includes the use of Sibelius 7’s ‘Capture Idea’ function, which allows Reich to use MNS software in a more similar manner to his sketchbook origins, essentially completely blending analogue and the digital technologies.

* * *

As can be seen from the above discussion of Reich’s adoption and continued use of computer technology, as a composer he has engaged over the years with whatever tools he believes will be the most advantageous for the composition that he is creating. Sketching, for example (after what appears to be a brief foray in *Electric Counterpoint*), generally seems to occur primarily in hard copy pencil-on-paper sketches, while testing the interaction of musical lines and patterns in different canon positions is suited more to computer-assisted composition. It should be made clear that it does not appear that the selection of the musical material chosen for those patterns which were used in computer-assisted compositions was in any substantial way affected by the use of computer software to test the canon placements. By utilising both analogue and digital technologies he simultaneously maintains the analogue compositional technique that he began with (pencil and paper) and extends his compositional tools with the digital technology of MNS. The concept of using new compositional techniques without replacing old ones wholesale is evidenced especially in the progression of Reich from paper and pencil to Professional Composer, then Finale and finally Sibelius. Reich has focused on finding techniques that

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110 *London Counterpoint* computer files, Computer files, Steve Reich Collection, PSS.
were valuable to him as a composer with each new tool, and continuing to use previous tools where they were more suited to the task.
CHAPTER 6

IT’S JUST A THREAD

Synthesis

This has been sort of one strain that started very early, was skipped over and then picked up again in the ’80s and then picked up again in the ’90s and then picked up just – this [WTC 9/11] was done [in] 2010. So it’s just a thread in there. That way of working has in a sense has very little to do with Drumming or Music for 18 Musicians or Double Sextet or any of the instrumental pieces and instrumental–vocal pieces have to do.¹

The relevance of this quote might initially seem suspect, as Steve Reich is seen tracing the lineage of WTC 9/11 from It’s Gonna Rain and Come Out through to Different Trains, The Cave and Three Tales; however, the general point he makes is an important one – his oeuvre is made up of an assortment of threads of compositional interests woven together. The thread that this thesis follows is not the one of recorded documentary materials illuminated in the above quote, but rather is that of a sub-category of the instrumental pieces: those works which were initially designed for soloists and technological reflections of themselves – an idea that again initially came to fruition fairly early in Reich’s career around the composition of the Phase pieces from the late 1960s, which was picked up again in the 1980s with the first Counterpoints, and most recently in 2003 with Cello Counterpoint. This chapter aims to draw the elements of poietic, esthetic, and neutral together in order to trace the importance of the Counterpoints in Reich’s oeuvre.

In order to offer concluding insights into this often overlooked (in scholarship) part of Reich’s oeuvre through a blend of the esthetic, poietic and neutral, we must return to Jean-Jacques Nattiez’s conception of the role of synthesis in the tripartitional model. Following the theoretical introduction to semiotic synthesis, this chapter will turn to an

amalgamated analysis of *Cello Counterpoint* working through inductive and external poietics, as well as inductive and external esthesics, before turning to the sixth level of semiotic analysis where the poietic, esthesic and neutral-levels all interact (see in Figure 1.2). The integrated analysis of *Cello Counterpoint* will serve as justification for the utilisation of Nattiez’s tripartition as a methodological framework for this study by demonstrating the greater musical understanding that is facilitated by adoption of this method. A less structured blending of the poietic, esthesic and neutral levels in the 1980s Counterpoints that focus on the technique of rhythmic construction will follow. These miniature analyses will serve as a case study for one of the many possible ‘plots’ for understanding the role of the Counterpoints in a narrative of Reich’s work. The chapter (and thesis) concludes with a brief discussion of the defining features of the Counterpoints, and how these characteristics are in fact essential elements of Reich’s music, thereby enhancing the intellectual value of a study of the Counterpoints within the overall view of Reich’s compositions.

**Many Possible Narratives**

Returning to Nattiez’s view on the necessity for the three levels of analysis along with their interconnections (see Figure 1.2) also reminds us that typically one of the analytical approaches is privileged in the course of any analysis:

> Each of these three standpoints – that we analyze music in terms of compositional conceptions, immanent structures, or how it is heard – is legitimate. Each one, however, conventionally asserts itself at the expense of the others. This is difficult to accept. What I am suggesting that we call poietic analysis, analysis of the neutral level, and esthesic analysis, thus do correspond to three autonomous tendencies already present in the history of musical analysis. But the musical-semiological project for analysis has two special features of its own. One is its examination of how the three dimensions can be brought together in analysis of a single piece ... The second is the semiological project’s insistence upon the *methodological* necessity of analyzing the neutral level.²

> Not simply dwelling on the possibility of a one-dimensional analysis, Nattiez purposefully draws attention to a main feature of the musical-semiological project as being

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how to tie the three approaches into an analysis of a single piece – a feature that will be explored in this chapter. The critical framework of the tripartition allows previous forms of analyses to be blended together, leaving open the investigation of ‘the specific relation between the three levels, according to the works, styles, epochs or situations’. This therefore allows the analyst the latitude to decide what is relevant to their work and to construct a meaning for a musical work that does not have to be the only correct reading of it.

As important as each of the three elements is individually, in Nattiez’s application of semiotics the importance of their interaction is more significant – as it is in these relationships where the meaning of the work exists. It is these connections that are integral to the music-semiotic project, as much like constellations in the night sky, these networks aid us in the understanding of how these disparate elements fit together as a whole. More than just discrete analytical elements these levels are entangled and exert influence on each other, as Nattiez states:

Analysis of the neutral level inherits from structuralism this basic insight: messages manifest a level of specific organization, that must be described. But this level is not sufficient: the poietic lurks under the surface of the immanent; the immanent is the spring-board for the esthesic. The task of semiology is to identify interpretants according to the three poles of the tripartition, and to establish their relationship to one another.4

In other words the structural features of the music are uncovered in the neutral-level’s analysis while the decisions that governed the creation of those features are found in the poietic and are therefore intricately entwined with them; and the esthetic response is then based on those features found in the neutral-level.

It is therefore a decision about which of these connections for a musicologist to highlight. For Nattiez, then ‘[a]n infinite number of traits ... is available for selection by the musicologist. Confronted by this multiplicity of interpretants, the musicologist effectuates a selection in terms of a plot, which he or she has chosen in order to explain the work.’5 Therefore the work of the musicologist – and by extension this thesis – is to explain the

work(s) by selecting a plausible plot, or if you will by making a choice of a constellation legend. For example, Nattiez endorses the possibility of a multiplicity of approaches in his analysis of Wagner’s *Tristan* chord while still indicating that not every analysis is in fact possible or truthful. Three main questions that Nattiez’s interrogation of multiple analyses conjures can be considered in relation to Reich’s music, as follows:

1. Are all these analyses valid?
2. Are we condemned to a form of absolute relativism?
3. Need we privilege any single answer?⁶

Taking the first question, as to whether all the analyses are valid, one must reflect on the underlying ‘truth’ of any analysis. If the premise of the analysis is incorrect, i.e. based on a misread key signature then by extension the analysis will be invalid. However, just because a particular analysis is not the first analysis that comes to mind does not lessen its validity. The hypothesis of multiple possible valid analyses is drawn from Jean Molino’s initial conception of the tripartition. According to David Lidov:

He [Molino] would thus define music neutrally as an acoustic fact (the *niveau neutre*) and/or productively as an intentional deployment of sounds according to rules (the *poïétique*) and/or perceptually as a sequence of sounds “pleasing” (or otherwise effective) to the ear (the *esthésique*), any of these definitions being correct, depending on the context in which the definition functions. One type of definition—*poïétique*, *esthésique*, or *neutre*—cannot be reduced to another.⁷

What is clear from Lidov’s description of Molino’s view is that the three forms of analyses are not only valuable as individual acts of analyses, but also invaluable as they are distinct from one another and true in their own particular circumstances.

The second question, asks whether this multiplicity of valid analyses or ‘opposing plots’⁸ condemns us to absolute relativism. Nattiez’s understanding of semiology is based on two transcendent principles that help inform our decision about relativism. Firstly Nattiez recalls that ‘in symbolic forms, the poietic and the esthetic do not necessarily coincide’, and secondly that ‘all symbolic objects give rise to an infinite series of

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interpretants ... and one can never reduce them to a single, unequivocal meaning.\textsuperscript{9} Thus, perhaps we are destined for a multiplicity of plots, but as Agawu warns ‘these domains are in constant flux, and that unless it can convey something of this diachronic instability, the model is likely to produce an unacceptable distorted semiological analysis.'\textsuperscript{10} This thesis has confirmed Agawu’s finding of constant flux noting that there is often overlap and subjective interpretation required to determine the purview of these various levels of analysis, and that this navigation of the levels in turn demonstrates the instability of the categorizations.

Finally, we must consider Nattiez’s third question as to whether a single analysis should be selected for endorsement. This is most pertinent when evaluating a variety of analyses: as I am constructing this analysis, I will necessarily be privileging my own reading of the material. My endorsement of this thesis’s analysis should not be considered as the construction of a single truth to the exclusion of all others. To paraphrase Reich, it is simply a thread of analysis that can be traced through his work.

The plot that this thesis sets out places the Counterpoints on the temporal axis on which the poietic and esthesic materials interact with one another in a chain-like effect, as demonstrated in Figure 6.1.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{TripartiteEdifice.png}
\caption{Tripartite edifice of Steve Reich’s Counterpoints on a temporal axis.\textsuperscript{11}}
\end{figure}

\textsuperscript{9} Nattiez, \textit{Music and Discourse}, 235.
\textsuperscript{11} Adapted from Figure 9.2 in Nattiez \textit{Music and Discourse}, 213.
Reich’s composition of *Vermont Counterpoint* in 1982 was influenced by the conceptual ideas and theories he had developed in the 1960s and 1970s. *Vermont Counterpoint* then fed into the development of further conceptual ideas, and the reception of that work influenced the composition of *New York Counterpoint*. This paradigm continued cyclically from *New York* to *Electric* and most recently to *Cello Counterpoint*. Nattiez has previously indicated that the musicologist’s role begins with selecting the narrative of the analysis, noting that ‘[c]hoosing a plot will, to a great extent, depend on our stance toward the analyzed object; by stance I mean one of the three levels of the semiological tripartition (poietic, esthesic, and neutral).’

**Constellations of Cello Counterpoint**

There are many possible plots that can be assembled about each of the Counterpoints, but this section will focus on the constellations of meaning that can be constructed for *Cello Counterpoint*, following the structure of the analysis set out in Figure 1.2.

**(I) Immanent Analysis**

The ‘Immanent Analysis’ of a work examines the musical object independently of considerations such as the composer’s life or the work’s reception. ‘This is a type of analysis that, working with an implicit or explicit methodology, tackles only the immanent configurations of the work.’ Immanent analyses of *Cello Counterpoint* are paltry even in comparison with the sparse analytical treatments of the other Counterpoint works. John Kaefer has found the Counterpoints to share an overall ABA format, which in *Cello Counterpoint* is more specifically:

- **Movement:** I  II  III
- **Section:** A  B  A1 coda

These similarities of movement I and III are reflected for Kaefer in the active key centres of c minor/E-flat major and the tempo of crotchet equalling 160; whereas movement two’s key signature is e-flat minor and tempo is half the outer movements at crotchet equalling 80.

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Technically *Cello Counterpoint* like the 1980s Counterpoints involves the use of canon, but unlike the earlier works does not employ rhythmic construction to create aural interest in the process. The neutral-level paradigmatic analysis of movement 2 of *Cello Counterpoint* presented in Chapter 2 of this thesis identifies a seven bar time signature cycle that corresponds to a melodic pattern identified as Pattern α. Additionally two other melodic patterns β and γ are also identified through the process of paradigmatic segmentation as off-shoots of Pattern α.

Reich then places these three related patterns into a canonic form see Figure 2.20. Pattern α is set out alone in bar 287, with the second entry occurring at 294 to begin the canon. At bar 294 the closely related pattern β also enters before the second entry of that pattern occurs seven bars later at 301. An additional seven bars and Pattern β at bar 308 is in close canon because it is also rhythmically displaced by two crotchets. Pattern γ at bar 329 increases the feeling of canon by establishing itself instantly in close canon with three renditions of the pattern all rhythmically displaced from the next by two crotchets (γ+2, γ+4 and γ+6). The employment of these three patterns creates the sensation of a cascading canon even though it is not a straightforward canon as the patterns are not exact replications of one another.

(II) Inductive Poietics

‘Inductive Poietics’ is a familiar situation in musicology as it includes the analyst tracing ‘from recurring patterns in a work, the thought of the composer, obviously drawing from their knowledge of other works along with that of the historical or cultural context.’ This analytical situation proceeds ‘from an analysis of the neutral level’ in order to draw conclusions about the poietic.

