

## Chapter 11

Between prosaic functionalism and sublime experimentation: *Doctor Who* and musical sound design

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The early 1970s were characterised by the appearance of keyboard-operated modular synthesisers, most notably the BBC's massive prototype

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EMS Synthi 100, which was nicknamed 'the Delaware' due to its housing in Delaware Road, Maida Vale, in London. This was showcased on season eight in 1971, where wholly synthesiser scores were first used in a systematic manner (electronic scores had appeared in season four using the Radiophonic Workshop's 'Multicoloritone Organ'). The late 1970s saw the increasing proliferation of preset keyboard synthesisers. By the time that *Doctor Who*'s music was being produced solely by the BBC Radiophonic Workshop, a number of 'off-the-peg' keyboard synthesisers were being used, such as the Oberheim OBX, the Roland SY2 and the Yamaha CS80 (Ayes, 2002). These were much easier and quicker to programme. In the early to mid-1980s, 'samplers' became prominent. These were new digital synthesisers that recorded ('sampled') and then treated sounds rather than building them up through subtractive synthesis (the use of oscillators and filters, as in older generations of synthesiser). Also in the early 1980s, there were frequency modulation synthesisers, where one sine wave is modulated by another (as in the Yamaha DX7) and by the mid-1980s, wavetable synthesisers which could mix waveforms. Sampling synthesisers proliferated in the wake of the appearance of the Fairlight CMI in 1981. The music for *Doctor Who* in the later 1980s often used integrated preset digital keyboard synthesisers, such as Keff McCulloch's Emulator and Prophet 5, the former of which regularly made use of sampled orchestral stabs, sprinkled liberally throughout McCulloch's scores. It is not too difficult therefore to follow technological developments through the sort of sounds evident in *Doctor Who*. Technological determinism may be unfashionable, but it proves an attractive explanation for the programme's sonic development over time. It is certainly not controversial to suggest that hardware tends to set limitations and encourage certain procedures of construction.

*Doctor Who* provided a showcase for cutting-edge sound technology and musicians who were given scope to try things out that went far beyond the bounds of possibility for the vast majority of television. In this sense, the programme provided a more immediate window for musical technology than pop music or art music. The aim of its music was to express 'the otherworldly' and the principal way of achieving this was, and still is, through the use of the most recent sonic technology. These fresh, new sounds signify 'the future', or at least as near to the future as we can possibly get.