

Review of Miller Puckette and Kerry L. Hagan (eds.) 'Between the Tracks: Musicians on Selected Electronic Music'

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Between the Tracks is a collection of texts for which the editors invited musicians to write about electronic music that they felt was undervalued. In line with this agenda, the aim is to look beyond those works that have already become well known and canonised to an extent, and to provide an opportunity for the discussion and in-depth examination of the work of underrepresented musicians. There is no music curation on the part of editors Kerry L. Hagan and Miller Puckette - the music selections have been made by each invited author, with each chapter devoted to a musician and a specific work. This is an interesting premise because the music selections have turned out to be reasonably eclectic, despite some emerging areas of commonality, and there will have been an inevitable element of chance in the process and eventual content. I was previously aware of some of the music discussed, but much of it was new to me and this has made for a valuable and engaging process of musical discovery in terms of the the composers and works encountered, and the ways in which they are discussed.

With a free rein for the contributing authors, there is no introductory text positioning the collection in terms of common analytical aims or questions, as can be seen in other relatively recent volumes such as *Expanding the Horizon of Electroacoustic Music Analysis* (Emmerson and Landy 2016). Similarly, there is no unifying analytical approach running throughout as evident in *Inside Computer Music* (Clarke et al. 2020). Each chapter is an open discussion of the selected musician and some of their music in terms defined by each author, often with focus on a specific work, and occasionally drawing upon a range of works.

As a result, there is a wide range of analytical perspectives in evidence. Indeed, this is where some of the unique value of this volume lies, because, in addition to exploring perhaps underrepresented music, we also encounter a wide range of ways to discuss music within an analytical frame. And I noticed that, in approaching this book, I fell into a trap of my own construction - I was expecting a collection of analyses that somehow related fairly directly to those that I have read previously. But, to put it simply, there is analysis, but not always as I thought I knew it. In fact, the volume opens up a wide variety of ways to talk about music that complement rather than replace existing paradigms. And in doing so reminds us that carefully considering a few aspects of a work in a novel fashion offers new kinds of insights that might be otherwise missed. As such, this book provides various case studies for analytical approaches that could be built upon or developed for those interested in music analysis specifically. And at the same time, the insights themselves are potentially valuable to a wide range of electronic/electroacoustic music composers and performers. Despite the variability of discursive approaches, one common thread is that each chapter provides important biographical and contextual information on the musician in question and their music. I found this to be extremely informative and helpful, especially when the composers were less familiar to me.

We are told that some common themes did emerge despite the relaxed curatorial approach. These strands are highlighted in the Preface and include: discussions of collaboration between composer and performer, and resulting notions of shared creativity and authorship; composers investigating algorithmic composition, and the relationships between their music and the technology involved; different approaches to soundscape composition; and the extent to which the specific Asian composers discussed in two chapters embrace (or not) Western music and their Eastern heritage within their music. There is a good range of topics and kinds of discussions on offer, yet it is of course impossible for a single book to cover all flavours of electronic music. For that reason, while I do see this collection as valuable in and of itself, it is also mutually complementary with those books mentioned above, which all together provide a rich body of recently published work on electronic/electroacoustic music analysis.

Yvette Janine Jackson's opening chapter applies her own concept of *narrative soundscape composition* as a means to analyse Jacqueline George's work *Same Sun*. Narrative Soundscape Composition is introduced, some very useful context regarding Jacqueline George as a Cairo-based electroacoustic music artist is provided, artistic aims and approaches are mentioned, and there follows a sectional mapping of the structure of the composition with further description of the sounds experienced (which are drawn from field recordings made in Shobra in Cairo). To an extent, this is what one might expect in an 'analysis'. The subsequent discussion of listening attitudes and interpreting the extramusical are particularly stimulating. Jackson signposts us to key aspects of Jacqueline George's style (p.12) with reference to some of her other works, suggesting that wider listening informs us better as to what might be going on in this piece. Poietic aspects are present, such as the idiosyncrasies of George's tools (notably Ableton Live) and how they help with any reverse engineering of certain aspects of the creative process, but the discussion emphasises the aesthetic aspects.

