



boiler. The boiler works when hot water is required to run from a tap; that is the expectation. A guitarist opens the tap of their instrument expecting the sound they feel from their amplifier to be precisely reproduced in the auditorium. Perhaps a little hotter. That *does* seem like an act of engineering.

In this light, deviations and/or flaws in that sound become a critical error because they highlight the presence of the audio system and point out that, in fact, we are engaging in a sleight of hand: the professional sound engineer is *always* manipulating the sound. wtRobina gives an insightful, penetrating discussion of how important Reverb is to this work, and how the best engineers use this part of the illusion to actually draw audiences *into* an event.

Embedded in but (fairly, I think) mostly outside the scope of the discussion here are the roles of celebrity and money in all this. The PA system might *seem* like a neutral player, but it is built around capitalist success stories. It has developed along lines that allow it to amplify the experience of those attending sporting events, bathe massive crowds in the words of mega-preachers and bring ever larger audiences into a grander but also more intimate contact with celebrity musicians on stage. Take the current *Eras* tour as one example: it is necessary and important to the entire idea of concerts like this that each individual audience member really believes that they have heard Taylor Swift herself. Both the intimacy and grandeur of the experience rest in the hands of the sound engineer: Detectable plate-reverb, overaggressive de-essing, feedback or audible auto-tune would not be a sculpting of sound but the destruction of an entire – partially fictional – universe.

I found myself circling back to this imbalance of power in the system, especially in economically high-stakes conditions. It is – even in avant-garde circles – quite difficult to find instances of sound engineers truly embedded in a collaborative creative process, because the sound system is just so powerful. We are no strangers to the problems that arise in the concentration of power when musicians gather, but even a conductor cannot – at the push of a button – forcefully silence every other musician on stage, turn a bassoon into an electric guitar or blow the roof off with a sudden scream of violent feedback.

wtRobina argues that “Engineers need to form bands, now, which they own from the console, located in the audience.” I am not so sure. There are surely some fantastic sound engineers out there who could make amazing things out of the opportunity, but it is hard to imagine that the current culture and economic conditions would

– over time – allow them to become anything more than glorified DJs.

Compared to this anarchic *dénouement*, for me the more exciting answer to wtRobina’s question – is it possible to be an avant-garde sound engineer? – is yes, so long as you have the right collaborators and conditions. And though we, in new music, have very little economic or celebrity power, we have exactly such collaborators and conditions available. wtRobina has led me quite effortlessly to the conclusion that it should be normal for any ensemble to have a sound engineer as an *artistic* member of the group. Sometimes this person will be responding to the needs of a composer, or another musician, but they should be there as a recognised performer, inputting and participating in the making of things. Playing the mixing desk as the musical instrument it is. Sculpting the sound. Painting the air. Just like the rest of us.

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10.1017/S0040298223000724

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*The Cambridge Companion to Serialism*, ed. Martin Iddon, Cambridge University Press, 2023, 418 pp. £29.99.

Joseph N. Straus, *The Art of Post-Tonal Analysis, Thirty-Three Graphic Analyses*, Oxford University Press, 2022, 230 pp. £64.00.

*The Cambridge Companion to Serialism* takes a big-tent approach to discussing its topic. Serialism impacted and was impacted over time by notable composers and the evolution of their music, increased technical resources in electronic music and the development of music festivals that allowed sharing of music and ideas, Darmstadt the earliest and most prominent among them. Moreover, serialism waxed and waned in various geographies at different times, sometimes for aesthetic and polemical reasons, and often for political ones. Readers may be surprised by some of the contents of the *Cambridge Companion* and their connections to serialism, but the authors, for the most part, make compelling arguments for inclusion rather than exclusivity.

The book is divided into four sections, ‘Contexts I’, ‘Composers’, ‘Geographies’ and ‘Contexts II’. Editor Martin Iddon has commissioned some of the most prominent scholars

who research serialism, as well as up-and-comers with fresh perspectives.

