

duration tape installations, to tape works using the ARP synthesiser, to works for acoustic instrumentalists. A single ocean of vibration, being cultivated and guided at a distance, allowing it to feed back on to itself, generating an infinite play of resonance.

'The freedom to be immersed in the ambivalence of continuous modulation. . . The freedom to let yourself be overwhelmed, submerged in a continuous sound flow, where perceptual acuity is heightened through the discovery of a slight beating, there in the background, pulsations, breath. The freedom of a development beyond temporality in which the instant is limitless' (p. 16). For anyone interested in Radigue's work, the history of electronic music and the situation of instrumental music in the present day, this book is essential.

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10.1017/S0040298222001036

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Mine Doğantan-Dack (ed.), *Rethinking the Musical Instrument*, Cambridge Scholars Publishing, 465pp. £67.99.

Performance Studies has been accepted as a musicological discipline in the last 30 years or so, but there is a much older tradition of instrumental research: history and evolution, fabric and mechanics, and that interface between composers, players (often the same person) and makers. The editor of this volume, Mine Doğantan-Dack, however, tells us that 'there is still little scholarly work. . . on the artistic affordances of different acoustic, electronic and digital instruments, their critical reception in cultural contexts, the nature of the embodied interactions they generate in composing and performing music, and the expressive and communicative meanings that emerge as a result of such interactions' (p. xvii). These 18 chapters, originating in the Music and Sonic Art Conferences held at the Institut für Musikwissenschaft und Musikinformatik in Karlsruhe between 2015 and 2019, try to address these areas in a volume that 'proceeds from acoustical to digital instruments, and from critical/philosophical enquiry and historical considerations to artistic research projects' (p. xviii). For *TEMPO* readers, two thirds of this book will be of interest, including two excellent chapters dealing with truly innovative work on traditional instruments, the cello and clarinet respectively, a valuable overview of Hugh Davies' work and chapters looking at different aspects of digital applications.

Cellist Ellen Fallowfield's work will already be familiar to readers of this journal.<sup>1</sup> Her practically focused chapter is a refreshingly jargon-free introduction to 'extended technique', with an historical overview of multiphonic research for all instruments, before moving specifically to cello multiphonics. She gives a useful list of instrumental manuals and web resources from 1921 to 2020, 60 or so in all, with only the odd omission (for example, Matt Barbier, trombone 2016<sup>2</sup> and Sarah Watts, bass clarinet 2015<sup>3</sup>). Detailed work is in *TEMPO*, on her site Cello Map<sup>4</sup> and the CelloMapp app on the Apple App Store.

Scott McLaughlin's approach in the 'The Material Clarinet' (part of an Arts and Humanities Research Council project, The Garden of Forking Paths<sup>5</sup>) is to explore areas that most players spend their lives practising to avoid, 'the indeterminacy of the clarinet: the unpredictable phenomena found across the strata and seams of clarinet sound-production' (p. 70). He moves away from 'normal' playing towards allowing the player and the instrument 'in-the-moment to determine possible paths. . . sonic forms hidden in resonant-material potentialities' (p. 71). McLaughlin pushes the instrument and the player's unique 'technique', seen 'as a physical system in an embodied instrument-player assemblage' (p. 72), by exploring all the multiphonic and harmonic possibilities. But what I like here is his view that these are not 'extended techniques', noises grafted on to traditional technique, but something quite different, 'that bring[s] everyone – the player, the instrument, the listener, and the composer – further inside the instrument, stripping away layers of imposed musical abstractions' (p. 74). He describes in detail the acoustics, harmonics, venting, under- and overblowing and multiphonics but with something much richer and more nuanced in mind than tired modernist tricks in the relationship of the player to a traditional acoustic instrument that has much to offer in what he calls the 'moment of invention'.

James Mooney gives us an excellent chapter on Hugh Davies and looks at the little documented area of new instruments (mostly electronic, invented in the twentieth century), but

<sup>1</sup> *TEMPO*, 74, no. 291, January 2020.

<sup>2</sup> <https://mattiebarbier.com/resources/faceresectiontextfinal.pdf> (accessed 25 May 2022).

<sup>3</sup> [www.sarahkwatts.co.uk/home/index.html](http://www.sarahkwatts.co.uk/home/index.html) (accessed 25 May 2022).

<sup>4</sup> <https://cellomap.com> (accessed 25 May 2022).

<sup>5</sup> <https://forkingpaths.leeds.ac.uk> (accessed 25 May 2022).