The analytical findings of the neutral-level for *Cello Counterpoint* focus on the melodic pattern α (see Figures 2.21 and 2.22), the claim for centrality of this pattern is supported in the poietic traces beginning with the sketchbook entry 14 March 2003, which begins to anticipate not only the harmonic material of the pattern but also the rhythmic profile of it. A series of inscriptions about the possible and subsequent onslaught

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16 Sketchbook 49, p. 56. Steve Reich Collection, PSS.
of Operation Iraqi Freedom pepper these pages of sketch material (until the start of movement three sketching on 31 March 2003) and the entry from 16 March 2003 begins with ‘ON THE BRINK OF WAR ...’ and demonstrates the first sketched version of segment A from pattern α (see Figure 2.22). Interestingly Reich’s own sketch materials do not seem to feature any uncertainty in the development of musical material his extra-musical commentary indicates unease as might be expected from an official declaration of war.

The entry from 17 March 2003 demonstrates Reich exploring the idea of canon by sketching in a second entry of the nascent melodic pattern three crotchets after the initial entry. Two days later on 19 March Reich sketches the melodic pattern a sixth apart, moving in parallel motion. A situation which he replicates in between bars 287–293 in cellos 2 and 3, and then in cellos 1 and 2 between bars 294–335, see Figure 2.20 for how pattern α is paired in the musical lines in movement two. This parallel motion in the sketch entry floats above solid chords that translate to cellos 5–8 in bars 287–293 of the published score. Further sketching sessions continue to refine the melodic material and make slight harmonic adjustments.

Many of the musical features illuminated in the neutral-level analysis of *Cello Counterpoint’s* second movement, including:

- the centrality of pattern α to the creation of melodic material
- idea/sensation of canon more important than a straightforward canon
- pairing of patterns into parallel motion

can be confirmed in a brief foray into the poietic documents. The neutral-level of the analysis links into the poietic demonstrating that although not composing in a strict process, Reich is still interested in musical patterns occurring in transposed facsimiles of canon.

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17 Operation Iraqi Freedom is the name given to the military actions which American President George W. Bush introduced to his citizens as ‘military operations to disarm Iraq, to free its people and to defend the world from grave danger. On my [Bush’s] orders, coalition forces have begun striking selected targets of military importance to undermine Saddam Hussein’s ability to wage war. These are the opening stages of what will be a broad and concerted campaign.’ For a complete transcript of Bush’s public address see CNN, “Bush declares war,” 19 March 2003, Accessed 21 October 2015, http://www.cnn.com/2003/US/03/19/sprj.irq.int.bush.transcript/.
(III) External Poietics

‘External Poietics’ reverses ‘Inductive Poietics’ taking the poietic document and using it to analyse the musical work.¹⁸ Building on the foundational MNS knowledge he acquired with the adoption of Professional Composer, Reich’s use of Sibelius finds him in Cello Counterpoint integrating computer sketches and work in his sketchbook with greater fluency than the previous Counterpoint’s e-sketches (Electric Counterpoint from 1987) suggested. An examination of the activity from 5–6 August 2002 demonstrates concentrated compositional efforts in a variety mediums:

- Sketchbook
- Sibelius MNS documents
- Digital Performer files
- MIDI file

Although it is not possible to determine at what hour of the day the sketchbook entries were made (or even to confirm the reliability of the dates) the metadata available in the e-sketches allows for a detailed timeline of compositional events to begin to form. Even an abbreviated timeline, leaving out many individual e-documents and all paper sketches in order to accentuate the trends in Reich’s e-compositional behaviour demonstrates a fluency of software use (see Figure 6.2 and Appendix VI for details on all entries).

¹⁸ Nattiez, Music and Discourse, 141.
<table>
<thead>
<tr>
<th>Date</th>
<th>Time Span</th>
<th>Titles of Documents</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Aug 2002</td>
<td>00:15–05:07</td>
<td>‘Cello Counterpoint-s_37’–‘Cello Counterpoint-s_52’ (numerically inclusive)</td>
<td>Sibelius</td>
</tr>
<tr>
<td>5 Aug 2002</td>
<td>05:07</td>
<td>‘Cello Counterpoint-sketch-’</td>
<td>Sibelius</td>
</tr>
<tr>
<td>5 Aug 2002</td>
<td>23:55</td>
<td>‘Cello Cntrpnt-sketch -E maj’</td>
<td>MIDI</td>
</tr>
<tr>
<td>6 Aug 2002</td>
<td>00:06</td>
<td>‘P/Cello Cntrpnt-sketch-Emaj’</td>
<td>Digital Performer</td>
</tr>
<tr>
<td>6 Aug 2002</td>
<td>05:51</td>
<td>‘Cello Cntrpnt-sketch-2’</td>
<td>Sibelius</td>
</tr>
<tr>
<td>6 Aug 2002</td>
<td>05:55</td>
<td>‘Cello Cntrpnt-sketch-E maj’</td>
<td>MIDI</td>
</tr>
<tr>
<td>6 Aug 2002</td>
<td>06:06</td>
<td>‘P/Cello Cntrpnt-sketch-E maj’</td>
<td>Digital Performer</td>
</tr>
<tr>
<td>6 Aug 2002</td>
<td>11:52</td>
<td>‘Cello Cntrpnt-sketch-3’</td>
<td>Sibelius</td>
</tr>
<tr>
<td>6 Aug 2002</td>
<td>17:52</td>
<td>‘Cello Cntrpnt-sketch-3’</td>
<td>Sibelius</td>
</tr>
<tr>
<td>6 Aug 2002</td>
<td>17:52</td>
<td>‘Cello Cntrpnt-sketch-E maj’</td>
<td>Sibelius</td>
</tr>
</tbody>
</table>

Figure 6.2. Condensed timeline of e-sketches for Cello Counterpoint composition 5–6 August 2002, format of file indicated. Derived from Cello Counterpoint computer files, Steve Reich Collection, PSS.

Particularly the composition session that took place late on 5 August to early on 6 August 2002 shows Reich working in a variety of computer programs to create different e-sketches: notation files in Sibelius, and sounding documents in Digital Performer. The MIDI file is also an auditory artefact however the method of its creation is not certain, as it is a non-propriety file format. Moving from Sibelius, to MIDI, to Digital Performer, Reich establishes a working method—thinking in terms of notation, which was then is heard either as a MIDI file before being translated into Digital Performer or was heard in a computer synthesizer version, before returning to notation, as illustrated in Figure 6.3.
The poietic traces of these two August days highlights the role listening plays in Reich’s compositional process, also found in Figure 5.1 and the integration demonstrated by moving between these formats indicates that his adoption of MNS and its other digital accoutrements had likely for him become ubiquitous with the compositional task.

Although limited text documentation exists on Cello Counterpoint in the current archival collections the Rich Text File from 12 August 2003 titled ‘Read Me-for Kilgore’ directs an exploration of external poiesis again back towards the computer files in which it is found. ‘Read Me-for Kilgore’ lists the digital pre-recording session materials Reich was sending to John Kilgore before Cello Counterpoint’s recording as:

- DP3 and DP4 files\(^{19}\)
- Sample Cell (Bank, Instruments and Samples)\(^{20}\)
- Cello samples (aif format) & Instrument patch (NN-XT Sampler in Reason)\(^{21}\)

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\(^{20}\) SampleCell, presumably refers to files created in Soft SampleCell a software program designed to enhance a computer’s ‘sample editing and playback capabilities.’ ‘Bank, Instruments and Sampler’ are all file types within Soft SampleCell. ‘Samples’ in Soft SampleCell are ‘the raw waveform data of a sampled sound.’ One or more samples ‘assigned to different ranges of keys and velocities’ is considered to be an ‘Instrument’, and a ‘Bank’ is a performance group of ‘Instruments’. See Digidesign Inc., *Soft SampleCell Guide: Version 3.0 for Macintosh* (Palo Alto, CA: Digidesign Inc., 2001), 1 and 9.
• Sample Map (CDextract [sic])
• two MIDI files (one unspecified and the other as audio of MIDI via Reason)

Again this document furthers the understanding of Reich’s increased fluency with computers and music software; and highlights the importance of the sounding of Reich’s notation.

(IV) Inductive Esthesics

According to Nattiez this, in musicology, is ‘the most common case, primarily because most analyses wish to style themselves perceptively relevant, and most musicologists set themselves up as the collective consciousness of listeners.’ In ‘Inductive Esthesics’ the musicologist ‘uses an analysis of the work as a foundation and then describes what he or she thinks is the listener’s perception of the passage.’

_Cello Counterpoint’s_ neutral-level analysis notes that the second movement of the work is distinguished from the outer movements by a halving of tempo (crotchet equals 80 rather than 160) and a change of key signature (from c minor / E-flat major to e-flat minor). The slower tempo and shift towards a solely minor tonality imbues the music with a sense of mournful loss. Building this melancholic expression is the design of repeating Pattern α (Figure 2.22 for paradigmatic segmentation) itself as segment F feeds back into segment A. Segment F’s rising line leaps an octave, then a fourth followed by two consecutive seconds to reach segment A where the upward momentum breaks much like a wailing voice collapsing downwards throughout segment A and B, only to be brought forth anew in segment A’, segments C, D and E articulating the sobbing aftershocks of intense grief in segments A and A’.

As patterns β and γ differ from pattern α only in slight variations to segments A and C, the wailing of the multiple cellos voices increases over the course of the seven iterations of the pattern (bars 287, 294, 301, 308, 315, 322 and 329).

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21 Reason is a type of recording software. In the Kilgore note Reich specifies that he is including an instrument patch and cello samples in aif format created with Reason. A patch in Reason is ‘a complete “sound package”. It contains information about all the samples used, assigned key zones, associated panel settings etc’ and the aif format is one of the file formats that Reason will read as a sample. See Ludvig Carlson, Anders Nordmark and Roger Wiklander, _Reason Operation Manual_, Version 2.5 (Stockholm: Propellerhead Software, 2003), 153 and 161.

22 CDxtract is sample conversion software that Reich used to create a sample map displaying the mapping of samples in a particular software program.

23 Nattiez, _Music and Discourse_, 141–42.

24 Heaney, _Music as Theology_, 97.
The seven iterations of the pattern noted above are also occasions for the idea of canon to take place. With the sounding of bar 329 patterns α, β and γ are occurring in a complex canonic structure that generates the aural sensation of cascading patterns. The minute differences between patterns α, β and γ, are integral in creating the sensation of patterns continuously cascading in canon (see Table 6.1).

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Segment</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td>A</td>
</tr>
<tr>
<td>β</td>
<td>A'</td>
</tr>
<tr>
<td>γ</td>
<td>A'</td>
</tr>
</tbody>
</table>

Table 6.1. Comparison of paradigmatic segmentations for patterns α, β and γ of Steve Reich, Cello Counterpoint, movement 2.

Patterns β and γ feature a replacement of segment A with A’ this makes the first hearing of these patterns initially seem as partial versions of pattern α. Segments Ax, A', C' and C'' change the alignment of the other segments in the pattern by expanding (Ax and A') or compressing (C' and C'') those segments. These adjustments to alignment especially between patterns β and α refocus us as listeners to the concept of canon but the constant tiny adjustments suggest trepidation that a complete canon will never actually be achieved. In the second movement of Cello Counterpoint the idea of canon is therefore in this reading twined with a general state unease.

Employment of this level of interaction is dangerous for musicologists, as Nattiez warns allows them to be the expert for a ‘collective consciousness of listeners’ as it is in fact an informed opinion it must therefore be carefully crafted and understood as a single part of the constellation of meanings and not simply as fact. Naomi Cumming likewise cautions that ‘[s]earching to specify the effect of their musical synthesis, as if it could be captured in a single term, can lead to a sense of false fixity in the description—as if a content specific to the moment were being diminished to a mere re-presentation of something fully known before.’25 As is the case here, the slowing of the tempo, modulation to a minor key, and the canon within canon of the melodic pattern, could be read as lyrical, stately, reserved and increasingly intellectual rather than as mournful and uneasy depending upon the reference point of the listener.

(V) External Esthesics

‘External Esthesics’ begins ‘with information collected from listeners, to attempt to understand how the work has been perceived.’ Nattiez goes on to equate this category simply with the work of experimental psychologists however Maeve Louise Heaney explains that the role of ‘External Esthesics’ could be considered as ‘conditioned and even manipulated by other factors, including economical interest, but nevertheless, public perception is taken into account and highly appraised in the analysis of contemporary music.’ Following Heaney’s understanding of ‘External Esthesics’ as public perception Cello Counterpoint needs to be understood not only as the most recent inclusion in the Counterpoint series but also as the least popular in terms of yearly performances (consistently in the last five years, see Figure 3.5).

Critics have found the work to sound ‘more conventional, perhaps less confrontational, yet still unmistakably Reich’ noting that the composer was not afraid of his musical intelligence but that the work ‘never calls attention to its own cleverness.’ Yet the majority of public critiques of the work focus less on the musical content and more on the production of the sound and the scene in which it is performed.

