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## Daphne Oram, the Unsung Pioneer of Techno



Daphne Oram at the controls in the 50s



**By Giles Wilson**

BBC News Online

**Almost un-noticed by the wider world, one of the pioneers of electronic music has died. Without Daphne Oram, we may never have known what the Tardis sounded like.**

Electronic music - as much a part of today's life as whistling a tune to yourself - grew up amid milk bottles, gravel, keys, and yards of magnetic tape and wires.

These were the sort of "tools" typically scattered around the BBC's Radiophonic Workshop in the 1950s and 60s, when they were used to generate wonderful and ethereal sounds for the airwaves.

The mother of this great legacy was Daphne Oram. Aged 18, and armed with a passionate interest in sound, music and electronics, she started work at the BBC in 1943 as a sound engineer.

Initially in charge of ensuring sound levels were right for broadcast and helping to make sound effects for plays, she cajoled, worried and encouraged her employer into taking the idea of electronic sounds seriously.

## DOCTOR WHO



Delia Derbyshire joined the Radiophonic Workshop in 1962. She produced the Doctor Who signature tune. Her colleague Brian Hodgson created the sound of the Tardis by scraping his keys along an old piano's wires.

As war raged, she began to indulge her hobby after hours, in the workplace. Always a night-owl, and having initially failed to persuade her bosses to create an electronic studio, she would stay late and move the BBC's first tape recorders together to build a studio. When morning came, she would disassemble it.

"She lived music. She was as poor as a church mouse, because any money that came to her went into her music gadgets," recalls Chris Oram.

"To me she was a kindly rather eccentric aunt. But she had a very clear vision of how the computer would revolutionise electronic music."



Playing a 'mijwiz' - a Middle Eastern instrument - for a sound effect

## **Challenges**

Secretly she enjoyed the war - as well as allowing her to work in a traditionally male environment, it presented interesting technical challenges. During a concert at the Royal Albert Hall, for instance, she was responsible for ensuring the broadcast would not be disrupted by bombing raids.

Her job was to listen to the feed coming from the hall, while simultaneously playing a record of the same piece. If the live performance was interrupted, then unbeknown to listeners, she was to flick a switch to start broadcasting the recording at the exact point the live broadcast left off.

After years of trying, in 1957, Daphne's efforts to persuade the BBC to open a radiophonic workshop came to fruition. The role of the workshop was to provide background music to programmes and she became its first director.

At last she would be able to pursue her dream full-time. It was a job that brought her into contact with some of the world's leading experimental composers, including Stockhausen and John Cage.

But this exposure to "the greats" made her question her role. She began to realise her heart was in creating music for its own sake rather than as background music. She resigned and started her own studio in an oast house

Martin Cook, a friend of nearly 50 years, says the credit for founding the workshop rests solely with Daphne Oram.

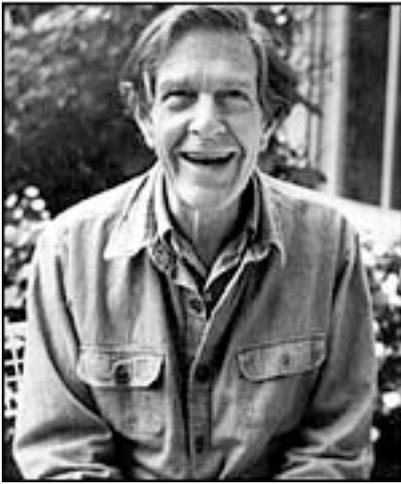
"It was only through her pushing that anything was done at all," he says. "But obviously things didn't go the way she would have wished and she took the decision to leave."

## **Success**

The Radiophonic Workshop continued without her, largely in the direction that had disappointed her so much. In fact, it was in the field of drama and sound effects that it became best known, particularly the input it had to the seminal BBC TV series Doctor Who. It finally closed in 1998.

Daphne continued composing and developed a system to convert pictures into sounds. It involved drawing on 10 strips of 35mm film, which were then read by photo-electric cells and converted into sound, and became known as Oramics.

"I was allowed to draw pictures on everything... and the machine made an amazingly bad noise," says Chris Oram. "This convinced me how clever she was because she could write music on this contraption!"



Composer John Cage, who died in 1992

Daphne Oram grasped the home computing revolution with glee, buying herself an Apple II computer in 1981. She started trying to replicate her work with Oramics on it and later an Acorn Archimedes.

