Adapting Reich's "Electric Counterpoint" for Marimba and Vibraphone

By James W. Doyle

The minimalist work "Electric Counterpoint" was commissioned by the Brooklyn Academy of Music's Next Wave Festival and composed for guitarist Pat Metheny in 1987 by Steve Reich.[1] The piece followed "Vermont Counterpoint" (1982) for flute and "New York Counterpoint" (1985) for clarinet, completing a series of works for soloist performing with self-made prerecorded tracks.[2] Metheny's recording of the work was featured on the album *Different Trains.* Reich composed the work for either 12 pre-recorded parts and live performer, or soloist and guitar ensemble.

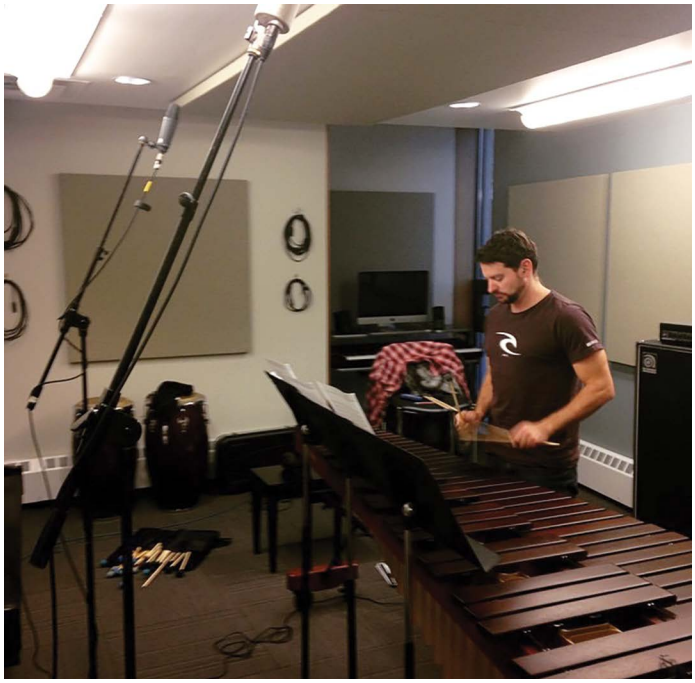
Percussionist Svet Stoyanov arranged and recorded "Electric Counterpoint" in 2008 for marimba and vibraphone, and percussionist Kuniko Kato arranged and recorded the composition in 2009–10 utilizing steel pans, marimba, and vibraphone. Jonny Greenwood, guitarist with the band Radiohead, also recorded the work, ultimately leading to Reich's discovery of Radiohead's music and his subsequent composition, "Radio Rewrite."[3] The three-movement work, Fast-Slow-Fast, each performed without pause, is a frequently-used form by Reich.

RECORDING

Following a similar recording adaptation as Stoyanov, I prepared and prerecorded the parts in January 2015 for live performance. The first movement, prerecorded and performed exclusively on marimba, begins with a gently-swelling introduction that transitions into developing constructs based on Reich's study of Central African horn music.[4] The second movement is a slow counterpoint primarily prerecorded and performed on vibraphone with swelling harmonies on prerecorded bass marimba. The final movement combines marimba and vibraphone and alternates between E minor and C minor, as well as 3/2 and 12/8 meters.

After contracting a recording engineer and booking studio time, the initial process of pre-recording the 12 tracks of marimba and vibraphone involved much more than score preparation. The process can be summarized as experimentation and recording keeping. But before recording, I provided recordings of Metheny, Greenwood, Kato, and Stoyanov to the recording engineer, as well as other marimba and vibraphone recordings to facilitate a discussion of preferred recorded results. To find an agreeable sound on all ranges of the instruments, it was necessary to experiment with microphone types and placement, mallets, and ultimately levels of effects within the digital audio workstation (DAW), such as reverb, delay, and compression. As the marimba and vibraphone is performed live to the prerecorded tracks, it was important to seek a recreated sound that has consistent articulation and resonance in live performance. Once a decision was made regarding all of these experimentations, writing down and/or photographing placement, mallet choices, and notating DAW levels was critical. Because the recording studio was a shared space, it was necessary to take photographs of microphone positioning, and the floor was spiked with tape to ensure consistent microphone stand, marimba, and vibraphone placement.

The recording engineer used Cubase 7.5 for the DAW operated on an iMac. The microphones were a Neumann TLM193 for the high end of the instruments and a Neumann U47 for the low end. The decision to use a reverse complementary



approach for the microphones with a brighter microphone for the low end and a warmer, fuller microphone for the high end was the recording engineer's preference. After much experimentation, the microphones were elevated five feet above and angled 20 degrees towards the instrument. This configuration provided a full presence of the instruments without an overly percussive attack. With the microphones positioned, it was possible to begin recording.