In a review of Cello Counterpoint as released on the Nonesuch label Ivan Moody articulates the opinion that the work ‘must be extremely effective [when] heard live’ suggesting perhaps that the recorded version of the work is not as effective a realisation of Reich’s notation. The tension between the recorded work and the live work is evident in the concern that David Patrick Stearns raises in his review of Cello Counterpoint ‘her live presence gives a clear-cut foreground element ... That explains why the same works have

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26 Nattiez, Music and Discourse, 142.
27 Heaney, Music as Theology, 98.
28 The full text of the relevant portions of these reviews can be found in Chapter 3 of this thesis.
so much less impact on her recordings.\textsuperscript{32} With Maya Beiser’s physical presence Stearns no longer worries that the details will be ‘lost in an electronic soup.’\textsuperscript{33} Joe Banno, however, felt Beiser’s live performance might be an isolating experience. For Banno her performance with pre-recorded tracks of her own cello playing could be equated with a self-communing which ‘tended to isolate her in a sort of electronic cocoon’ although he admits that that could have been Beiser’s aim.\textsuperscript{34}

Perhaps some of the tension surrounding electronics in the performance of \textit{Cello Counterpoint} was tied into the video accompaniment that Wynne Delacoma described as ‘bits and pieces of fractured cellos evoking images of Picasso’s Cubist guitarists,’ see Figure 6.4 for a still image of Beiser performing in front of the video projection.\textsuperscript{35}

![Figure 6.4. Still image from video excerpt of Maya Beiser performing Cello Counterpoint at Seattle’s On the Boards in 2004, background video projection by Anney Bonney.\textsuperscript{36}](image)

Video artist Anney Bonney made the visuals and describes the creation process as:

Maya [Beiser] spinning her cello in my [Bonney’s] studio, then filtering her 7 prerecorded parts through Nam June Paik


\textsuperscript{33} Stearns, “Israeli cellist plays a polished concert of all-new works.”


and Shuya Abe’s Wobulator at the Experimental Television Center. The interlacing strings are those audio/electro visualizations.\textsuperscript{37}

Banno the critic who (more than the others) found the volume of electronics in Beiser performance potentially problematic however found that ‘[t]he play of geometric shapes in “video environments” by Irit Batsry\textsuperscript{38} and Anney Bonney complemented the musicmaking without overpowering it.’\textsuperscript{39} The concept of \textit{Cello Counterpoint} being linked to a visual has longevity within the work as Beiser performs not only with the Bonney version, but also at times with a projection created by Bill Morrison. The video projection, for example, with which Beiser performs in the TED Talk from March 2011 is Morrison’s. Morrison’s projection features a screen divided vertically into sevenths, with each seventh devoted to a sliver of Beiser performing one of the accompanying taped cello lines, making Morrison’s work a visual analogue of Reich’s composition.\textsuperscript{40} Performing with a more straightforward visual such as Morrison’s rather than Bonney’s could be a concession to audiences who may have had difficulty parsing the link between the more abstract images and the live performer interacting with a taped ensemble.

The reviews of \textit{Cello Counterpoint} like the earlier Counterpoints demonstrate a pervasive suspicion of the technological trace of performing with tape part, however with \textit{Cello} the artistic purpose behind the tape part was not questioned by critics. The lack of such questioning perhaps showing a growing acceptance for technologically extended ensembles in the twenty-first century.

\textbf{(VI) Synthesis}

The sixth type of analytical situation is the most complex and is ‘the case in which an immanent analysis is equally relevant to the poietic as to the esthesic.’\textsuperscript{41} Heaney summarises it as:

\begin{quote}
Here the finished product says something about the intention and meaning held within the creative process, which in turn illuminates how that music could (and perhaps should?) be
\end{quote}

\begin{footnotes}
\item[37] Bonney, “Cello Counterpoint excerpt (RT: 2:13m), 2003.”
\item[38] Irit Batsry created the video accompaniment for David Lang’s \textit{World to Come} which was also on the program.
\item[39] Banno, “Cellist Maya Beiser: Call Them Solo Duets.”
\item[41] Nattiez, \textit{Music and Discourse}, 142.
\end{footnotes}
played. Its reception also helps understand the piece in itself and perhaps illuminates further interpretations of the same.\textsuperscript{42}

If we return to the neutral-level analysis we find three main features elucidated: 1. ABA format; 2. Canon; and, 3. Pattern. These elements can be found in the sketch materials and also effect the reception of \textit{Cello Counterpoint}.

The ABA format that Kaefer found common to all the Counterpoints is distinguished in \textit{Cello Counterpoint} by modulations in tempo and key. These modulations slow the second movement and create a minor tonality that imbues the work at this point with a sorrowful sound. Furthermore the similarity of the outer ‘A’ movements is intentional as a 28 March 2003 entry states “Begin III like? Back to beginning of I”\textsuperscript{43} as well as the sketches mapping out chronologically so that:

- Movement I Earliest sketches
- Movement II Middle sketches
- Movement III Final sketches

Which makes the sketches themselves enact Kaefer’s proposed format. The extra-musical commentary on the unfolding war in Iraq that mostly accompanies the middle sketches furthers the mournful tone of the movement.

The immanent analysis also uncovers the use of the idea of canon being central to the underlying structure of \textit{Cello Counterpoint}’s second movement. This is demonstrated in the sketches as early as 17 March 2003 and perhaps could account for critics finding the work somewhat conventional and noting Reich’s musical intellect. Canon in \textit{Cello Counterpoint} unlike the other Counterpoint works is not linked with the process of rhythmic construction, it is more the sensation of canon that is integral to the movement.

Patterns to place in canon remain integral to Reich’s compositional style. The sketching of the patterns that occur in \textit{Cello Counterpoint}’s second movement coincides with the extra-musical war commentary in Reich’s sketchbook. The inclusion of these comments might suggest that the music should reflect some of the same uncertainty. They do not, however, which could mean that Reich was enacting control over the pattern, as he could not control world events. Further the circularity of the pattern that occurs when it is

\textsuperscript{42} Heaney, \textit{Music as Theology}, 98.
\textsuperscript{43} Sketchbook 49. Steve Reich Collection, PSS.
placed in canon is also crucial for the movement’s emotional build-up, ratcheting up the intensity of the opening wailing motive (segments A and B) with each iteration.

The neutral-level analysis presented here does not account for Reich’s involvement with what one critic referred to as ‘electronic soup’. Tensions about performing against pre-recorded tape lines and having a video projection in the background all bubble to the surface of the esthetic responses to *Cello Counterpoint*, with reviews casting Beiser in the role of performing saviour, apparently controlling the situation by sheer force of will. Meanwhile the poietic traces of *Cello* demonstrate a composer increasingly familiar with the constituent parts of that ‘electronic soup’, moving between software programs, file types and paper-based sketches with fluency and ease. But neither of these is inherent in an examination of solely immanent structures of the musical scores, and only come to be noticed when the work is examined from all three analytical perspectives together. Arguably it is how Reich deals with these very tensions that play a significant role in the development of his oeuvre.

**Canonic Compromise**

As the previous section was focused on ‘the skeleton of a “systematic musicology”’44 a less stringent form of synthesis will be utilised here. Focusing on the concept of canon as enacted by Reich in the 1980s and reconsidering how each analytical level (poietic, esthetic and neutral) of those Counterpoints interacts with the others, allows us to compare like works – apples to apples, rather than apples and oranges. To begin a general exploration of Reich and his self-identification with the technique of canon touches upon inductive poetics. Following that comes an exploration of Reich’s use of rhythmic construction as a technique that requires the 1980s Counterpoints to be reconsidered, this form of analysis bears commonalities inductive and external esthetics, while external esthetics is also represented by the organising feature of the section discussing rhythmic construction (something found in some of the poietic documents) although elements of all levels freely mix here.

**Canon and the Composer**

Reich has utilised canonic techniques from the beginning of his compositional career. First with phasing, a type of variable distance canon, and second with rhythmic

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construction – the universality of canon is highlighted by Reich in a discussion of his music from 2010, phasing

... is a weird technique. If you go to a conventional music school anywhere in the Western world ... they will not teach you how to phase ... but there are other ways of getting what is called ... a canon or a round. That’s what’s going on here [Piano Phase], that’s what’s going on in It’s Gonna Rain, it’s one sound against itself. That’s a canon; it can be from the 13th century, it can be Johann Sebastian Bach, it can be Béla Bartók, it can be Steve Reich.45

Referencing the longevity of canonic technique allows Reich to implicate himself into a Western musical heritage that is an explicit continuation of the QED/JSB idea found previously in the New York Counterpoint sketchbooks. See Figure 6.5 for an example timeline of the musical heritage Reich has claimed in the Western classical tradition (this excludes the influence of African and Balinese traditions, as well as jazz musicians).

<table>
<thead>
<tr>
<th>Century</th>
<th>Composer</th>
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<tr>
<td>12</td>
<td>Léonin</td>
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<td>13</td>
<td>Pérotin</td>
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<td>14</td>
<td>Josquin</td>
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<td>15</td>
<td>Bach</td>
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<td>16</td>
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<tr>
<td>17</td>
<td>Stravinsky</td>
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<tr>
<td>18</td>
<td>Bartók</td>
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<td>19</td>
<td>Reich</td>
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<tr>
<td>20</td>
<td>Phase pieces</td>
</tr>
<tr>
<td>21</td>
<td>Counterpoints</td>
</tr>
</tbody>
</table>

Figure 6.5. Basic timeline of musical heritage in the Western classical tradition claimed by Steve Reich.46


Canon as experienced by the audience in Reich’s Counterpoints does not necessarily follow the rigidity of rules established in texts such as Johann Joseph Fux’s *Gradus ad Parnassum*. In the Counterpoint’s precursors – the Phase pieces – canon at the unison is now paired with the term ‘variable distance’ meant to describe the constantly shifting pattern against a static pattern. Sumanth Gopinath has described this phenomenon, as the patterns acting ‘like gears that slip and then catch in new locations ...’ – an apt description that compares the technique to a form of technology, as live phasing was born out of the challenge ‘to see if a live performer could accomplish what had been so easy electronically – to begin in unison with the tape and then move very slowly ahead of it, all the while repeating the same pattern.’ In the case of the Phase pieces the moment of slipping is prolonged and focused upon, before the moment it catches in a new location also describable as a canonic entry at a whole integer rather than a gradually increasing fraction (see Figure 6.6 which only highlights the juxtaposition of the two patterns at every quarter position and not all of the incremental positions in-between).

| Position | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | ...
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----
| Pattern 1| 1   | ¼  | ½  | ¾  | 2   | 2¼ | 2½ | 2¾ | 3   | 3¼ | ...
| Pattern 2| 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | ...

*Figure 6.6. Numerical representations (divisions at the quarter) of a variable distance canon.*

This new approach to an idea steeped in tradition, which as Reich has pointed out could be from the 13th century or from any number of twentieth-century composers, allowed him to engage with the past without simply recreating it. Ronald Woodley’s discussion of aspects of Reich’s use of canon as a ‘unifying obsession’ finds a similarity of approach to composing in a diverse range of ensemble types in Reich’s works spanning nearly three decades.

Keith Potter has underscored the importance of the discovery of the unusual take on a traditional technique in Reich’s compositions. Noting that with Reich’s employment of

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phasing ‘it becomes possible to hear new groupings of pitches based, usually, on their registral proximity rather than the “structural” separation of each line’ even when only two instruments (in the instance Potter is discussing, violins) are playing identical patterns in a close canon. These new groupings are what Reich refers to as ‘resulting or resultant patterns’ and, according to Potter although found in embryonic state in *Come Out* and *Piano Phase*, they are not truly exploited or clarified until the composition of *Violin Phase* – a direct ancestor, according to the composer, of the first Counterpoint work. This interest in variable distance canons and resulting patterns continued through to the end of phasing with the conclusion of *Drumming* in 1971; this was not, however, the end of Reich’s interaction with canon.

Reich came to find other methods to create interest with canon, the most productive of which according to him was ‘to gradually substitute notes for rests – sound for silence – until a canon is constructed’ a technique that has come to be known as rhythmic construction. Although rhythmic construction does not actually construct canons, in the Counterpoints Reich employs it simultaneously with canon – in the most basic arrangement the patterns are set in canon with each other, but the patterns are not heard in their full canonic form until the process of rhythmic construction is completed for all of the patterns being utilised in the canon. Therefore with the Counterpoints rhythmic construction is paired with a more traditional understanding of canon. K. Robert Schwarz observes that ‘[a]lthough the musical surface of Reich’s compositions has grown in complexity since the days of the phase pieces, his obsession with canon has persisted unabated.’ Kyle Gann points out the exposure of this sort of music’s minimalistic roots, but finds that ‘postminimalist music is not so highly structured’ and that ‘[i]t is one of the features of the style that strict process and free composition can coexist in the same composer’s output, and indeed within the same work.’ Schwarz’s commentary matched

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51 Potter, *Four Musical Minimalists*, 189.