The notion that strict serialism in Western Europe was a relatively short phenomenon, the stringently constructed pieces of the 1950s rapidly supplanted by a variety of hybridised approaches, is contextualised in several of the essays. A central conceit is that twelve-tone music was never as rigid at its outset as is frequently suggested in many textbooks and a significant strain of music criticism. Correspondingly, there was greater pliability than some assume in much serial music of the 1950s. 'Contexts I' begins with the chapter 'Theorizing Serialism', by Catherine Nolan, who convincingly makes these points. She also analyses Schoenberg's *Suite, op. 25 (1923)*, the first piece to feature twelve-tone techniques in select movements. Sketches by Schoenberg are included, which demonstrate his thinking at the time about aggregate partitions. Nolan, quoting Bruno Maderna, also makes the point that the 'Zero Hour' in 1945 that was supposed to signal the demarcation between twelve-tone pitch rows and integral serialism was an arbitrary and misleading boundary, with a fluid interchange of ideas providing a better understanding of musical development. Marcus Zagorski's 'The Aesthetics of Serialism' further underscores the disparate ideas that make up the discourse surrounding serialism. With examples from writings by Adorno and Ligeti as an opening gambit, Zagorski then moves to his central discussion, 'Themes in the Aesthetics of Serialism', which includes several topics: history, necessity of progress, politics, resistance, science, technology and the idea of the experiment among them. Zagorski neatly encapsulates these wide-ranging aesthetic issues in a way that both explains their central conceits and invites further discussion. Arnold Whittall's 'Serialism in History and Criticism' begins with the heading 'What Happened When', and the chapter provides a large amount of information about serialism in musicology and criticism. When the two disciplines part ways or overlap unproductively, of which several examples are provided, Whittall counters with the correctives of clarity of terminology and accurate historical context. For example, a discussion of emigrés during the Second World War, notably Schoenberg and Krenek, bringing a classicising aesthetic to American composers, while 'Zero Hour' Western Europeans were staunchly behind Webern, is usefully parsed.

The section titled 'Composers' begins with 'Arnold Schoenberg and the "Musical Idea"', by

Jack Boss. He describes how, no matter the intricacies of the twelve-tone method that Schoenberg was exploring, the composer always pursued a 'musical idea', an overarching presentation of formal design. Boss uses detailed analyses of the *Prelude from op. 25 (1923)* and the *Piano Piece, op. 33A (1928–31)*. Boss' charts are marvellous and well explained to allow even those not used to post-tonal diagramming to glean insights. Silvio Dos Santos discusses eclecticism in Alban Berg, whose triad-weighted tone rows, musical ciphers, quotations and extra-musical associations distinguish his music from Schoenberg and Webern. Sebastian Wedler's 'Rethinking Late Webern' focuses on several facets of lyricism in the composer's works. Considered successively are aesthetic self-identity, space and variations of the same, as song, as silence and as politics. Analytical in places, Wedler also uses a number of texts from continental philosophy to underscore his ideas. He is unafraid of delving into self-contradictory impulses for Webern's lyricism that sometimes do not easily coexist.

Andrew Mead is the author of *An Introduction to the Music of Milton Babbitt* (Princeton, 1994), and his chapter 'Milton Babbitt and "Total" Serialism' is the most user-friendly text one is likely to encounter to give a detailed explanation of Babbitt's compositional procedures. Again clarifying the 'Schoenberg vs Webern' divide, Mead discusses how Babbitt gleaned two of his main techniques, one from each of the composers: inversional hexachordal combinatoriality from Schoenberg and derived sets from a single ordered trichord from Webern. Mead points out that these two combine into the trichordal array, which Babbitt used extensively. He extended the division of aggregates to an all-partition array in late works. The various partitions of the twelve-note aggregate were used for scoring considerations as well as for non-pitch parameters. Babbitt's version of total serialism extended to rhythm, timbre and dynamics, but he quickly realised that in many ways these did not function as pitch did from the perspective of both performer and listener and adjusted accordingly. Mead also mentions research that has found other influences besides serialism in Babbitt's music, often puns or quotes from standards and early jazz, of which the composer had an encyclopedic knowledge.

Like Mead's article, one can scarcely imagine a better introduction to its topic than Catherine Losada's 'Pierre Boulez and the Redefinition of Serialism'. She presents a signature feature of Boulez's music, pitch class multiplication, with

sketches and analysis of *Le Marteau Sans Maître* (1953–54) and ‘Séquence’ from the Third Piano Sonata (1955–57). Losado suggests Boulez’s redefinition of serialism in his work from the mid-50s onwards has two prime motivators: the influence of mathematics and that of non-Western music. Logical empiricist Louis Rougier provided a number of tools and concepts that enabled the composer to realise the conceptual and structural frameworks that he would employ. Boulez had briefly considered becoming an ethnomusicologist, and his explorations of timbre, rhythm and instrumentation are all reflective of this interest.

Imke Misch reflects on the way in which serialism impacted Stockhausen’s works, even ones that don’t immediately seem to be serial, such as those of the 60s, like *Plus-Minus* (1963) and *Kurzwellen* (1968), which allow performers significant latitude in their realisation. Misch also explicates formative elements of *Gesang der Jünglinge* (1955–56), *Gruppen* (1955–57) and *Licht* (1977–2003). Angela Ida de Benedictis and Veniero Rizzardi discuss Luigi Nono’s tremendous, and early, facility with serial permutations and his commitment to politically engaged music. The combination of the two make for singular music in the serial pantheon. Maureen Carr rounds out the ‘Composer’ section of the book with ‘Stravinsky’s Path to Serialism’, which suggests that the intervallic approach he had always taken to composing informed his creation of serial works such as *Variations: Aldous Huxley in memoriam* (1963–64), *Elegy for JFK* (1964) and *Requiem Canticles* (1965–66). Carr supports this argument with sketches and discussions of methods for Stravinsky’s music from 1952 onwards.