The engineer set up a click track at the marked tempos, and I wore in-ear monitors set to a low volume to avoid bleed-through. As the guitar parts for prerecording are in score form, I enlarged the score and used bright-colored Post-It notes to mark the part I would play for each recording pass. We chose to record all of the marimba parts to the three movements followed by recording the vibraphones in movements two and three. It is very important to note that guitars sound one octave lower than written. This should be considered at every step of the way to avoid recording in the wrong register.

"Electric Counterpoint" begins with a 109-measure introduction of undulating eighth notes in guitar parts 3–8 with the two bass guitar parts in octaves. After experimenting with mallets for each guitar part to achieve a full, articulate sound throughout the marimba's range, we recorded guitar 3 first, and added each part successively from the beginning to measure 109.[5] As each part was recorded, the click track was gradually reduced in the in-ear monitors so I could perform with my own playing. This process was continued until the click track was completely eliminated by the time we recorded the bass parts.

At measure 102, guitar 1 enters with a four-bar ostinato that repeats 37 times. To guarantee consistent and even repetitions, we recorded the ostinato's crescendo and then four repetitions (four measures of crescendo and 16 measures of ostinato). After listening to playback and ensuring the ostinato was perfectly aligned with the click track, we began the process of layering each guitar entrance by recording the crescendo and then four repetitions of the new ostinato. Guitars 1, 3, 5, and 7 were recorded first, as they share the same rhythm, and guitars 2, 4, and 6 were recorded next as they also shared a rhythm. Guitar 8 was recorded next as it has a figure that is played by the live guitar part, but a perfect fifth below. This four-bar pattern is repeated twice before developing into the same rhythmic pattern as guitars 1, 3, and 5. After two repetitions at a *forte* dynamic, the part decrescendos for four measures into the texture while guitar 7 crescendos with the same rhythm but a perfect fifth above. Guitar 7 was then recorded in the same fashion.

The ostinato patterns now established in guitars 1–8 were all placed together and checked for vertical rhythmic and dynamic consistency. The key change at measure 250 was recorded in a similar fashion, with guitars 1, 3, 5, and 7 recorded in succession, followed by guitars 2, 4, 6, and 8. When the original key returns at measure 290, the recording engineer copied the previous eight parts until measure 326. From measure 326–329, each part has a diminuendo. Each part's diminuendo was recorded separately to provide an organic sound, as opposed to lowering the dynamic within the DAW.

Guitars 9–10 and the two bass guitar parts have undulating eighth notes intermittently from measure 214 to measure 324. Each part was recorded continuously while listening to guitars 1–8 without a click track. Because guitar 9 has a three-note chord and guitar 10 has a two-note chord, each note of the chord was recorded individually, resulting in 15 individual tracks for the first movement.

Movement two is primarily comprised of a canon in guitars 1–9, a technique typical of Reich's compositions.[6] This canon, as on the Stoyanov and Kato recordings, was recorded on vibraphone. We chose to record guitars 10–12 and the bass guitars on marimba, and did so before moving to vibraphone in order to keep the microphone and marimba placements. The second movement is multi-metered with a repeating three-measure motive in 3/4, 5/8, and 4/4. Once the engineer set up a click track, we recorded the marimba parts—intermittent repeated sixteenth-note chords that crescendo and decrescendo in and out of the canonic texture. Guitars 11–12 had two-note chords and were recorded separately.

Movement three begins in e-minor with a one-measure ostinato in guitar 1 that repeats until measure 73. Sixteen measures of this part were recorded and then repeated by the recording engineer. Guitars 2 and 4 were recorded similarly to guitar 1. Guitar 3 has a brief five-measure construct before the ostinato is completed and repeated until measure 73. The first key change to c-minor takes place at measure 74, and guitars 1–4 were recorded in the new key. The key changes 14 times with decreasing repetitions of the ostinato until the end of the work. The engineer copied each part through each key change. It is important to note a rest in guitar 2 on beat one of the first measure, which reoccurs at each key change. It was necessary to double check that this rest was represented with each copy of the ostinato. Additionally, guitar 2 at measures 117–128 has new material that was recorded separately. From measure 134 to the end (measure 140), each part was recorded in succession, as the parts were also different from the previous ostinato.

After completing the recording process for guitars 1–4, we recorded the two bass guitar parts, which create the prominent collective bass line that is most recognizable in this movement. This begins with an eight-measure construct before the overlapping bass guitar parts are fully realized. These parts were recorded continuously without editing, as the dynamics and meter changes back and forth from 3/2 to 12/8. After recording the bass parts, we positioned the vibraphone for the final portion of the prerecording process.