54 Schwarz, “Process vs. Intuition”, 250.

with accompanying quotations from Reich also highlights the intuitive feature that the composer has come to promote in his own music:

When does the second voice come in in a rhythmic process? Does it come in one beat away? That produces a kind of quick shaking, because you’ve got every note coming in after each other. Or does it come in two or three beats away? ... You always have some room to breathe, and you can start adjusting notes and creating other possibilities. 56

In this commentary the intuitive is foregrounded while the process portion of the technique is pushed to the back. This shift could be read as a likely response to some of the esthetic critiques levelled at Reich during the early 1970s, including the now infamous and largely public exchange between Reich and Clytus Gottwald about Drumming. 57 In the secondary literature, as early as 1981–2, in a discussion of Six Pianos, Schwarz notes that the method of rhythmic construction was ‘another sign of Reich’s recent willingness to compromise his aesthetic of structural clarity’ as the ‘new method of achieving the effect of having constructed a canon (phased) is music less perceptible to the listener.’ 58

However at Reich’s continued insistence that it is ‘what notes and in what rhythmic order’ 59 that is most important to him, the process of canon amplified by the path for the technique of rhythmic construction (the order of the notes appearing in canon) will be explored throughout the Counterpoints. Such an investigation generally raises an assortment of questions, including: Is it possible to hear the process of rhythmic construction when it is further entangled with canon? If it is not audible does the music owe a debt to serialism’s highly evolved theoretical underpinnings, which are yet largely unheard? Or, perhaps more tangibly, what other Reich works might be included in a discussion of this constant thread? Specifically, questions can be asked about whether rhythmic construction is found in all of the Counterpoint works, and if not, is it a viable option for inclusion in a synthesis of the tripartition’s three levels? Further questions as to how much variety is present in the rhythmic construction found in the Counterpoints and

57 A brief overview of the Gottwald-Reich exchange alongside the political and ideological ramifications of it can be found in Peter Shelley, “Rethinking Minimalism: At the Intersection of Music Theory and Art Criticism,” (PhD diss., University of Washington, 2013), 276–9.
whether that difference is increased or lessened with Reich’s adoption of the computer and music notation software (MNS) as a method of sketching his compositions, should also be asked. These lead to questions of how (or even if) evidence of the thought process behind rhythmic construction is found in the sketches, and further whether the medium of the sketch material matters, or is it simply a question of experience with the format, i.e. does the sketching of *Cello Counterpoint* with MNS equate to Reich’s initial experience with MNS in *Electric Counterpoint* seventeen years prior? Contemporary reviews, and Reich himself, have paired the Counterpoints with their predecessors the Phase pieces but are these comparisons merely cosmetic? Is there an underlying truth to these pairings and if so why has Reich been actively distancing himself from the terminology associated with phasing and not that connected canonic technique? And, what does canon mean to Reich? As Figure 6.1 placed the Counterpoints’ tripartite edifices on a temporal axis in order to highlights such chains of reference, these research questions can be considered as bound up in a cascading range of influences and will be drawn upon as necessary throughout the following case studies.

**Vermont Counterpoint Reconsidered**

As stated earlier, in composing *Vermont Counterpoint* for a musician outside his ensemble Reich opened up his music to a wider group of performers and audiences. This performance growth continued and by the first decade of the twenty-first century performances of *Vermont Counterpoint* accounted for approximately three per cent of all performances advertised on Reich’s personal website, see Appendix VI. The small ensemble size (at the smallest one flautist) required for *Vermont Counterpoint* allows for incredible diversity in performances, as it can be added to a concert flautist’s solo repertoire and toured, although it ranks third of four for Counterpoint popularity, and twelfth overall in terms of the number of performances as published on Reich’s website. This ranking is well behind *New York Counterpoint* and *Electric Counterpoint*, and can be seen in the last half dozen years represented in the graph of performance of the Counterpoints as found in Figure 3.5 of this thesis.

Although not as popular as some of the other works in the series, *Vermont Counterpoint* reception immediately harkened back to its predecessors in the Phase pieces. The *Village Voice*’s Gregory Sandow even explicitly described it as ‘in the mosaic style of
Violin Phase. Sandow’s comment forces the comparison with the Phase pieces, although he quickly admits the pace of the Counterpoint is faster and that its melodies are more varied. However, an examination of Appendices I and II, especially when read in conjunction with the neutral level analysis of Chapter 2, suggests that this might not entirely be the case. Although a greater number of melodic patterns is in fact used in Vermont Counterpoint than in the early Phase pieces (see Table 4.4 for a listing of the patterns initial appearances in the sketchbooks), many of those patterns bear striking similarities to one another, and can be given ‘family’ groupings, further reducing the melodic fabric from which the work is constructed. Where Reich allowed the variable canon of phasing to create much of the interest in the Phase pieces, in the Counterpoints he presents the patterns in the typically straightforward form of a fixed canon. Therefore interest is derived from the accents in the resulting patterns that mutate as the canons are built up through the process of rhythmic construction – a simple two-part system that results in a compact yet complex composition.

The live flute line in Vermont Counterpoint’s first movement performs three melodic patterns in succession, previously labelled A, B and C. If we examine the rhythmic construction (see Figure 2.2) of the first of these patterns (present between rehearsals 2 and 20) we find a fair amount of variety in the decision of what note and in what order Reich reveals the melodic pattern (see Figure 2.1).

Comparing the four episodes of rhythmic construction that occur in the live flute line of Vermont Counterpoint there appears to be very little similarity between stages as to the order in which Reich reveals the melodic pattern. Only beats 9 and 10 occur in the same stage of the episode in all four versions (excluding the second half of the pattern which only occurs in two episodes of rhythmic construction). Although the pattern spans just over two octaves, a large part of it comprises arpeggiated or stepwise material. Beats 9 and 10, however, correspond to the most dramatic consecutive interval in the entire melodic pattern, a descending ninth. This falling semiquaver dyad becomes an aural hallmark for the pattern and is the first material that the live musician performs. By having this dyad appear in the first episode of all four rhythmically constructed versions of the pattern, Reich instantly orientates his listener and alerts them to the continuity of the pattern’s use. The melodic pattern is exposed incrementally by Reich who typically reveals

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the most information in the first stage of rhythmic construction with each subsequent stage revealing the same percentage, or less, than the preceding one (see Table 6.2). The denominator for the fractions are taken from the total possible sounding semiquavers in the full melodic pattern rather than the entirety of the pattern with rests included.

<table>
<thead>
<tr>
<th>Episode</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
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</thead>
<tbody>
<tr>
<td>2–4</td>
<td>3/9</td>
<td>3/9</td>
<td>3/9</td>
<td></td>
</tr>
<tr>
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<tr>
<td>14–16</td>
<td>11/20</td>
<td>5/20</td>
<td>4/20</td>
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<td>18–20</td>
<td>12/20</td>
<td>4/20</td>
<td>4/20</td>
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</tbody>
</table>

Table 6.2. Fractions of the melodic pattern revealed within each stage of rhythmic construction in Steve Reich, *Vermont Counterpoint* movement I, pattern A, Live Flute line.

As evidenced in Table 6.2 there appears to be no external pattern at work guiding Reich as to what notes to reveal in a particular stage. The pace also appears to be entirely intuitive, with more control being exerted on the pattern than is perceived in works like *Violin Phase* or *Piano Phase*.

Rhythmic construction appears in the sketch material in shorthand form, as was demonstrated previously in the piccolo line in Figure 4.1. On the same sketchbook page that the top line of Figure 4.1 is taken from other versions of melodic pattern A appear (note that this is also the first instance in which Reich incorporates this shorthand in the Counterpoint sketches). The ordering of rhythmic construction for rehearsals 14–16 and 18–20 are also both found on this sketchbook page. These occurrences of shorthand in the sketchbooks suggest that Reich was fully aware of the effect that rhythmic construction would have on his listening audience, and that he was specifically electing for each episode to be unique.

Constantly varied rhythmic construction, when paired with a trio of triple canons, as it is in *Vermont Counterpoint*, creates a spiral of sound that is in fact less like *Violin Phase* than Sandow insinuates, even when he tacks on the qualifiers of ‘livelier’ and ‘more varied.’ The word choices in Sandow’s review suggests that he found a similarity of style

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61 Sketchbook 24, Steve Reich Collection, PSS.
62 The portion of the review relevant to *Vermont Counterpoint* is reprinted in the discussion of the esthetic level in Chapter 3 of this thesis.
between *Vermont* and *Violin Phase* that went beyond the compositional idea of having a soloist perform against recordings they made. Note that as *Violin Phase* appears in its published form it requires two performers, the violinist and the sound engineer for a performance. The sound engineer assists the live instrumentalist by fading the pre-recorded tracks in and out according to the performance directions in the score. It is not simply a matter of starting a pre-recorded tape and playing along (which is essentially what occurs in the Counterpoints). The comparison of *Vermont Counterpoint* and *Violin Phase* is, however, logical as the reviewer is attempting to situate the new work within the oeuvre of the composer (yet the critic must be aware of the power of words and the level of (dis)similarity they might indicate). *Violin Phase* should have been well known to a New York contemporary music critic such as Sandow, since at the time of *Vermont*’s premiere there were two commercially available releases of the work, one performed by Paul Zukofsky, released on Columbia (1969), and the other with Shem Guibbory on violin, which was released in 1980 on ECM.63 We can therefore assume that the selection and comparison drawn was specific and explicit; but musically after an analysis of the rhythmic construction in *Vermont* the works seem further apart. Perhaps answers to this comparison can be sought in how the critics reacted to *Violin Phase*. An appraisal by Donal Henahan in 1968 of a concert of Reich’s works performed in the Whitney Museum is particularly biting in its description of *Violin Phase*, which concludes the review:

> Finally, for a full half hour, Paul Zukofsky, with his violin miked, played against a 10-note ostinato in “Violin Phase.” Mr. Zukofsky, choosing his own patterns within set limits, added part after part until he was a complete quartet, all by himself. It was, if you will, as much fun as watching a pendulum.64

Henahan’s review references the opening ten-note ostinato that is the basic pattern of *Violin Phase*, but does not mention the fact that the ostinato is subsequently expanded with two more track layers that are offset from the original track (pattern) by four and eight quavers respectively.65 Also, apparently little interest was generated for Henahan by the violinist transforming himself from a soloist into a whole quartet (the issue which becomes central to other reviewers with *New York Counterpoint*); but the fact that he felt that he

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could predict what was about to happen – like visually tracking a pendulum along its physical trajectory through space – betrays the critic’s underlying feeling of process. This sense of process that is recognisable in *Violin Phase* is interesting because it is not as process-orientated as the slightly earlier tape work *Come Out*. There are moments in *Violin Phase* when the phase-shifting stops and it locks into a groove for a few rehearsals without danger of its gears slipping immediately. In *Violin Phase* there is a process but it is obscured; once it starts it does not simply continue on until it is finished without any external manipulation, as is the case with *Pendulum Music*. Elements of intuition come into effect, just as they had in *Piano Phase*, a work in which Potter notes that – although Reich claims it “is as process-orientated as the tape pieces,” it is already clear that Reich manipulates his material here in a quite subtle manner.66 Linking *Vermont Counterpoint* to *Violin Phase*, and by extension *Piano Phase*, connects it to the idea of a process-driven tradition (even when those process works are not pure processes); it acts as a thread through Reich’s oeuvre. Presumably this act is at least part of what Sadow hoped to achieve with his review, but it also highlights the fact that Reich’s audience was entrained to seek out patterns and their manipulations rather than a melody being developed through a canonic technique with a twist. The expectations of the audience are often easy to predict and difficult to thwart.

**New York Counterpoint Reconsidered**

References to *New York Counterpoint* first appear in the correspondence between Reich and Betty Freeman, in the letters that exchange news of mutual acquaintances, cultural events and logistical plans. The most popular of the series in terms of performance, *New York Counterpoint* defied expectations immediately, as we find in John Rockwell’s review of the premiere in *The New York Times*. Rockwell had feared dullness prior to the premiere after Reich had indicated that he was going to draw heavily on techniques that he had developed previously; however, according to Rockwell he was rewarded with a work that ‘can succeed admirably in achieving both familiarity and novelty.’67 It is perhaps the comment that Reich made and Rockwell feared that might offer an explanation for the entries in sketchbook 35 (see Appendix VI for a listing of pages, dates and sketched rehearsal numbers).

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Sketchbook 35 is the second sketchbook that was used during the composition of *New York Counterpoint*. At 94 pages in length, only three pages are left without any marking. Beginning immediately with the first page of the notebook, Reich drafted *New York Counterpoint* in its entirety from start to finish in nearly identical form to its published version very rapidly, between 18 June and 5 August 1984. The high speed with which decisions about melodic patterns were made – based on the dated material in sketchbook 35 – might be accounted for if Reich was exploiting techniques from his past in the work. For example, the technique of noting the ‘stop’ in the process of rhythmic construction in numerical shorthand was utilised in the first *New York Counterpoint* sketchbook on the fifth page. Reich again uses it on page 38 of sketchbook 35. The method was efficient and did not need to be invented by Reich before being used. Presumably there were additional procedures that Reich devised previously and employed – although their trace might simply be the rapidity of the composition and not a physical component of the sketches like the numbers of rhythmic construction (see Chapter 4).