The ‘Geographies’ section contains a great deal of valuable information. Mark Delaere’s chapter on Western Europe is a good summary of the historical context that helps to frame many of the pieces and composers already discussed. ‘Serialism in Central and Eastern Europe’, by Iwona Lindstedt, and Peter J. Schmelz’s article on the USSR both focus on the waxing and waning of serial practices based on the government in power. Often, composers who wrote in post-tonal styles were castigated, in some cases losing their permission to present or publish their music. Even when there was a thawing of attitude, many composers, Schnittke, Pärt and Silvestrov prominent among them, eventually moved on from serialism to different styles.

Emily Abrams Ansari’s chapter on serialism in the US and Canada names many of the important contributors up to 1980. The inclusion of

Canadian composers is welcome – for example, John Weinzweig, Serge Garant and Barbara Pentland. American composers from the post-war era are namechecked, too. The chapter also contains errors and omissions. The worst error is that Elliott Carter is lumped in with mid-century twelve-tone composers, assuming that his teacher at Harvard, Walter Piston, taught him the technique and that Carter employed it in his music. Piston sent Carter to study with Nadia Boulanger, to develop an entirely different style. Carter never wrote twelve-tone music until, arguably, late in his career, when he began to use all-interval twelve-tone rows to create verticals for registral stratification. Milton Babbitt’s *Three Compositions for Piano* (1947) slightly predates Messiaen’s *Modes de valeurs et d’intensités* (1949), and, here as elsewhere, this should have been recognised. Another omission is *Time’s Encomium* (1968–69) by Charles Wuorinen, the first piece of electronic music to win the Pulitzer Prize. Written on the Columbia-Princeton Center’s RCA Mark II Synthesizer, it is a serial piece on steroids.

Abrams Ansari pits Eastman as the conservative, anti-serial school against Juilliard and Princeton. This was true back when Howard Hanson was at Eastman and Babbitt at Juilliard and Princeton, but she might have made mention that for decades this has been anything but the case. Daniel Trueman, a composer who is a fiddler and instrument creator with a polystylistic approach, is Chair of the Composition Program at Princeton. An Eastman Professor of Composition who has chaired the department is Robert Morris, an active serial composer. Indeed, Abrams Ansari doesn’t cover more recent composers or works, stating only that serialism has persisted in the US and Canada since the 1980s. The serial composer James Romig was nominated for the Pulitzer in 2019, and a number of other North American composers, in one fashion or another, utilise serialism in their music. Why stop at 1980?

Björn Heile’s chapter on Latin America is especially interesting. He goes country by country, discussing how the folkloric and nationalist styles were placed in opposition to serialism. As in the USSR, some governments rejected serialism for its absence of these other styles. Influential composers such as Ginastera initially were hostile to serialism, but even this staunch advocate for indigenous influence ended up composing serial pieces. Juan Carlos Paz was a teacher, but also an advocate, who helped grow musical organisations. The most famous

of these, Grupo Renovación, became Argentina's chapter of the ISCM. Paz alone deserves a monograph, but other countries in Latin America had foundational figures too, including Hans-Joachim Koellreutter in Brazil and Roque Cordero in Panama. Heile presents the varied history of serialism in Latin America, its disparate chronologies, polemical discourses and stylistic differences in impressive fashion for a relatively compact chapter.

Nancy Yunhwa Rao does similar service for East Asia. Her discussion of the history of serialism in China is organised into four periods: Emancipation of Dissonance, Modern Music in Shanghai, Prominence and A Method of Coherence. The Cultural Revolution caused considerable upheaval for classical musicians, and this is an important demarcation between an acceptance of musical exploration in early periods and a cessation of musical activity. The rebirth of serial music featured the Class of 1978, a group of composers who experimented with serialism, Guo Wenjing, Chen Yi and Tan Dun among them. An interesting facet of the return of Chinese composers to serialism is their combination of pentatonicism with twelve-tone rows. Japanese composers were less invested in serialism, but they influenced other countries in East Asia by disseminating books and texts about serialism far and wide. Korea has had a fraught history in the twentieth century, with periods where indigenous music was suppressed. Thus, modernism stood alongside a reinvestment in Korean culture in the post-war era. Composers Isang Yun and Nam-June Paik were early adopters of serialism. Sukhi Kang and his students Unsuik Chin and Shinuh Lee also explored it. Rao combines history and analysis in an edifying look at an underserved group of composers.