Similarly engaging with soundscape ideas, Valentina Bertolani analyses a different kind of work, Gayle Young's *Ice Creek* (2018) for piano and pre-recorded sound. The pre-recorded sounds are derived from recordings of an ice-covered waterfall into which long tubes (tuned resonators) are inserted, imparting pitch characteristics onto the water sounds. The pianist listens to these and then picks their own melodic path through the various harmonic overtones created by the resonators of the pre-recorded material. Young's creative use of text and 'event scores' is examined and related to her ongoing practice - in this case, the pitch curve of the spoken text is used to make note selections. Bertolani's focus on the score as the basis of analysis seemed odd to me, initially, yet it transpires that no satisfactory audio document yet exists that clearly captures the interactions between the pre-recorded sound and piano part - hopefully this will be forthcoming. Even so, this analysis valuably addresses important poetic aspects, namely the nature of Young's scores as places for "exploration and dialogue" (p.28), as systems that generate performances and challenge the traditional composer and performer hierarchy, bringing co-creation and dialogue to the fore. Indeed, Bertolani identifies the importance of exchange, a moment of attunement, between the

composer and performer, and the nature of composer / performers relationships is a theme that resurfaces later in the volume.

Whilst also focusing on a soundscape work, Leigh Landy's chapter 'Hildegard Westerkemp's *Beneath the Forest Floor*' adopts, again, a different approach to that of the previous authors. The chapter is framed with reference to Emerson and Landy's four-part question: For which users? For which works / genres? With what intentions? With which tools and approaches? (2016) The analysis is positioned as accessible to a broad public, and the initial discussion appropriately sets the scene, covering topics such as Landy's own 'something to hold on to factor', the nature of the analysis of electroacoustic music, listening, dramaturgy, the creation of an artistic universe, and whether soundscape composition is music. This section offers the targeted broader public a range of significant further reading to pursue, and I can see this making excellent reading for undergraduate electroacoustic music classes. The analysis proposes aspects for listening focus, rather than prescribe them - the real and the abstracted; the continuous and the discrete; recognisable source material; manipulated sounds / musical listening; perception of space and movement; rhythm; structure. The more detailed discussion of the four identified sections of the work features Landy's listening observations interspersed with extracts from Westerkemp's writings and a recent correspondence between the two. What emerges is a rich account of listening, interpretation, and dialogue with the composer that presents 'a' perspective on the music, yet does not assume that this is the only interpretation. There is a sense that these are interpretative possibilities guided by how an individual might listen, and, most appropriately, the concluding remarks place the ecological aspects as the focus.

The next four chapters place emphasis on the relationship between the composers and their tools. Miller Puckette focuses on Charles Dodge's *Speech Songs*, identifying three contributions made by this piece: "to uncover the musical potential of vocal synthesis...[to take] advantage of the poetics of using a clearly synthetic machine voice as the singer of a recorded art song", and "the use of manually edited subaudio-rate sampled functions of time...as musical objects on which to compose a piece" (p.64). Puckette presents an overview of relevant technological developments and the related surrounding context for these works, namely: the Music N languages at Bell Labs, and the Moog and Buchla voltage-controlled synthesisers; the development of digital control systems for analogue synthesisers; and the development of real-time digital processing of audio. These last two afforded the digital storage and manipulation of continuous time control data, which were essential to the composition of *Speech Songs*. The analysis itself focuses on (i) the musical language at play and (ii) the musical treatment of text in *Speech Songs*. The first part usefully outlines the affordances of the synthesis approach used, and gives valuable insights into how Dodge created the various and varying components of the work with some pinpointed examples, making for an engaging account. The second section explores the compositions in detail, offering clear insights into the workings of these pieces, the repetitions and variations at play, their technical realisation, how the text relates to this, and the poetic implications. I was particularly drawn to the idea that Dodge's use of technology supported the composition of often humorous

works. The chapter offers us an understanding of the piece from the musical perspective, but also of the context and value of this music to the development of computer music.