A simple review of the process of rhythmic construction as discussed in Chapter 2 demonstrates that in the first movement of *New York Counterpoint* there is less pattern variation and more repetition than in *Vermont*. This idea fits with something Richard Stoltzman, for whom the work was written, later recalled his children thought the first time they heard the mock-up of *New York Counterpoint*. Stoltzman’s children thought that the rehearsal cassette that Reich had given their father was not playing back properly in the tape recorder, implying that the tape was repeating due to a technological glitch. What the Stoltzman children actually heard was the small-scale repetition of the rhythmic construction, as he reported that their response was instantaneous, meaning that they had not listened through the first movement to the point where the sequence is duplicated for two of the episodes.

Although there is duplication within the sequence of rhythmic construction (see Figure 2.3), the pace with which the pattern is revealed to the listeners is quite varied between the episodes. The first episode, as seen in Table 6.3, provides nearly identical

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68 Also referred to in this portion of the thesis as a ‘stage.’
69 Sketchbooks 34 and 35, Steve Reich Collection, PSS.
fractions of music with each stage of the episode. However, Reich extends the process to a fourth stage that is not found elsewhere in the movement.

<table>
<thead>
<tr>
<th>Episode</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
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Table 6.3. Fractions of the melodic pattern revealed within each stage of rhythmic construction in Steve Reich, *New York Counterpoint* movement I, Live Clarinet line.

Rehearsals 15–17, and later 31–33, alternate the fractions found in the initial episode – beginning with 3/8ths rather than 2/8ths. This reversal allows for nearly equal amounts of material to be uncovered in each stage, while still completing the process in three stages (unlike the first iteration of the pattern). Subsequent episodes fluctuate greatly from the equality of stages established here – the most significantly divergent episode of rhythmic construction occurring between rehearsals 26–28, which begins with over fifty percent of the pattern established within the first hearing of the pattern. The second stage adds another quarter of the material before the third stage fills in the final missing note. Whether planned or intuitively, the moment – which expands the material heard in the first stage of rhythmic construction – occurs precisely at the golden mean of the first movement of *New York Counterpoint*’s 43 rehearsals.

Although intellectually interesting, the actual increases in the amount of repetition in *New York Counterpoint* were not what the Stoltzman children heard and initially thought was problematic. Nor was the repetition a problem for Sandow, this time writing in *The Wall Street Journal*. Sandow felt that *New York Counterpoint* was inherently contradictory. The work, according to him, could either look or sound convincing – not both.71 Sandow’s understanding privileged what would be the visual over the auditory. He wanted the work to be performed by a clarinet ensemble and not by a solo clarinettist and tape part. The tape part would allow the performer to play against recorded reflections of themselves creating an ideal backing ensemble, one that always played with the same intonation and inflection.

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as the soloist. This set-up would privilege the auditory experience of a performance. On the other hand a live ensemble performance would allow each of the lines to be personified, adding a visual cue to the music but sounding perhaps less convincing, as each performer would bring their own unique sound signature to their line, thereby creating a less homogeneous sound world than the tape part would afford. In a 1987 radio interview Reich noted that:

> Basically they [the Counterpoints] are written for the soloist ... but it’s left open that some player may want to conduct a group of other clarinettists ... But it is more in the nature of an oddity. The primary performance medium of the piece [New York Counterpoint] is soloist and tape because it’s basically a recital piece. It comes on a recital – as a sort of change of pace.\(^{72}\)

*New York Counterpoint*’s connections are varied in a different manner to *Vermont Counterpoint*’s even though they share the same medium of composition; this is most evident in the poietic realm’s engagement with the neutral and esthesic. Clearly Reich drew on techniques developed in *Vermont Counterpoint* three years earlier, yet his application of them did not create the problems of dullness that Rockwell had anticipated. Issues surrounding dullness and lack of creativity surface again with *Electric Counterpoint* with Kyle Gann’s caustic description of Reich’s Counterpoint series as ‘disposable and infinitely extendable.’\(^{73}\) For Gann, the banality feared by Rockwell in *New York Counterpoint* seemed to have arrived with *Electric* – however, the convenience of using the titles in a grouping might have lent the critic the tool to harm the art. One wonders whether Gann would have thought to group the works together had they been given completely unique names that did not reference each other. Even the harsher critiques of *Electric Counterpoint* point out elements of composition that can be chased through the poietic realm before being observed in the neutral.

**Electric Counterpoint Reconsidered**

Around the composition of *Electric Counterpoint* and *The Four Sections* (1987) Reich moved away from working out musical ideas solely in spiral-bound sketchbooks and towards an embracing of music notation software. As previously discussed, Reich was a self-proclaimed ‘early adopter’ of MNS such as Professional Composer, and the extant

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\(^{72}\) Steve Reich interview with John Schaeffer, tape, OH V 186m, Oral History of American Music, Yale University.

computer files from *Electric Counterpoint*’s compositional period include both the original digital documents and numerous back-ups of those files.

In addition to these documents, Reich kept a near-daily, very detailed account of the compositional process in a computer document titled ‘Note Book -Elect. Cntrpnt.txt’. It also includes, in addition to his compositional plan and personal nomenclature for his compositional processes, descriptions of technological issues encountered along the way. For example, the second pattern of *Electric Counterpoint*’s first movement called in this thesis’s neutral level (see Chapter 2) as P2 is linked directly to P1 by Reich in an entry in the text document dated 17 July, where Reich refers to the first pattern and ‘it’s [sic] out of phase partner.’ Dualities between musical patterns are exploited throughout Reich’s digital text. In fact, this ‘pattern within a pattern’ idea does not terminate with sections A and C; in section B the nesting of patterns of the movement intensifies. The link between section B’s matroshka-like pattern and the overall formal features of the movement is confirmed in part by the contents of the first entry in Reich’s compositional journal, which reads ‘Basic pattern and phase of canons good. With voices1,2,3 [sic] meter is 6/8+2/4 with1,2,3A [sic] meter is 3/4+2/4. By changing back and forth bass accents can vary. Work on HARMONIC STRUCTURE of WHOLE PIECE –NOW!’

Turning to the process of rhythmic construction (see Figures 2.4 and 2.5) in order to explore the degree of difference found in the patterns of *Electric Counterpoint*’s first movement, Table 6.4 compares Reich’s regulation of the appearance of the pattern.

<table>
<thead>
<tr>
<th>Episode</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehearsal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15–16</td>
<td>15/25</td>
<td>10/25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22–23</td>
<td>15/25</td>
<td>10/25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29–30</td>
<td>15/25</td>
<td>10/25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.4. Fractions of the melodic pattern revealed within each stage of rhythmic construction in Steve Reich, *Electric Counterpoint* movement I, Live Guitar line.

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74 *Electric Counterpoint* computer files, Steve Reich Collection, PSS.
75 Reich, “Note Book –Elect. Cntrpnt.txt,” Steve Reich Collection, PSS.
The pace of the sequence of events involved in the rhythmic construction of the non-identical episodes is much slower than that of the identical ones. Beginning with progressively fewer pitches (14 to 13 to 12) initially heard, the subsequent stages add an additional five or six pitches. The fourth stage of rhythmic construction, when employed, only ever consists of a single pitch, and both times is actually the downbeat of the pattern, acting in a similar method as the two repeated quavers (beats 30 and 31) at the end of rehearsal 11 to transition smoothly between stages of rhythmic construction. Even though the process of rhythmic construction is more varied in the alternating episodes, the instances of change are localised to the falling minor third that characterised the first half of the rhythmic construction in the repeated episodes, and the sequence of rhythmic construction is in fact quite similar – unlike what happened in Vermont Counterpoint.

Within the basic melodic pattern of Electric there are five instances (beats 3–4, 8–9, 11–12, 19–20 and 27–28) of the descending minor third, two of which (beats 2–4 and 18–20) have the major second step appended as a prefix to the motive. There is no change between episodes in how the minor third moment is presented at beats 8–9; likewise there is no aural difference (if rehearsal 11 is split into rehearsals 11a and 11b, then it follows the subsequent four-stage pattern) in how the minor third is presented in beats 3–4, 11–12 and 27–28. The only true moment of change is therefore in how the third is unveiled in beats 19–20. In the first episode of rhythmic construction (rehearsals 11–13) the third is effectively established within two stages of the pattern, the second episode of a ‘different’ rhythmic construction (rehearsals 18–21) establishes the third within three stages – the first pitch of the third is heard, however, within the first presentation of the pattern in both of these moments. The third episode of ‘different’ rhythmic construction (rehearsals 25–28) is in fact quite different from the previous two in that it presents the third in its complete form entirely within the third stage of the construction.

This descending third is a little aural hallmark for the listener, but it is not as obvious as other orienting motives in the earlier Counterpoint’s patterns, as it features repetitively within Electric’s basic pattern. As the pattern derives from a set of processes completed on a transcription of an African rhythm Reich found in Simha Arom’s Polyphonies et Polyrhythmes Instrumentales D’Afrique Centrale - structure et méthodologie (see Chapter 5, specifically Figure 5.8) the creation of the melody cannot be attributed to Reich. However, the selection of that particular pattern over others, the use of the pattern in canon, and the process of rhythmic construction can be.
As Reich was engaged in the adoption of the new technology of MNS during *Electric Counterpoint*, it is quite tempting to explain the increasing amount of repetition in the rhythmic construction of the pattern by way of saying that Reich was now simply ‘cutting and pasting’ the material – a task that was speeded up by considerably by the use of software to replicate material. Prior to MNS use Reich would have written each stage out individually and therefore spent greater time considering the implications of each sounding stage of rhythmic construction. However, in the computer files associated with the first movement of *Electric Counterpoint* organised by Reich into the e-folder ‘Elec. Cntrpnt.Pre-Nt.Bks.’ created on 24 June 1987 (see Appendix VII), there is no evidence of Reich sketching out the process of rhythmic construction. Every pattern that is included in the accessible files occurs in its full and complete form, and nowhere else (i.e. the sketchbooks or the loose sketches for the first movement) is the process of rhythmic construction hinted at. As previously noted, not all the extant files are currently functional, and the collection housed at the PSS does not preclude the possibility that these materials were not stored by Reich for longevity before they came into the PSS’s collection and could therefore have been inadvertently destroyed. Lacking such sources it is therefore impractical – if not impossible – to speculate on how MNS may have influenced the repetition of the rhythmic construction of the melodic pattern in *Electric Counterpoint*’s first movement. It can only be stated with certainty that the melody of the first movement of *Electric Counterpoint* undergoes a process of rhythmic construction that is less varied than the previous 1980s Counterpoints.

**Canon Reconsidered**

Although Reich does not use rhythmic construction in *Cello* as he had done in the other Counterpoints, he still sounds as if he is utilising far more musical material than is the case in reality. This was illustrated previously in this thesis by the paradigmatic analysis of the *Cello Counterpoint*’s second movement found at the neutral level in Chapter 2. Since Reich is not using rhythmic construction, an understandable query would be: What process (if there is one) is being used? And, when might Reich have begun to think in terms of not using rhythmic construction as a component of the Counterpoints?

Working through the queries in reverse the sketches for the never-realised *Percussion Counterpoint* that was mentioned previously provide some insight into the second of these questions. Comprising a mere six pages in sketchbook 45, *Percussion Counterpoint* is parenthetically on the cover of the notebook between the completion of
City Life and Proverb, directly preceding Reich’s work on the ‘Hindenburg’ movement of Three Tales. Listed as 1/96 – 6/96 in the parenthetical clause of sketchbook 45, the actual entries include the following named dates: 18 and 24 January; 29 February; 19 March; 3, 8 and 10 April 1996. These sketches are sparse. Focused primarily on the melodic material (like Cello’s sketches) and division of lines amongst a drum kit’s hi-hat, snare and kick drum. Again as with Electric, nowhere does Reich return to the shorthand he used to identify rhythmic construction in Vermont and New York Counterpoints. This likely means that at least by 1996 Reich had already moved on from the consistency of using rhythmic construction in his Counterpoint works (although it could be that he simply had not notated the material before he abandoned the concept – or that such notations appear in additional archival documents that the present author has not managed to view).

Returning to the first query: What process (if any) is being used? Prompts a sub question: The Counterpoints have been grouped with their predecessors’ Phase pieces in both contemporary reviews, and by Reich himself; but are these simply cosmetic comparisons? The thought process behind the rhythmic construction found in Vermont and New York Counterpoint is visible and quite obvious in the sketch materials. As Reich began his compositional adventures with MNS in Electric Counterpoint the evidence for the process disappears from the poietic documents, although it remains in the music. The lack of sketch material for rhythmic construction in Electric cannot simply be attributed to the fact that Reich was new to the medium of digital sketches, as there is no evidence of the process in the hard copy documents either. Cello Counterpoint offers no further illumination on the topic, as not only was it sketched in a different program and operating system seventeen years later, but also the process of rhythmic construction is not featured in it. How then can we group these works together when the musical processes are divergent?