'Contexts II' begins with an extraordinary look at how sketch studies and performance considerations can combine to illuminate compositional intentions and musical challenges. Peter O'Hagan is a talented pianist and writer. In a detailed examination of preliminary sketches for Webern's Piano Variations, op. 27 (1936), O'Hagan demonstrates several initial impulses for different phrasing patterns that help to elucidate how a performance can transcend the simpler notation to accommodate Webern's rhythmic intentions. He then discusses problematic dynamic indications in *Structures I* (1951–52) and how Boulez in his own performance addresses them. Stockhausen's *Klavierstücke* (1952–61) are dissected in terms of rhythmic notation. The example O'Hagan sets for taking

a deep analytical dive when preparing a performance supplies much to ponder.

'Metamorphosis of the Serial (and the "Post-Serial" Question)', by Charles Wilson, discusses the evolution of serialism from the post-war era to today. He underscores that reports of serialism's demise, seemingly offered in each decade from the 1950s onwards, don't take into account score study, the evolution of techniques over time, the combination of serialism with other techniques and reception history. Sometimes composers, such as Ligeti, repudiated serialism, only to work with a technique, in his case micropolyphony, that couldn't have existed without it. Wilson's discussion of the meta-serial, acknowledging that serialism and post-serialism are often blurred categories, suggests that one reconsider concrete definitions of both and allow for fluid analytical approaches.

To torture a metaphor, Jennifer Iverson's chapter closes the book by stretching the big tent at the seams. She shares encounters with students about the boilerplate textbook ideas of serialism, some of them, as we have seen, misfounded. This caused her to explore underlying elements of serialism that relate early electronic music to popular music today. The chapter first engages in enlightening discussion of early electronic music centres in the US, Bell Labs alongside Columbia-Princeton. Iverson suggests that a 'serial attitude' encompasses dealing with analogue and digital domains in a constructivist fashion. She then suggests that this serial attitude can also be seen in hip-hop and EDM (electronic dance music). The attempt to bring a measure of inclusivity often lacking to the volume is laudable. One's mileage may vary as to whether one agrees with Iverson's supposition. For some, it may make serialism too hazy a concept to elucidate. As a lesson plan for undergraduates, it is brilliant.

*The Cambridge Companion to Serialism* covers an extraordinary amount of ground. If, in places, this necessitated alluring glimpses of larger topics and fascinating people, the well-annotated bibliography and references will help readers to explore further. The book will be an important one for scholars, instructors, graduate students and anyone interested in the subject.

Pedagogy for teaching post-tonal music has developed apace with the musicology of serialism. One of the most prominent Americans publishing books for instruction is Joseph N. Straus, Distinguished Professor at the City University of New York. His *Introduction to Post-Tonal Theory* is a well-regarded textbook that has gone through several significant revisions. *The Art of Post-Tonal Theory* expands upon some of the

analyses from the textbook and adds several more, ending with a song by American composer and fellow CUNY Professor Suzanne Farrin, 'Dolce la Morte' (2016). The usual suspects, Schoenberg, Webern, Bartók and Stravinsky, are represented, alongside recent figures such as Caroline Shaw, Thomas Adés and Kaija Saariaho, as are women and POC (person of colour) composers, including Ruth Crawford, Shulamit Ran, Chen Yi, Hale Smith, Tania León and Elisabeth Lutyens.

Straus is also a leading authority on disability studies, and some of the features of the book and accompanying website seem designed to accommodate different learning styles: colour-coding, use of letters for pitch instead of pitch class integers, reserving those for the operations and sets employed (RI7 or P4, for instance), and a website with score videos that allow students to follow along with a performance of each example. He also consistently uses analysis to support issues of interpretation, particularly of text-setting. As a corollary to the *Cambridge Companion*, it usefully permits readers to engage in close study of a

collection of music that covers a great deal of ground. For some, *The Art of Post-Tonal Theory* may help them brush up in advance of reading *Serialism*. Others may find it confirmatory of familiar concepts and illustrative of the wealth of variety to be found in post-tonal music.

This year marks the centenary of Schoenberg's Suite, op. 25, while Babbitt and Messiaen put us at around 75 years of serialism. Musicians and educators can no longer act like this repertoire is new. In addition to musicologists, it is particularly important for composers and performers, who likely will deal with all sorts of post-tonality in their careers, to be conversant in the analytical techniques required to support learning this music. Equally important, but yet to be found, are books for introduction-to-music courses, such as Music Appreciation, that neither pillory nor marginalise serialism, instead providing a balanced assessment. More work to be done.

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10.1017/S0040298223000712