But she was forced to quit her music making after a serious stroke in 1994. She moved to a nursing home while her studio at Tower Folly was burgled repeatedly before being sold.

But Mr Cook and composer Hugh Davies believe they have most of her work safely stored on 5¼-inch and 3½-inch discs.

Her Oramics machine is owned by a private collector in the West Country, but it is thought that it is not now in working order.

A very private woman, she died on 5 January, aged 77. Her passing has gone almost un-noticed, perhaps has a result of her desire to keep quiet. But you don't have to go very far to hear her legacy.

### **Your comments:**

In January 1961, as a schoolboy, I attended a lecture Daphne gave at the Mermaid Theatre in London, and was able to pass on greetings from a colleague of hers in Canada whom I had had the good fortune to meet a few months before. My first studio experience as a composer of electronic music was one year later, when Daphne invited a friend and me to stay for a weekend. I then inherited from her an unwanted commission to compile a discography of electronic music and musique concrète for the journal of the original incarnation of the National Sound Archive, which started me out on one strand of my career, as a researcher. As a composer I soon chose a different path in electronic music, concentrating on live performance, but we kept in touch. In retrospect I realise that my career has had many parallels with Daphne's own, following ten years later.

Daphne went into a nursing home in the mid-1990s. With her agreement, Martin Cook, now her heir and executor, and I were responsible for clearing her house, and we have looked after her interests ever since. In my case this has involved gradually sorting through and cataloguing her archive of reel-to-reel tapes, papers and other materials (not only the "5¼-inch and 3½-inch discs" you mention; Martin Cook still has some of these, but those I have here probably only contain software, not any musical compositions).

In spite of the several burglaries at Tower Folly, which were more in the nature of malicious break-ins, I have not identified any unexpected gaps in her archive; I only know that an expensive portable tape recorder was stolen. A substantial extract of one of her compositions, *Four Aspects*, was issued for the first time on a CD a year ago, and the complete work is due out on another CD compilation in the near future. A couple of small record labels had already expressed interest in releasing a complete CD of her music.

Since her death everything has gone into overdrive. I have had offers to set up a website and to publish a CD with a substantial booklet, which could become the principal documentation about her life and work. Obituaries have appeared in several national newspapers and on three specialist websites; one of the latter is my own 3200-word tribute, at the Sonic Arts Network (see internet links).

I am also building up an e-mail list for information updates, which will later be incorporated into the website; if anyone would like me to add their name to this, or would like to share any information about Daphne that you may have, please contact me at [hugh-davies@beeb.net](mailto:hugh-davies@beeb.net).

**Hugh Davies, London**

Like all pioneers, Daphne never knew what she couldn't achieve because she was inventing everything as she went along: not only an original artform but, as we know, some original machinery to create the sounds themselves. I once heard it described as a cross between Meccano and a chip-fryer!

Although the Radiophonic Workshop may well have subsequently developed along lines different to those of Daphne's originals, her persistence paid off in ways that millions of people have since appreciated and in which, the very fortunate few (myself included), were privileged to have participated.

Obviously Daphne was not at all superstitious, as the original Radiophonic Workshop at the BBC Maida Vale was designated Room 13! It pays to persevere.

**Dick Mills, Radiophonic Workshop, England**

What an incredible story. I am a big fan of electronic music and I even dabble myself from time to time. I had never heard of this lady before reading this article yet the work she started has influenced my music tastes since I was small. Not only was she talented but she was also persistent in that good old British way. A true icon to following one's passions.

**Matt G, France/UK**

Without Daphne's dedication and devotion to electronic music and sound reproduction, the BBC, and the wider world beyond would have been a much sadder and less creative place. The role of the Radiophonic Workshop has for too long been ignored by the BBC programme makers, destined to remain a part of their history kept alive solely by fans and Hitch-hiker's Guide to the Galaxy aficionados. Without Daphne and her cohorts we would be decades behind in our appreciation of the role electronic instrumentation can play in our music, programming, creativity and aural universe.

**Neil Gardner, England**

I first came across Daphne Oram and her work when researching a project in electronic music for my music degree. She was an inspiration to me and a real pioneer but it is such a pity to read about what became of her studio and inventions.