Both the Counterpoints and the Phase pieces rely on multiples of the same instrument in order to work, and, except for Piano Phase, those multiples occurred originally in a tape part. This, however, is not the exclusive domain of the Counterpoint/Phase pieces, even within Reich’s oeuvre, as Different Trains and WTC 9/11 utilise additional taped string quartets to augment the live quartet; and in terms of strictly instrumental works Double Sextet requires a mirror ensemble, either live or taped, to

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76 Sketchbook 45, Steve Reich Collection, PSS.
function. In order to classify the Counterpoints and Phase pieces as separate from other Reich works, prior to *Cello Counterpoint* it would have been tempting to attempt to create a compositional formula, which he might have followed, such as:

\[
\text{Canon +}_A_ = _B_
\]

In ensembles of the same instruments where when \(A = \) variable distance, \(B = \) ______ *Phase*; and when \(A = \) rhythmic construction, \(B = \) ______ *Counterpoint*.

But such a formula is flawed with the inclusion of *Cello Counterpoint*, which does not include rhythmic construction. What can, however, be drawn from the attempted distillation of compositional techniques found in the above formula is the enduring and pervasive nature of canon in Reich’s music. Perhaps a more truthful formula would be

\[
\text{Canon +} \quad = \text{Reich’s music.}
\]

As Reich has said, it could be medieval music, it could be baroque or Bartók – but in this case it is his ‘take’ on the form.

The melodic material that is put through the canonic process is therefore significant, as the material is what gives the music its identity. It has to be aurally strong; as Reich has explained:

> the importance of melody cannot be stressed enough ... the movement which the ear gloms onto, if it’s a module in *Piano Phase* or whatever. That has got to be a good module, and it has got to lend itself to that kind of contrapuntal treatment ... That is not a trivial decision and it never is.\(^77\)

A visual analogy that Reich has used to illustrate the longevity of canon in music is to compare the technique of canon to that of a drinking glass, while the melodic material would be liquid in it. Canon according to Reich is:

> entirely a structure, it’s like a clear glass. You want bourbon, coke, you want water? I mean it will hold anything, and that is what interests me about canon as a form in our musical society and these other rhythmic techniques, and these other musics, is that you take them on that level, it also frees you from what the people in cultural studies call cultural imperialism.\(^78\)

Canon, or the allusion of it, is central to Reich’s compositional oeuvre, as is the employment of single instrumental families within a work. This allows for the texture to

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\(^{77}\) Steve Reich, Yale Composer’s Seminar 18 January 2001 (part 2), tape, OH V 186q, Oral History of American Music, Yale University.

\(^{78}\) Reich, Yale Composer’s Seminar 18 January 2001 (part 2), tape, OH V 186q, Oral History of American Music, Yale University.
highlight ‘the overall contrapuntal web with its many resulting patterns’ because if two different timbres were utilised it would not allow for the same foregrounding of the contrapuntal web or the ambiguity as to where the downbeat happens.\(^\text{79}\) String quartets fit into this idea of an extended instrumental family that spans the range of the orchestra. However, the string quartet sound is linked to strong traditional classical concepts heralding images of Mozart and Beethoven, and that is not the impetus behind Reich’s use of an ensemble of like instruments. Reich’s desire to push beyond the traditional confines of preformed ensembles is seen in works such as \textit{Different Trains}, which employs extra-musical material in the form of a quasi-documentary narrative. \textit{Triple Quartet} is scored for string quartet, like \textit{Different Trains}, but does not include extra-musical material, bringing it more in line with the Counterpoint/Phase idea. Although Reich has commented that \textit{Triple Quartet} was a long planned extension of the Counterpoint/Phase idea,\(^\text{80}\) it was not named as such, and the comparison appears to be superficial, as he has since noted that:

\begin{quote}
The counterpoint pieces are built on a single line because its for soloist and then that melodic material is put into canon, multiple, multiple, multiple, sometimes on different pitch levels and the resulting patterns that come out. Basically the thinking I was doing back in the late sixties, early seventies, in a more, slightly richer harmonic context. This piece [\textit{Triple Quartet}] is really a whole different ball of wax – it’s structured harmonically.\(^\text{81}\)
\end{quote}

What therefore underlies all of the Counterpoint/Phase pieces (that is what is not found in \textit{Different Trains} or \textit{Double Sextet}) is the idea of the extension of a soloist and not an ensemble – through the use of canon – which seems to be an infinitely extendable technique for Reich. Not in fact a particular musical process such as rhythmic construction. The form of canon is ancient, a musical equivalent to time immemorial – but the material that is plugged into that form is modern. Through the creation, selection, and curation of that material, Reich has elucidated one of the threads of his compositional interest that has continued throughout his career.

\begin{center}
\textit{***}
\end{center}


\(^{80}\) Steve Reich interview with Rebecca Kim, transcript, OH V 186 u-x, Oral History of American Music, Yale University.

\(^{81}\) Steve Reich, Yale Composer’s Seminar, OH V 186p, 18 January 2001, Oral History of American Music, Yale University.
According to Kofi Agawu, ‘musical semiology, as preached and practised by Nattiez is an attempt to rethink everything.’ In an endeavour to rethink how Reich’s music has been treated in the past, the divisions of the neutral, poietic and esthesic in this thesis have attempted to create new and subsume previous analyses of his Counterpoints. For example, though the ‘[p]oietic and esthesic information brings us into contact with the entire lived experience of “producers” and “consumers” of music, analysis of textual structures does not ...’ Therefore, utilising the tripartitional model

will force us to bring together quite different music-analytical models and discourse (in a way that is, perhaps, an epistemological hybrid). What is nevertheless certain is that this conjunction enables us to become conscious of, to understand more fully, the musical facts that we confront.

Nattiez’s epistemological hybrid of the tripartitional model allows us to account for a multiplicity of analyses (as has been presented here), aiding in an explanation of why and how they are different from one another, while simultaneously furthering the total sum of knowledge about the compositions in question.

This thesis has developed the idea that Reich’s Counterpoints are a continuation of the composer’s Phase pieces, and as such has begun to dismantle the divisionary by-products of scholarship (minimalist vs. postminimalist) in favour of following particular traits throughout Reich’s oeuvre. The Counterpoints have been utilised as an effective set not only because of their continued appearance in the performed repertoire of late twentieth early twenty-first-century music, but also because a single idea recurs within them—that of a soloist performing against technological versions of him or herself. With a return to a concept, Reich’s approach to a set compositional concern can be gauged against a variety of times and situations in order for a more cohesive and comprehensive understanding of Reich’s music to form. By examining a single compositional form it is possible to compare ideas and situations that might only have appeared superficially related before.

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83 Nattiez, Music and Discourse, 166.
84 Nattiez, Music and Discourse, 167.
85 Nattiez, Music and Discourse, 177.
Using Nattiez’s poietic, esthesic and neutral levels, as well as an example of a synthesised analysis, as a method of organising our understanding about the Counterpoints, a number of new ideas and information have been examined, including the following:

- **Neutral:**
  - brought together diverse pre-existing and new analytical views on the Counterpoints
  - provided new analytical interpretations of: \textit{Vermont Counterpoint} movement IV, \textit{New York Counterpoint} movement I, \textit{Electric Counterpoint} movement I, and \textit{Cello Counterpoint} movement II

- **Esthesic:**
  - examined Reich’s relationship with the media, particularly in the formats of interview and biography
  - examined performance statistics of Reich’s oeuvre, focusing particularly on the Counterpoints
  - explored the media’s reaction to the Counterpoints in both concert and recorded forms

- **Poietic:**
  - explored similarities in the Counterpoint sketch material
  - examined possible differences in compositional approach dependant upon medium of sketching (analogue vs. digital)

- **Synthesis:**
  - provided an example of the six analytical situations inherent in a complete semiotic approach for \textit{Cello Counterpoint}, Second Movement
  - explored Reich’s use of rhythmic construction in combination with canon as a possible defining feature of the Counterpoints
  - provided examples of the plethora of possible paths through an integrated analysis of Reich’s Counterpoints

Bringing together a diverse range of existing analyses (as drawn from the many strains of source material illustrated in Figure 1.1) and combining these with one’s own methods and approaches, each level of the semiotic triad adds its own limitations and unique strengths. The discussion of the neutral level helps reinforce the conception of the Counterpoints as a
continuation of the strict pattern-based Phase pieces. In an examination of Reich’s relationship with publishing media, it has been possible to see how Reich has guided and nurtured particular ideas about his work and self. The Counterpoints played a significant role in Reich’s reinvention of himself as a commercially successful and non-institutionally based contemporary composer. The performance statistics and concert reviews likewise provide insight into how Reich was (and still is) understood by the public in light of the Counterpoint compositions. With the poietic, it is possible to trace Reich’s re-engagement with technology along two separate strands: first, with the tape part found in all of the Counterpoints, whose role is akin to an invisible accompanist; and second, through the use of the computer and MNS, which has acted as Reich’s invisible assistant.

Technological techniques of postproduction are central to all of the Counterpoints, and Reich’s understanding of the recording studio as being a possible part of the performance process is a mind-set that was essential to the concept. Philosophically, Nicolas Bourriaud suggests that a postproduction worldview ‘seems to respond to the proliferating chaos of global culture in the information age, which is characterized by an increase in the supply of works and the art world’s annexation of forms ignored or disdained until now.’ By continuing to engage with technology in this format, Reich has fundamentally established himself as one of the first composers of the information age, and for that reason Michael Gordon was correct when he wrote in 1998:

> It’s not only that the world has accepted Reich’s developed style, which features various combinations of tuned percussion, keyboards, and voices, but also that technology itself is now in an exalted state. What takes center stage are the DJs themselves, spinning beat on vinyl. The new virtuoso plays with turntables and a mixer, and what’s more, noise is in. Mass culture has finally caught up to and embraced the fringe ideas that Reich was exploring in the 1960s.

What seems inevitable now was revolutionary at the time. The use of the studio as a performance space allowed Reich to compose for both tape and acoustic instruments in a similar manner.

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Although the tripartitional model of Nattiez has been used in this thesis as both the methodological backbone and also as its formal structure, Dunsby and Whittall have noted that:

Even if the tripartitional model is taken to be an operative device, not a final truth but a way of ordering perception, it helps efficiently to untangle the confusion of strands typical of analytical narrative – is this about what the composer did? about what the analyst insists is there, without being able to confirm it? about what is claimed to be inherent in the music, patent for all listeners, or only for ‘skilled’ listeners?88

While this thesis does not to represent ‘the final truth’ in understanding Reich’s Counterpoint series, hopefully it provides and suggests a few meanings, and by utilising the tripartitional model has helped to untangle some of the strands of their narratives.

The Counterpoints stretch across a time of great technological change, with the advent of the personal computer fundamentally altering how humans interact with their environment. These works not only bear the hallmarks of these technologies but also demonstrate the continuity of their composer. In terms of their overall textural makeup, they consist ‘entirely of multiples of the same timbre’, thereby stressing ‘the overall contrapuntal web with its many resulting patterns which the listener can hear.’89 The web of sound heard in the Counterpoint series began as early as the 1960s Phase pieces and has continued through to Cello Counterpoint at the very least. It is, however, worth remembering that Reich has consistently maintained that even though such processes as have been uncovered throughout this thesis are present in his work, the choices he makes are based on intuition, because ‘[e]ven when all the cards are on the table and everyone hears what is gradually happening in a musical process, there are still enough mysteries to satisfy all.’90

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APPENDIX I
Chart of melodic patterns in *Vermont Counterpoint*.

Movement I
Movement III
Movement IV
APPENDIX II
Melodic patterns of *Vermont Counterpoint*.

Pattern A

Pattern A'

Pattern A''

Pattern B

Pattern C

Pattern D

Pattern E

Pattern E'

Pattern F

Pattern G

Pattern H

Pattern I

Pattern J
STEVE REICH - one of today’s strong musical innovators – was born October 3, 1936, in New York City. He studied philosophy at Cornell and composition at the Juilliard School of Music and Mills College. He was active at the San Francisco Tape Music Center during 1964 and 1965. More recently, his music has been performed at Yale, the New School, the Museum of Modern Art, the Fylkingen Festival in Sweden, the Whitney Museum of American Art, and the Orchestral Space Festival in Tokyo. Scores and articles by Reich appear in Source magazine #3, John Cage’s recent Notations, and the anti-illusion catalogue of the Whitney Museum.
Steve Reich biography from Cornell University Programme, 12 October 1972.