Jøran Rudi explores *The Musical Imagination of Knut Wiggen*, covering developments made by Wiggen at the Electronic Music Studio (EMS) in Stockholm in the 1970s. Wiggen viewed computer controlled synthesis as the way forward for computer-based composition and a rich picture of the tools of EMS, and the underlying ethos, emerges. The compositional focus is the discussion of *Sommarmorgan*, which was composed to be used by EMS for outreach to children. This analysis usefully opens with a summary of observations regarding the music, which I found illuminating and also reflective of my own listening. The discussion of processes and principles that underpin the composition draws parallels with the work of contemporaries such as Xenakis, and the emphasis on process rather than timbre remains present throughout. The coding of the piece is discussed in some detail, covering the compositional logic and how amplitudes, pitches, waveforms, reverberation and spatialisation were determined. Rudi suggests that the process-based architecture of the system meant that Wiggen likely could not predict the exact sonic outcomes, and so an analysis of the sonic outcome might yield insights not focused on method, and so is not pursued. For me, this is a shame, as some exploration of how the (admittedly subjective) listening experience relates to the system outputs might give rise to further significant perspectives on the work. We are led to Wiggen's fundamental questions - can machines make music, and is a truly new music possible? and Wiggen is celebrated as a committed proponent of algorithmic computer-based music. There is considerable detail on the constrained random processes that underpin his approach, highlighting his work as early examples of the expanding world of computer music at the time.

David Rosenboom's chapter 'Exploring Compositional Choice in the SalMar Construction and Related Early Works by Salvatore Martirano' is more of a portrait of Martirano's evolving musical outlook during the early 1970s, as embodied by the SalMar Construction. Rosenboom describes it as "a landmark in embedding an individual artist's compositional world inside circuitry" (p.143), a hybrid digital-analogue electronic music system which Martirano considered a 'compositional world'. For him, the 'composition' generated by this system encompassed everything from its first soundings to the end of its working life, and a single recording was just an audio snapshot at a given point in time. So with such an expansive body of work, what gets discussed or analysed? Rosenboom provides valuable perspectives on Martirano's notion of the musical work, incorporating some in-depth discussion of the instrument's construction and its evolution. The instrument itself is presented as the embodiment of the composer's practice. Moreover the chapter poses some valuable questions regarding what a composition is, how and where it resides (if indeed it can), and whether it is ever possible to encounter the 'complete composition' under such circumstances. A significant emerging perspective is the idea of the constructed instrument as a tool for an artist's individual vision, at the expense of universal adoption. In these ways, the chapter provides a valuable historical reference point for those

exploring instrument design and its interface with performance, improvisation and compositional thinking, challenging more conventional distinctions.

The last of the more tools-focused chapters, Margaret Schedel and Taylor Ackley discuss Bülent Arel's *Fantasy and Dance for Five Viols and Tape*. We are presented with a rich portrait as a precursor to the discussion of Arel's music. Bülent Arel was the final engineer to assist Verèse in the completion of *Déserts*, and the person who taught the likes of Edgard Varèse, Max Matthews and Mario Davidovsky to use the resources of the Columbia-Princeton Electronic Music Centre (CPEMC) in the 1960s. He was a founding member of CPEMC, with his compositional work featuring on a number of album releases made by the centre. *Fantasy and Dance for Five Viols and Tape* features sound material created on the Buchla 200 modular electronic music system that is still resident at Stony Brook University, and which Arel designed. Margaret Schedel's enthusiasm for this music is ever-present within the chapter and evident through the engaging writing style, which made me enthused to listen and read on. This chapter follows a possibly more conventional analytical path than some of the previous chapters which I found clear and easy to navigate. Following a structural overview, the various sections are dissected in terms of the musical progression and function of both the electronic and instrumental parts, while the important interpretative aspects further illuminate Schedel's perspective on the musical narrative. The sound generation and organisational potentials of the Buchla 200, and how these might have influenced the realisation of the tape part, remain the main focus throughout, providing an in-depth analysis of the possible relationships between the tools and creative endeavour of Arel.

The embracing, or not, of Western music and Eastern heritage by Asian composers is explored in two chapters. The first, Marc Battier's examination of *Nuo Ri Lang* by Zhang Xiofu, begins with some brief but important context regarding the cultural and political climate in China, and the difficulty for young composers to access contemporary music scores and recordings up until the early 1980s. Consequently, Zhang moved abroad in the 1980s to study new composition and electroacoustic music. We gain an understanding of the significance of, and debates around, combining Chinese roots with aesthetic freedoms, along with discussion of Zhang's influence on the development of electronic music in China. *Nuo Ri Lang* is a mixed work for fixed media and live instruments that has evolved through a number of iterations from 1996–2018. The analysis opens with a taxonomy of sounds found within the electroacoustic part of the work, the source sounds broadly categorised as voices and percussion. The electroacoustic elements of the eleven sections of the work are then described in some detail, although perhaps additional diagrams would have provided further illustration of where and when the sounds in question occur. Battier concludes that this work features "elements of Chineseness alongside a Western idiomatic language" (p. 190) and the presence of Tibetan vernacular material points to Chinese cultural diversity. For example, the use of tape loops might be thought of as a transposition of the Tibetan practice of 'rotating prayer wheels', the rotated prayer wheels reflected in the calm audio loops. Battier also draws our attention to aspects such as harmonic fields, whose reiteration throughout the piece creates a homogeneity, and the consistent use of male voices for lower register single

