

# The BBC's Radiophonic Workshop and that famous Doctor Who sound

Tuesday 12 November 2013 5:09PM

Iain Wilson



**IMAGE:** DELIA DERBYSHIRE, CREATOR OF THE SOUND OF THE *DOCTOR WHO* THEME, AT WORK AT THE RADIOPHONIC WORKSHOP, LONDON.

As part of the 50th anniversary celebrations of the **TV series Doctor Who**, Into The Music focuses on its famous musical theme, and the BBC Radiophonic Workshop that created it. As **Iain Wilson** writes, the Workshop's innovative sound experiments are intricately tied to the birth of electronic music.



ABCRadioNational

The influence of the BBC Radiophonic Workshop

SOUNDCLOUD

Like

Share



566

In 1958, the BBC set up a small unit, the Radiophonic Workshop, to create atmospheric music and sound effects for radio and television. When Workshop member Peter Howell's piece, *The Greenwich Chorus*, was aired as part of the 1978 documentary series *The Body In Question*, the BBC switchboards lit up with phonecalls from viewers wondering what the hell they had just heard: Peter had used a new instrument, a vocoder, to create a sound that would become a staple of early eighties electro.

'In those days, we were genuinely delivering sounds that people had never heard before, and that inevitably gave it a certain sort of mystique,' said Mr Howell.

Although this kind of response didn't happen everyday, in its nearly 40-year history, the Radiophonic Workshop provided thousands of hours of music and sound effects for the BBC, everything from children's television programs to TV intermission signals; from nature documentaries, like David Attenborough's *Life on Earth*, to *Doctor Who*'s forerunner, the alien-hunting, rocket-building, Professor Bernard Quatermass.

And, of course, they composed the *Doctor Who* theme in 1963.

One can not consider the massive outpouring of electronic music throughout the 1980s and 1990s, particularly in the UK, in synth-pop, rave and techno, electronica and IDM, without in some way also considering the Radiophonic Workshop.

IAIN WILSON

Doctor Who Theme Tune 1963-1969 by Ron Grainer ...



VIDEO: THE ORIGINAL THEME TO DOCTOR WHO BY THE BBC RADIOPHONIC WORKSHOP

Interestingly, the original theme was written by Ron Grainer, a native of Atherton, Queensland, who had studied at the Sydney Conservatorium of Music before moving to London to work on shows like *Maigret* and *Steptoe and Son*. He had written the basic melody on a piece of paper, with instructions like 'wind cloud', and then given it to the Radiophonic Workshop to make sense of. This task fell into the hands of a fairly new member, Delia Derbyshire, a Cambridge Maths and Science graduate. Ms Derbyshire reworked the melody with the help of sound effects designer Dick Mills, using a series of tone generators and filtered white noise, to create what could now be considered the world's most recognisable theme tune.

Derbyshire was not the first woman of the Workshop. In fact, the unit had been co-founded by Daphne Oram (with Desmond Briscoe) who developed a machine that could interpret visual images and convert them into sounds. Ms Oram didn't stay long with the Workshop, leaving to set up her own studio and focus on her 'oramic' experiments, but she set a great precedent, with many to follow in her footsteps.

Those early days were exciting times for Workshop members. They were using *musique concrète* techniques, pioneered in the French Studio d'Essai by Pierre Schaeffer during the 1940s. It was a music making method that involved recording sounds onto magnetic tape and then manipulating the tape, either by speeding it up, slowing it down, or by sending it through effects units, like echo and delay. These techniques alone were used to create the *Doctor Who* theme and, despite how it may sound to ears attuned to the sound of synthesizers, the modern synthesizer was still five years away.



IMAGE: DAPHNE ORAM, ONE OF THE CO-FOUNDERS OF THE BBC RADIOPHONIC WORKSHOP



IMAGE: DESMOND BRISCOE, CO-FOUNDER OF THE BBC RADIOPHONIC WORKSHOP. (MICHAEL PUTLAND/GETTY IMAGES)

Interestingly, the Radiophonic Workshop was operating in parallel to many other international music studios and schools around the world, like the San Francisco Tape Music Centre in the US, and the slightly older WDR Electronic Music Studio in Germany, home of the composer Karl-Heinz Stockhausen. Unlike these organisations, though, the Radiophonic Workshop had been set up not for research, but for practical work. Any musical discoveries they might make would only be a by-product of their normal duty statement—making music to emotionally heighten BBC programs.

However, one of the most interesting things about the Workshop has been the inadvertent impact it has had on the audience, not just in the United Kingdom, but around the world, including here in Australia, where *Doctor Who* has played since 1965.

The very famous '80s Fairlight CMI synthesizer, used by the likes of Peter Gabriel and Kate Bush (and heard on the opening bars of Michael Jackson's

*Beat It*) was actually an Australian invention. Its co-inventor, Kim Ryrie, has said in interviews that he was inspired by the sounds of the Daleks as a child, which led him to work in this field. He would later come full-circle when the Radiophonic Workshop bought one of his synthesizers, and he would visit them in England to demonstrate how to use it.



**YouTube:** Delia Derbyshire demonstrating how she worked

One can not consider the massive outpouring of electronic music throughout the 1980s and 1990s, particularly in the UK, in synth-pop, rave and techno, electronica and IDM, without in some way also considering the Radiophonic Workshop. Kids who had grown up watching this stuff, people like Will Gregory of Goldfrapp and Adrian Utley of Portishead have spoken about a love of the Radiophonic Workshop in music interviews. The English label Mute Records, home of Depeche Mode and Cabaret Voltaire, recently released their *Electrospective* compilation, marking electronic year zero as 1958, the year the Workshop opened.

From the very beginning, the music industry kept a close eye on this mysterious Workshop that as a rule wouldn't allow them to use its equipment.

However, this didn't stop them from visiting: Brian Jones of the Rolling Stones came, and so too did Pink Floyd, just after releasing their first album, *The Piper at the Gates of Dawn* in 1967. At one point, Paul McCartney even considered working with them on *Yesterday*, as he had an abiding interest in *musique concrète*.



Unfortunately, the Radiophonic Workshop closed its doors in the late '90s, partly due to budget cuts within the BBC, but also partly due to the fact that electronic music, by this point, was absolutely everywhere—in TV weather reports, computer games, and ringtones. Anyone with a cheap PC and a decent memory could make their own radiophonic sounds.

The *Doctor Who* series spent most of the nineties in a deep sleep, reawakening after a few stops and starts in 2005, but this time without its trusty musical companion, the Radiophonic Workshop.

Slightly ironically, the *Doctor Who* theme went on to become a more 'traditional', orchestral-sounding theme under composer Murray Gold—something that it had never been before. However, the theme kept its striking melody and many sound effects, preserving its early heritage.

The most interesting thing now will be to see if a future generation of fans make this great, iconic theme into something of their own, and whether the legacy of the original Radiophonic Workshop will continue.