From Performance programme for ‘Steve Reich and Musicians Concert at Barnes Hall, Cornell University’, 12 October 1972, in William W. Austin Papers, 14-20-2297, Box 8, Folder ‘SMR 1972’.

Steve Reich was born October 3, 1936 in New York. He studied piano briefly as a child and drums as a teenager. He graduated with honors in Philosophy from Cornell in 1957 and studied composition first at Juilliard and then at Mills College (with Milhaud and Berio) in California, where he received his M.A. in 1963. He formed his first instrumental ensemble in 1966. Since that time Steve Reich and Musicians have presented concerts at the old Park Place Gallery in New York, Fairleigh Dickenson University, Exeter Academy, New York University, The Colorado College [sic], The New School, the Whitney Museum of American Art, the Guggenheim Museum, the Walker Art Center in Minneapolis, the opening of the new University Art Museum in Berkeley, the Institute of Contemporary Arts and the BBC in London, the Semaines Musicales d’Orleans, Theatre de la Musique in Paris, the ‘Prospective Encounter’ series of the New York Philharmonic, the Museum of Modern Art, Brooklyn Academy of Music, Town Hall, the Kunsthalle in Hamburg and Düsseldorf, the Wallraf-Richartz Museum and the Westdeutsche Rundfunk in Cologne, Radio Bremen, the Philharmonic Society in Brussels, and the Hayward Gallery in London. In October of 1971 Steve Reich and Michael Tilson Thomas, together with members of the Boston Symphony, performed Four Organs on the Spectrum series in Symphony Hall in Boston. Reich has published scores and/or articles in Source magazine, John Cage’s Notations, the Anti-Illusion catalog of the Whitney Museum, Aspen magazine, the electronic music quarterly Synthesis, the French Quarterly VH 101 and the German quarterly Interfunktionen. In 1967 CBS Odyssey records released Come Out and in 1969 Violin Phase and It’s Gonna Rain were released by Columbia records. In 1971 a small French label, Shandar, released a recording of live performances of Four Organs and Phase Patterns. During the summer of 1970, with the help of a grant from the Institute of International Education, Reich studied drumming with a master drummer of the Ewe Tribe at the Institute of African Studies in Ghana. He and choreographer Laura Dean have recently formed a company of musicians and dancers who gave their first performances during the summer of 1972 at the Pro Musica Nova Festival of Radio Bremen, L’Attico
Gallery in Rome, the Holland Festival at the Van Abbemuseum in Eindhoven, the Alea Encuentros in Pamplona, and the Woche der avantgardistischen Musik in Berlin.
Steve Reich biography from The American Society for Eastern Arts, Summer 1974.


Steve Reich. Steve Reich has emerged as an important figure among a dynamic young group of New York composers. He has found many of his musical ideas confirmed by his studies of African music and by the Balinese principles of kotekan or interlocking melodic parts. He writes: “My music is made of simple repeating patterns played on two or more identical instruments with minute and gradual rhythmic variation made through shift of phase relation, substitution of beats for rest and rest for beats, and the augmentation and diminution of durations.” He will be in residence at the Summer Session to form an ensemble for the performance of his music, which is taught both by rote and by conventional Western music notation.
Steve Reich biography from Lynn Garon Management circa 1980.


Numbered paragraphs (on the left side) are for convenience of reference and content annotations (on right side) are not found in the original.

1. STEVE REICH was born October 3, 1936 in New York and raised in New York and California. He studied piano briefly as a child and began studying Western rudimental drumming at the age of 14 with Roland Kohloff, currently principal tympanist with the New York Philharmonic. He graduated with honors in Philosophy from Cornell University in 1957, studied composition with Hall Overton from 1957-58, and at the Juilliard School of Music from 1958-61 where he studied with William Bergsma and Vincent Persichetti. In 1963 he received his M.A. in music from Mills College in California where he studied with Darius Milhaud and Luciano Berio. During the summer of 1970, with the help of a travel grant from the Institute for International Education, he studied drumming at the Institute for African Studies at the University of Ghana in Accra. During the summers of 1973 and 1974 he studied Balinese Gamelan Semar Pegulingan and Gamelan Gambang with Balinese teachers at the American Society for Eastern Arts in Seattle and Berkeley. In 1976-77 he studied the traditional forms of cantillation (chanting) of the Hebrew Scriptures in New York and Jerusalem.

2. In 1966 he began his own ensemble with three musicians. Since that time he has performed his music with this group, STEVE REICH AND MUSICIANS, now grown to eighteen or more musicians, throughout the United States, Canada and Europe. In 1971 the premiere performances of Drumming were presented at the
Museum of Modern Arts, Brooklyn Academy of Music and first series of Pierre Boulez’s N.Y. Philharmonic Prospective Encounter concerts, and *Four Organs* was performed with Michael Tilson Thomas, Steve Reich and members of the Boston Symphony Orchestra at Symphony Hall in Boston. This latter performance was repeated at Carnegie Hall in 1973. Between 1971 and 1980 STEVE REICH AND MUSICIANS has completed eleven European and American tours, played more than 200 concerts and had the unusual distinction of presenting sold-out concerts at Carnegie Hall and The Bottom Line Cabaret Club in New York.

3. In addition to performances by his own ensemble, Mr. Reich’s music has recently been performed by The San Francisco Symphony (Edo de Waart), the St. Paul Chamber Orchestra, The Ojai Festival (Lukas Foss), The Netherlands Wind Ensemble, the Festival of Contemporary Music at Tanglewood, and The 20th Century Ensemble in Vienna.


6. His recordings include *Come Out* on CBS-Odyssey, *Violin Phase* and *It's Gonna Rain* on Columbia Masterworks, *Four Organs* on Angel, *Drumming, Six Pianos* and *Music for Mallet Instruments*.
Voices and Organ as a three record boxed set on Deutsche Grammophon. Music for 18 Musicians, and, in fall 1980, Music for a Large Ensemble and Octet were released on ECM records.


8. In 1974 he was awarded grants from the National Endowment for the Arts and the New York State Council on the Arts, and was an artist in residence in Berlin at the invitation of the D.A.A.D. In 1975 he received a grant from the Rockefeller Foundation and, in 1976, a second grant from the National Endowment for the Arts. In 1978 he was awarded a Guggenheim Fellowship and received a second grant from the Rockefeller Foundation in 1979.

Numbered paragraphs are for convenience of reference and are not found in the original.

1. When Steve Reich was a conservatory student in the late 1950s and early 1960s, young composers had no choice but to conform to the prevailing serial doctrine. Inaudible mathematical permutation, atonality, and arhythmic pointillism were the academic norm. Audiences were alienated by music that seemed to value structure more than sound, leaving composers increasingly isolated from their listening public. Steve Reich, devoted to the tonality and pulse of jazz and early Stravinsky, found himself estranged from the new-music establishment.

2. Today, almost thirty years later, this gloomy situation has changed radically, in no small part because of Reich himself. Without pandering to mass taste, Reich has brought the composer out of isolation and allowed him to regain a meaningful place in society. His large audience is not only a personal vindication, but serves as encouragement to a whole generation of younger composers. For Reich’s music has created options that did not exist three decades ago. Rather than dogmatically applying a single technique, they may now follow Reich’s more eclectic path, one that has embraced not only aspects of the rationalism of serialism, but the structures, harmonies, and rhythms of non-Western and American vernacular music, especially jazz.

3. Reich’s own musical development has exhibited a constant enlargement of vocabulary, yet he has never compromised his aesthetic beliefs. Although steady pulse, tonal center, structural clarity, repetition, and a
fascination with canons have always characterized his work, he has retained a youthful eagerness to broaden boths [sic] means and scope. The once impersonal process of phasing gave way, under the influence of African and Balinese music, to a counterpoint of polyrhythms; while a study of Hebrew scriptural cantillation led to an expansion of the melodic profile. In fact, Reich’s works reveal a continuing incorporation of new elements into his existing language – from the harmonic cycle and kaleidoscopic colors of *Music for Eighteen Musicians* to the heightened emotional response evoked by the texts of *Tehillim* and *The Desert Music*.

4. Prediction is always risky, but it would seem certain that Reich will continue to make from his resources of Western Classical music, non-Western culture, and the American vernacular a rich and surprising synthesis. In whatever guise the synthesis appears, from the eminently portable, jazz-inflected ‘Counterpoint’ series to the refined scoring for large orchestra of *The Desert Music* and *The Four Sections*, it remains immediately recognizable as the reflection of a man who continues to delight his public without ever denying his roots.
Steve Reich biography 2014 Website.

Numbered paragraphs are for convenience of reference and are not found in the original; works are also not italicised in the original.

1. Steve Reich was recently called "our greatest living composer" (The New York Times), "America’s greatest living composer." (The Village VOICE), “... the most original musical thinker of our time” (The New Yorker) and “... among the great composers of the century” (The New York Times). From his early taped speech pieces It's Gonna Rain (1965) and Come Out (1966) to his and video artist Beryl Korot’s digital video opera Three Tales (2002), Mr. Reich's path has embraced not only aspects of Western Classical music, but the structures, harmonies, and rhythms of non-Western and American vernacular music, particularly jazz. "There's just a handful of living composers who can legitimately claim to have altered the direction of musical history and Steve Reich is one of them," states The Guardian (London).

2. In April 2009 Steve Reich was awarded the Pulitzer prize in Music for his composition 'Double Sextet'.

3. Performing organizations around the world marked Steve Reich's 70th- birthday year, 2006, with festivals and special concerts. In the composer's hometown of New York, the Brooklyn Academy of Music (BAM), Carnegie Hall, and Lincoln Center joined forces to present complementary programs of his music, and in London, the Barbican mounted a major retrospective. Concerts were also presented in Amsterdam, Athens, Brussels, Baden-Baden, Barcelona, Birmingham, Budapest, Chicago, Cologne, Copenhagen, Denver, Dublin, Freiburg, Graz, Helsinki, Los Angeles, Paris, Porto, Vancouver, Vienna and Vilnius among others. In
addition, Nonesuch Records released its second box set of Steve Reich’s works, Phases: A Nonesuch Retrospective, in September 2006. The five-CD collection comprises fourteen of the composer’s best-known pieces, spanning the 20 years of his time on the label.

4. In October 2006 in Tokyo, Mr. Reich was awarded the Preamium Imperial award in Music. This important international award is in areas in the arts not covered by the Nobel Prize. Former winners of the prize in various fields include Pierre Boulez, Lucian Berio, Gyorgy Ligeti, Willem de Kooning, Jasper Johns, Richard Serra and Stephen Sondheim.

5. In May 2007 Mr. Reich was awarded The Polar Prize from the Royal Swedish Academy of music. The prize was presented by His Majesty King Carl XVI Gustaf of Sweden. The Swedish Academy said: "... Steve Reich has transferred questions of faith, society and philosophy into a hypnotic sounding music that has inspired musicians and composers of all genres." Former winners of the Polar Prize have included Pierre Boulez, Bob Dylan, Gyorgi Ligeti and Sir Paul McCartney.

6. In December 2006 Mr. Reich was awarded membership in the Franz Liszt Academy in Budapest and in April 2007 he was awarded the Chubb Fellowship at Yale University. In May 2008 he was elected to the Royal Swedish Academy of Music.

7. Born in New York and raised there and in California, Mr. Reich graduated with honors in philosophy from Cornell University in 1957. For the next two years, he studied composition with Hall Overton, and from 1958 to 1961 he studied at the Juilliard School of Music with William Bergsma and Vincent Persichetti. Mr. Reich received his M.A. in Music from Mills College in 1963, where he worked with Luciano Berio and Darius Milhaud.
8. During the summer of 1970, with the help of a grant from the Institute for International Education, Mr. Reich studied drumming at the Institute for African Studies at the University of Ghana in Accra. In 1973 and 1974 he studied Balinese Gamelan Semar Pegulingan and Gamelan Gambang at the American Society for Eastern Arts in Seattle and Berkeley, California. From 1976 to 1977 he studied the traditional forms of cantillation (chanting) of the Hebrew scriptures in New York and Jerusalem.

9. In 1966 Steve Reich founded his own ensemble of three musicians, which rapidly grew to 18 members or more. Since 1971, Steve Reich and Musicians have frequently toured the world, and have the distinction of performing to sold-out houses at venues as diverse as Carnegie Hall and the Bottom Line Cabaret.

10. Mr. Reich's 1988 piece, Different Trains, marked a new compositional method, rooted in It's Gonna Rain and Come Out, in which speech recordings generate the musical material for musical instruments. The New York Times hailed Different Trains as "a work of such astonishing originality that breakthrough seems the only possible description ... possesses an absolutely harrowing emotional impact." In 1990, Mr. Reich received a Grammy Award for Best Contemporary Composition for Different Trains as recorded by the Kronos Quartet on the Nonesuch label.