notes in contrast to the powerful, higher register female voices. For me, these closing thoughts feel like the beginnings of some valuable interpretative discussion, and it is a shame that the ideas presented here are not elaborated even further.

The second of the two chapters, by Kerry L. Hagan, examines *Seeds and Mutations: connections and divergences in the Materials of Unsuk Chin's 'Xi'*, a work for ensemble, fixed media audio, and live 'sampler' part. Chin, a composer based in Berlin and born in South Korea, is described here as resisting stylistic or geographical classification, setting the scene for the analysis. We are provided with some clear analytical aims - "to examine the aspects of sound Chin works with microscopically", and further "how Chin uses electronic techniques in her instrumental writing...with side-by-side acoustic and electronic materials" (p. 196). Based on the score, a recording by Ensemble InterContemporain (EIC), and further information provided by EIC, this analysis provides a structural overview, identifying key traits of the materials in the various sections, and then focuses on various aspects of those musical materials and their development. The text is clear, incisive and informative, and we are offered a wide variety of perspectives alongside in-depth insights into the various ways the musical materials are developed and organised over localised and more global timescales. However, it is a shame that the specific musical moments under discussion are identified by bar numbers rather than the timings in the EIC recording - both could have been included, and the recording was my reference point. The conclusion reflects on some existing critiques that suggest Chin's work to be "unfeminine" and "un-Asian", and which Hagan attributes this to Chin's Western classical approach to the material. However, further cited observations from musicians of Western and Asian heritage detect Asian and Western influences, Hagan suggesting that Chin possesses a multifarious identity whose various components are recognised by the ear that beholds them.

Notions of collaboration within the compositional process, touched upon earlier by Bertolani, return in Pamela Madsen's chapter *The Collaborative Process of Re-creation: Anne La Berge's 'Brokenheart' (2007) for Performers, Live Electronics, and Video*. Involving guided improvisation, text, video and live electronics, this work has evolved through a number of generations between from 2007 to 2011, being performed by a variety of ensembles, and being recorded in 2011 for a CD release. La Berge is introduced as a composer / improviser who embraces interactive digital processing and intermedia approaches in live performance, whose compositions feature flexible combinations of "imposed musical situations and electronics" (p.224). Performers/improvisers are a very significant part of the creative process, and we learn of La Berge's views on improvisation in relation to the composer's intentions, and how this connects to performance practice. The poietic focus of the analysis is clearly stated: the creation of the work (inspiration); technology used; guided improvisation within the realisation; and discussion of the multiple generations. I found the section addressing the different generations of the work particularly interesting because it accounts for the music's evolution through different performances, personnel and situations, acknowledging the considerable significance of these factors on the resulting music. Chapter author Madsen performed in the third cited version (in 2009 for instruments, electronics, video and

loudspeakers), and we are given an illuminating account of the processes and preparations for the performance, with much dialogue and sharing of ideas amongst performers and composer. For Madsen, the work blurs the boundaries of creator, composer, performer, and electronics, and this notion of the evolving work draws certain parallels with Rosenboom's chapter on Martirano's SalMar Construction.