**Karen Manley, England**

An extraordinary woman. Her Oramics machine sounds amazing. Another great mind who sadly we have recently lost, Douglas Adams, talks about the concept of creating music from pictures, numbers etc in one of his books. I wonder if the two ever met? If not, I'm sure they would have enjoyed each others company a great deal. It's just a little sad that often we don't hear of such people until after they are gone.

**Chris Harrison, UK**

Now that is what I call a hero. Battling with one's beliefs against all the odds to succeed. Pity she did not receive an honour, it is for such people that the honour system is created and should continue.

**Greg, UK**

I think Daphne Oram's story would make a fascinating TV programme. It would be wonderful to see and hear her inventions and look into how they

shaped modern television and the shows we all remember. I'd especially like her Oramics machine to be restored - it sounds bizarre!

**James Ollerenshaw, England**

Along with Delia Derbyshire, Daphne proved that some of the true pioneers of experimental music were women. The only equivalent I can think of today would be Bjork.

**Bel Caulton, Derbyshire, UK**

I recall visiting Daphne Oram's studio in 1972 as a student researching electronic music. I was absolutely amazed by her revolutionary system, offering composers a range of facilities unrivalled anywhere in the UK, or for that matter abroad. Her evident passion for the medium was truly inspirational, and we owe her a great debt for her pioneering work, anticipating many features that are now taken for granted in the world of digital technology. In this regard she was a visionary before her time.

**Peter Manning, Durham, UK**

I was very interested in the mind of Daphne Oram - one which circumvented convention at a time when women weren't expected to be interested in anything that involved technology. Such single-minded dedication to an idea that has had such huge influence has to be impressive.

**Liz Betts-Gosling, UK**

The BBC Radiophonic Workshop was an inspiration to me when I was young. While everyone else wanted to be astronauts, I wanted to have a job there, so I was very interested to read about Daphne Oram and her work. The electronic soundtracks I heard on TV programmes in the 70s and 80s fuelled my interest in synthesisers so much that I couldn't wait to buy one and create electronic music of my own. Hats off to Daphne.

**Mike, UK**

I knew Daphne briefly, looking back now it must have been just before her stroke. She asked if I would help with the software for the Archimedes and I still remember the first time I met her we sat in her Mini eating the lunch she had prepared for us!

**Richard Windley, Sussex, UK**

Daphne was my electronic music & composition lecturer while I was studying at Canterbury in the late 80s. She was a wonderfully creative person, totally wrapped up in her field. She helped us think outside the box of our classical music training. She used to tell the story of the pop group The Who ringing her to borrow her ring modulator, and her not having a clue who they were

**Mike Whittaker, UK**

If the archive of Daphne's work is held on 5.25" and 3.5" disc, I sincerely hope it's backed up on other formats as floppy discs are notorious for degrading in a depressingly short time! The custodians of this resource should look to make multiple backups on different media to minimise the risk of loss.

**Ian Ellison, UK**

I've been a fan of electronic music for nearly 30 years and sadly was completely unaware of Daphne Oram until today. It is a great shame that she did not receive any recognition in her lifetime and that her legacy is in such poor shape. The only things I can play are a CD and an LP, but I am always listening to music and without people like Daphne, my life would be a little less rich.

**Tony, UK**

Amazing! It just firms up my belief that Classical music and Electronic music share more similarities than most people think. I wish I would have had the opportunity to have met her in person.

**Dj PhaTrix, US**

I have always been inspired by Daphne Oram. The Oramics technique has been vastly under utilised! She was a true pioneer and has earned her place in the history of electronic music. Thank you, Daphne Oram!

**Marc Doty, United States**

As a freelance dance music journalist, itself a music genre spawned by electronica, I wonder how many of today's dance music producers are even aware of this incredible story. Music, like the imagination, only thrives when the shackles of conformity and expectation are willingly discarded.

**Craig H, UK**

Daphne Oram's works should be recognised alongside those of Edgard Varese, Oscar Sala, Louis and Bebe Barron, Iannis Xenakis, and Olivier Messiaen. I would like to encourage those in possession of her legacy to donate the recordings/media to the Mediatheque at IRCAM in Paris, who preserve many history works, and make them publically accessible.

**James Clarkson, UK**

Thanks for this article about Daphne Oram. The clip from the interview is an absolute treasure.

**Peter Forrest, UK**