11. In June 1997, in celebration of Mr. Reich's 60th birthday, Nonesuch released a 10-CD retrospective box set of Mr. Reich's compositions, featuring several newly-recorded and re-mastered works. He won a second Grammy award in 1999 for his piece Music for 18 Musicians, also on the Nonesuch label. In July 1999 a major retrospective of Mr. Reich’s work was presented by the Lincoln Center Festival. Earlier, in 1988, the South Bank Centre in London, mounted a similar series of retrospective concerts.
12. In 2000 he was awarded the Schuman Prize from Columbia University, the Montgomery Fellowship from Dartmouth College, the Regent’s Lectureship at the University of California at Berkeley, an honorary doctorate from the California Institute of the Arts and was named Composer of the Year by Musical America magazine.

13. The Cave, Steve Reich and Beryl Korot's music theater video piece exploring the Biblical story of Abraham, Sarah, Hagar, Ishmael and Isaac, was hailed by Time Magazine as "a fascinating glimpse of what opera might be like in the 21st century." Of the Chicago premiere, John von Rhein of the Chicago Tribune wrote, "The techniques embraced by this work have the potential to enrich opera as living art a thousandfold ... The Cave impresses, ultimately, as a powerful and imaginative work of high-tech music theater that brings the troubled present into resonant dialogue with the ancient past, and invites all of us to consider anew our shared cultural heritage."

14. Three Tales, a three-part digital documentary video opera, is a second collaborative work by Steve Reich and Beryl Korot about three well known events from the twentieth century, reflecting on the growth and implications of technology in the 20th century: Hindenburg, on the crash of the German zeppelin in New Jersey in 1937; Bikini, on the Atom bomb tests at Bikini atoll in 1946-1954; and Dolly, the sheep cloned in 1997, on the issues of genetic engineering and robotics. Three Tales is a three act music theater work in which historical film and video footage, video taped interviews, photographs, text, and specially constructed stills are recreated on computer, transferred to video tape and projected on one large screen. Musicians and singers take their places on stage along with the screen, presenting the debate about the physical, ethical and religious nature of technological development. Three Tales was premiered at the Vienna Festival in 2002 and subsequently toured all over Europe, America, Australia and Hong Kong. Nonesuch is releasing a DVD/CD of the piece in fall 2003.
15. Over the years, Steve Reich has received commissions from the Barbican Centre London, the Holland Festival; San Francisco Symphony; the Rothko Chapel; Vienna Festival, Hebbel Theater, Berlin, the Brooklyn Academy of Music for guitarist Pat Metheny; Spoleto Festival USA, West German Radio, Cologne; Settembre Musica, Torino, the Fromm Music Foundation for clarinetist Richard Stoltzman; the Saint Louis Symphony Orchestra; Betty Freeman for the Kronos Quartet; and the Festival d'Automne, Paris, for the 200th anniversary of the French Revolution.

16. Steve Reich's music has been performed by major orchestras and ensembles around the world, including the London Symphony Orchestra conducted by Michael Tilson Thomas, New York Philharmonic conducted by Zubin Mehta; the San Francisco Symphony conducted by Michael Tilson Thomas; The Ensemble Modern conducted by Bradley Lubman, The Ensemble Intercontemporain conducted by David Robertson, the London Sinfonietta conducted by Markus Stenz and Martyn Brabbins, the Theater of Voices conducted by Paul Hillier, the Schoenberg Ensemble conducted by Reinbert de Leeuw, the Brooklyn Philharmonic Orchestra conducted by Robert Spano; the Saint Louis Symphony conducted by Leonard Slatkin; the Los Angeles Philharmonic conducted by Neal Stulberg; the BBC Symphony conducted by Peter Eötvös; and the Boston Symphony Orchestra conducted by Michael Tilson Thomas.

17. Several noted choreographers have created dances to Steve Reich's music, including Anne Teresa de Keersmaeker ("Fase," 1983, set to four early works as well as"Drumming,"1998 and “Rain” set to “Music for 18 Musicians”), Jirí Kylian ("Falling Angels," set to “Drumming Part I”), Jerome Robbins for the New York City Ballet ("Eight Lines") and Laura Dean, who commissioned "Sextet". That ballet, entitled "Impact," was premiered at the Brooklyn Academy of Music's Next Wave Festival, and earned Steve Reich and Laura Dean a Bessie Award in 1986. Other major
choreographers using Mr. Reich's music include Eliot Feld, Alvin Ailey, Lar Lubovitch, Maurice Bejart, Lucinda Childs, Siobhan Davies and Richard Alston.

APPENDIX IV

Concert Statistics

The performance statistics found here are derived from the concert listings on www.stevereich.com as of 14 August 2014. A variation of a work, such as Marimba Phase or Tokyo/Vermont Counterpoint was counted as a performance under the original work, therefore Marimba Phase is counted as Piano Phase and Tokyo/Vermont Counterpoint is included as a performance of Vermont Counterpoint. Partial performances, such as Drumming -Part I are also not distinguished from complete performances of the work. A dash indicates that the composition in question had not yet been composed and therefore was not considered, a zero indicates that a performance of the composition was not included on Reich’s concert calendar for that year.

Duplicate entries where made obvious by an exact matching of location/venue, date and performer (without any additional information on the entry) have been reduced to a single entry. A festival of Reich’s music held in The Hague in 2003 was not included as the individual performance details were not listed on the website, likewise an installation of Come Out circa 2008 was excluded as details of the number of performances were not included on the website.

Works that are marked with an asterisk (*) were considered Large Ensemble works, rather than Chamber Ensemble works for the purposes of this project. These determinations were based on both ensemble size for a standard performance and whether a conductor would typically be required.

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APPENDIX V

_Cello Counterpoint Programme Note_


Cello counterpoint is the first piece Reich has written entirely for cello, and I believe it will become a staple in the cello repertoire. It is an intense and demanding piece that employs an enormous range of the cello and requires utmost discipline and precision.

Reich writes: “Cello Counterpoint is scored for soloist and seven pre-recorded tracks. It is in three movements; fast, slow, fast. The first and last movements are based on a similar four chord cycle that moves ambiguously back and forth between C minor and Eb major. This harmonic cycle is treated extremely freely however, particularly in the third movement. As a matter of fact, what strikes me most about these movements is that they are generally the freest in structure of any I have ever written. The second, slow movement is a canon in Eb minor involving, near the end of the movement, seven separate voices.

Cello Counterpoint is one of the most difficult pieces I have ever written, calling for extremely tight, fast moving rhythmic relationships not commonly found in the cello literature.”
APPENDIX VI

All tables are derived from holdings (as of spring 2015) in the Steve Reich Collection, Paul Sacher Stiftung, Basel, Switzerland.

Compositional entries in extant sketchbooks for Vermont Counterpoint.

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**Sketchbook 26**
Compositional entries in extant sketchbooks for *New York Counterpoint*.

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*Cello Counterpoint*.

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- Sketchbook 49, p. 48

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APPENDIX VII

Electric Counterpoint file tree.

Based on the electronic files in the Steve Reich Collection, Paul Sacher Stiftung, Basel, Switzerland.

The following illustrates the organisation of Reich’s extant computer files that are related to Electric Counterpoint as they currently exist at the PSS. Electronic file folders are indicated with grey shading. Un-shaded boxes indicate individual files, the file name used by Reich is given in bold font at the top of the box, with the file type below in italics, the date and time they were created (C) and last modified (M) follow. A solid line connecting a file to a folder indicates that the file is found within that folder; a dotted line across a page break indicates that the line continues onto the following page.
Alt. Live Guitar (67-end)
Professional Composer
C: 10 Aug 1987; 17:38
M: 11 Aug 1987; 12:17

Electric Counterpoint 2 old
Professional Composer
C: 28 Jul 1987; 18:09

Lv.+ 1-4 (67-120)
Professional Composer
C: 9 Aug 1987; 16:11
M: 9 Aug 1987; 16:11

Lv.1 +5 (67-78)
Professional Composer
C: 6 Aug 1987; 13:18
M: 6 Aug 1987; 13:21

New Results
Professional Composer
C: 30 Jul 1987; 15:59
M: 30 Jul 1987; 16:34

P-2nd Mvmnt. New
Performer
C: 30 Jul 1987; 22:44
M: 30 Jul 1987; 13:37

P-2nd Mvmnt. New Results
Performer
C: 29 Jul 1987; 14:45
M: 29 Jul 1987; 21:01

P-2nd Mvmnt. New Start
Performer
C: 29 Jul 1987; 12:42
M: 29 Jul 1987; 14:26
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<th>Date</th>
<th>Time</th>
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<td>Professional Composer</td>
<td>C: 2 Sept 1987; 11:28</td>
<td>M: 2 Sept 1987; 12:09</td>
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<td>last pattern</td>
<td>Professional Composer</td>
<td>C: 2 Sept 1987; 12:27</td>
<td>M: 2 Sept 1987; 17:02</td>
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<td>Next to last pattern</td>
<td>Professional Composer</td>
<td>C: 2 Sept 1987; 18:45</td>
<td>M: 2 Sept 1987; 18:45</td>
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<tr>
<td>P-4 basic sets</td>
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<td>C: 31 Aug 1987; 01:29</td>
<td>M: 2 Sept 1987; 22:11</td>
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<tr>
<td>Pattern</td>
<td>Date</td>
<td>Time</td>
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<td>M: 1 Sept 1987; 12:24</td>
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<td>Ending</td>
<td>C: 2 Sept 1987; 11:09</td>
<td>M: 2 Sept 1987; 20:16</td>
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<td>P-1# 1-4 ending</td>
<td>C: 2 Sept 1987; 13:03</td>
<td>M: 2 Sept 1987; 16:39</td>
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<td>C: 2 Sept 1987; 13:07</td>
<td>M: 2 Sept 1987; 16:15</td>
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<tr>
<td>P-last pattern</td>
<td>C: 2 Sept 1987; 18:04</td>
<td>M: 2 Sept 1987; 20:00</td>
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P-Next to last pattern
Performer
C: 2 Sept 1987; 19:50
M: 2 Sept 1987; 19:50

P-New 3rd Movement
Performer
C: 21 Aug 1987; 14:06
M: 3 Sept 1987; 19:21

Resulting Patterns
C: 28 Aug 1987; 18:05
M: 3 Sept 1987; 22:11

1# 3/2 Resulting Ptns.
Professional Composer
C: 24 Aug 1987; 17:52
M: 24 Aug 1987; 17:52

3bs 3/2 Resulting Ptns.
Professional Composer
C: 28 Aug 1987; 17:04
M: 28 Aug 1987; 17:32

C: 24 Jun 1987; 13:43
M: 3 July 1987; 13:11

African Polyphonie/Guitar
C: 10 May 1987; 13:28
M: 2 July 1987; 13:21

African horn polyphonie
Professional Composer
C: 10 May 1987; 13:17
M: 14 May 1987; 18:33

African Vocal Polyphonie 1
Professional Composer
C: 10 May 1987; 13:27
M: 14 May 1987; 19:49
BIBLIOGRAPHY

Archival Collections
Betty Freeman Papers. MSS 227. Special Collections & Archives, UC San Diego Library.


K. Robert Schwarz Papers. Department of Special Collections and Archives, Queens College, City University of New York.


William W. Austin Papers. Archives 14-20-2297. Rare and Manuscript Collections, Cornell University.

Musical Scores


All Other Sources


e=BIOGRAPHY&title=Biography.

Bourriaud, Nicolas. Postproduction, Culture as Screenplay: How Art Reprograms The 
Sternberg, 2005.


Brown, Andrew R., “Music composition and the computer: An examination of the work 
practices of five experienced composers.” PhD diss., University of Queensland, 
2003.

Cariaga, Daniel. “Steve Reich, Ensemble Return to Pavilion.” Los Angeles Times, 10 
December 1986, 1 and 7.

Carlson, Ludvig, Anders Nordmark and Roger Wiklander. Reason Opera
taion Manual. 


http://opinionator.blogs.nytimes.com/2007/03/30/steve-reich-talking-music-
technology-and-influence/?_php=true&_type=blogs&_r=0.

Charlier, Celina Bordello. “The Spatiality and Temporality of Minimalism Through the 
Study of Vermont Counterpoint for Flute and Tape by Steve Reich.” PhD diss., New 
York University, 2010.

45-61.


Cohn, Richard. “Transpositional Combination of Beat-Class Sets in Steve Reich’s Phase-

Colannino, Justin, Francisco Gómez and Godfried T. Toussaint. “Analysis of Emergent 
Beat-Class Sets in Steve Reich’s Clapping Music and the Yoruba Bell Timeline.” 

Cole, Ross. “‘Fun, Yes, but Music?’ Steve Reich and the San Francisco Bay Area’s 

for-18-q-and-a.


Dijck, José van. “‘You have one identity’: performing the self on Facebook and LinkedIn.” Media, Culture & Society 35, no. 2 (2013): 199–215.


Glasgow Royal Concert Hall. “Steve Reich in Glasgow.” Concert programme. 9 March 2013.


“New Programs: Macintosh carries a tune.” *InfoWorld*, 4 June 1984, 44.