We made minor changes to the microphone positioning for the vibraphone but made significant equalizer (EQ) changes from the marimba in the DAW settings. The high frequencies were reduced significantly and we chose to boost the middle-range frequencies to create an EQ level that reduced the heavy vibraphone resonance created in the recording space. Once these settings were made and the mallets selected, we recorded guitars 1–9 in movement two and Guitars 5–7 in movement three.[7]

Movement two consists of a three-measure canon that begins in guitar 1. This mournful slow movement, remaining in c-sharp-minor throughout, transfers nicely from electric guitar to the vibraphone. The canon is intermittently interrupted by guitars 10–12 and the two bass guitar parts before fading to the *attaca* of movement three. This movement serves as contrast to the fast first and third movements.

Setting up the multi-meter click track proved very useful, as the nine parts of the canon become dense with each addition. We chose to record each part in its entirety in order to capture the crescendo entrance and decrescendo at the conclusion of the movement. As the three-measure motive repeats numerous times in each part, the engineer used the talkback microphone heard only in my in-ear monitors to assist me with keeping track of the number of repetitions for the recording.

As the majority of movement three was recorded on marimba, all that remained was guitars 5–7, which I recorded on vibraphone. These guitar parts are both chordal and sustained and were well suited for vibraphone. However, because guitar sounds one octave lower than written and the E at the bottom of the guitar range is below the standard three-octave low-F vibraphone, this section needs to either be transposed to written pitch or prerecorded on a low-C vibraphone. Because I did not have a low-C vibraphone, nor would the majority of venues at which I would perform the work, I recorded these chords at written pitch. The live part establishes each of the three chordal vibraphone parts at measure 36. Finding a blend between the recorded marimba and vibraphone required the engineer to spend time with a variety of EQ techniques at the end of the recording process.

After the final tracks were recorded, we listened to the completed recording to make adjustments in EQ. Compression was added in places to bring out melodic entrances. Reverb was added with limited pre-delay to preserve the attack of the mallets on the marimba and vibraphone. This gave a concert hall-like resonance to the recording. Additionally, we used the post-production plugins Precision Enhancer[8] and Precision Limiter,[9] which gave more overall presence by adding high-frequency boosts. The final adjustment was to pan the odd-numbered guitar parts to the left speaker and the even-numbered guitar parts to the right speaker. The end result was clarity of each guitar entrance and an overall stereo effect that would leave the solo part center stage with the entrances on either side of the performer.

PERFORMING LIVE

In performance, I play with in-ear monitors set to a moderate volume, allowing me to hear the live marimba and vibraphone sound against the prerecorded parts in the in-ear monitors. An audio engineer starts the track and balances the levels during a soundcheck. I focus on equating mallet heights to the necessary dynamic, and should there be balance issues in performance, I discuss with the audio engineer in advance where the solo part should indeed be solo and when it's part of the

texture. Although there is a certain degree of EQ in the prerecording, the live audio engineer is encouraged to balance natural reverb with the live instruments and the prerecorded track. As the piece was composed for electric guitar, a more ideal live performance setting would be to place microphones on the marimba and vibraphone and mix the live instruments with the prerecording. I've performed the work in four different venues but have played acoustically with no live instrument amplification.

Realizing "Electric Counterpoint" for marimba and vibraphone required approximately six hours of recording time and three additional hours of post-production. The recording engineer ultimately provided three different mixes of the recording with different settings and levels to choose from in different live music settings. Additionally, I asked for mixes of the work dividing the movements into individual tracks and another mix with the click track added for rehearsal purposes.

To date, Steve Reich hasn't written for solo percussion, but adapting his "Counterpoints" serves as a viable option for percussionists to perform his compositions in a solo setting.

ENDNOTES

1. Steve Reich, "Electric Counterpoint" (London: Boosey & Hawkes, 1987).
2. Steve Reich, *Writings on Music, 1965–2000*, ed. Paul Hillier (Oxford: Oxford University Press, 2002), 145–146.
3. Jayson Green, "Steve Reich: Radio Rewrite," *Pitchfork*, October 2, 2014, accessed April 15, 2015, http://pitchfork.com/reviews/albums/19818-steve-reich-radio-rewrite/
4. "Electric Counterpoint," Boosey & Hawkes, accessed April 12, 2015, https://www.boosey.com/cr/music/Steve-Reich-Electric-Counterpoint/7542
5. I used Vic Firth Ensemble Series mallets, as the weight and latex covering provided a desirable clarity of attack while maintaining a rich, full tone. This graduated series of mallets allowed for smooth transitions throughout the range of the marimba.
6. Steve Reich, *Writings on Music, 1965–2000*, ed. Paul Hillier (Oxford: Oxford University Press, 2002), 5.
7. I used Vic Firth Victor Mendoza Signature vibraphone mallets for the vibraphone recordings. The latex core and thin cord wrap created a clear attack but warm sound that matched the mood of the slow second movement.
8. Precision Enhancer kHz Plug-In, Universal Audio, accessed April 3, 2015, http://www.uaudio.com/store/special-processing/precision-enhancer-khz.html.
9. Precision Limiter Plug-In, Universal Audio, accessed April 3, 2015, http://www.uaudio.com/store/mastering/precision-limiter.html.

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