Laura Zattra provides valuable perspective on documentary evidence and authorship in her chapter '*Taras su tre dimensioni*' by Teresa Rampazzi: *Documenting the Creative Process*. Rampazzi was a member of the NPS collective (Nuove Proposte Sonore), featuring a number of fellow composers working in Italy in the 1960s and 1970s. This chapter examines the creation and revision processes behind Rampazzi's *Taras su tre dimensioni* (1971) by scrutinising a variety of sources: a digitisation of the stereo version of the work, writings by the composer, and oral communications with her collaborators and friends. Through these, a rich story of the creation of the music and the composer emerges, providing insights into the inspiration, the intentions of Rampazzi, and the contexts of its creation. Compositional authorship and credit is a significant topic - some sources indicate collective authorship of the work by four of the NPS members, yet Rampazzi's specific compositional authorship is confirmed through collaborator interviews. For the analysis itself, spectrograms derived from the stereo version of the work are used to guide the reader regarding the descriptive observations in the text. While the text illuminates the general approach to organising the sound materials, I found the lack of a reference to the original recording made it harder to appreciate the text. Even so, there are valuable conclusions regarding: Rampazzi's creation of sounds; the use of electronic sound to subvert a more traditional musical culture at that time in Italy; and the political symbolism behind the concrete sounds that were used. So through this chapter we gain insights into Rampazzi's aesthetics and creative motivations at this time, with this work as a case study.

Juliana Snapper's closing chapter *Luciano Berio and Cathy Berberian's 'Visage': Revisiting Late Modernist Composition and the New Vocality* is fascinating, exploring the creation of *Visage* as "an extension of Berio's compositional ideas" (p.265). The chapter aims to understand and illuminate the creative partnership of Berio and Berberian, and further highlights resulting implications for contemporary vocality, and its relevance to broader culture of radical performance in the second half of the twentieth century. Composed for radio, public reaction to *Visage* led to a ban from broadcast due to its apparent 'obscenity'. The discussion is stimulating and informative, exploring the improvisational origins of the vocal material, and getting to the heart of the matter of the resulting work: "Beyond wanting to know what she is saying, we want to know why. We want to know what the hell is going on!" (p. 268). As the piece is based on one word, 'Parole' (Italian for words), Snapper does not pursue linguistic analysis, but an episodic nature to the vocal material is identified. The idea of the listener 'filling in the gaps' left by the composer is proposed as an invitation to make sense, and is connected to Umberto Eco's idea of the "Opera aperta" or Open Work - we are spectators and participants by this reading. I particularly valued the interpretative passages, giving some insights into Snapper's own sense making. Not that we have to agree, but

rather we can contemplate our own subjectivities. Perhaps most strikingly, the discussion of the compositional process highlights the significant creative agency of Cathy Berberian, and how her input subverts simplistic and conventional ideas of the composer as the sole creative force, in turn raising important questions regarding collaboration and authorship that will resonate well beyond this specific work. The analogy used to describe the creative relationship of Berio and Berberian as coactive seed planter and incubator for the musical work provides an important perspective.

So this book provides a rich resource for those interested in the analysis of electronic / electroacoustic music. We are presented with a range of views regarding what an analysis might be, the perspectives it adopts, and the questions it might ask, with each chapter providing a useful introduction to the featured musician. The analyses themselves will be of interest to composers wanting to gain deeper insights into the work and approaches of the featured underrepresented musicians, yet we also have a series of contrasting case studies into how one might 'do' an analysis. With my own interests and perspectives, I tend to gravitate to the discussion of particular aspects of a given work or particular creative processes surrounding it, but through reading this collection I have been reminded that there are many different ways to consider and talk about music, which I am sure will inform how I approach future work.

One minor criticism is that, on some occasions, it is not clear if or where I can listen to the specific version of the music in question. Some chapters do provide discographic references or web links, or make suggestions as to the wider availability of the music e.g. streaming services such as Soundcloud or Spotify, but for less readily available work it would have been useful to have an option to hear the music somehow, perhaps a companion website. Indeed, it felt odd that the object of analysis, most often a recording, was occasionally not easily traceable for the reader to audition for themselves.

Between the Tracks makes a valuable contribution to the study of electronic music by offering unique perspectives on music analysis, and will be useful to composers, performers, and musicologists, as well as non-specialist listeners. The approach to its curation has led to a good deal of variability in terms of subject matter and discursive methods, and whilst not every chapter will necessarily resonate with every reader, each text provides engaging insights that are both informative and thought provoking. I will certainly be returning to this book in the future, and recommend it to others.

References

- Clarke, M., Dufeu, F. and Manning, P., 2020. *Inside Computer Music*. New York: Oxford University Press.
- Emmerson, S. and Landy, L. (Eds.), 2016. *Expanding the Horizon of Electroacoustic Music Analysis*. Cambridge: Cambridge University Press.