

TAPE LEADERS: EXCAVATING EARLY BRITISH ELECTRONIC MUSIC

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Abstract: This article questions the narrow representation of the history of much early British electronic music, and challenges the way historians and writers have tended to cherry-pick and lionize certain individuals, while ignoring all the others that fall outside of the limited and regularly repeated version of events. It is an extension of the research presented in my compendium *Tape Leaders*, conceived during 2010 with the aspiration to catalogue all the early British electronic music composers who became active before 1970, presenting a biographical entry for as many experimenters as I could trace and documenting more than 100 individuals, including hobbyist tape activists, who have never before received recognition. *Tape Leaders* presents a completely different picture to the consensus that positions the BBC Radiophonic Workshop, and a handful of others, at the centre of electronic activity in Britain, with allegedly very little else happening until universities caught on at the end of the 1960s and began to offer courses and studio facilities.

The fact that many early British composers have been ignored, and their electronic music tapes lost or thrown away, does not necessarily mean that society has been denied some remarkable treasures. That may be the case, but it is probably fairer to say that it is our understanding of the subject, and of our own musical and social history, that has been impoverished by the failure to even acknowledge the existence of a grass roots *musique concrète* and lo-fi tape movement in Britain in the very early days. The need and the value of traditional folk music heritage and conservation was recognised by the mid-20th century, yet the same importance and urgency to rescue and catalogue British electronic music tapes has failed to materialise. Preservation has been undertaken in the last few years, though it is for the most part centred on a particular composer's work, already celebrated and held by a university or institution, as with Delia Derbyshire (University of Manchester), Roberto Gerhard (Cambridge University Library), and Daphne Oram (Goldsmiths, University of London).

In writing my compendium *Tape Leaders*,¹ I traced and made contact with many of those featured, gaining access to photos and

¹ Ian Helliwell, *Tape Leaders, A Compendium of Early British Electronic Music Composers* (Cambridge: Sound On Sound, 2016), available at www.soundonsound.co/shop/books/tape-leaders-book.

materials not normally in the public domain. Many composers or their widows have been enormously helpful, and often delighted that finally someone is taking an interest in their work or that of their now deceased partner. In a few cases tapes have been salvaged that would otherwise most likely have never again seen the light of day. So when I refer to excavating early British electronic music, it has been a form of electronic archeology, trying to dig up pieces of a buried story and fit them together to form a much larger picture than has hitherto been accepted.

Background and Context for Early British Electronic Music

Particularly in the formative 1950s and 1960s, there existed a notable ambivalence about whether electronic sound and *musique concrète* could be regarded as legitimately composed music, not just by general audiences, who in the main would not naturally appreciate such a thing, but even by the people who created it. British electronic composers were generally on the back foot when defending what they were doing, and in fact often sided or at least sympathised with their critics. In an *Audio Annual* article giving the background to a developing art, Tristram Cary outlined a typical conversation with a person sceptical of electronic music, and quoted the type of exchange he had evidently experienced: 'I can't bear all this dreadful modern stuff, can you?' Confronted with such a question, Cary explained that his response would be along the lines of, 'Well, I can bear quite a lot of it, you see, because I'm sort of involved in it, though of course I don't like it all, and there's a good deal of rubbish about, always was.'²

From the outset, in Britain, music made electronically was not accepted on the same artistic level as classical music, a feeling that persists to the present day. In particular, work created by experimental amateurs and semi-professionals operating outside the system has always been taken much less seriously than that of established composers, and it has been routinely ignored and sidelined, to the point where it is effectively written out of history. A substantial amount of early British tape pieces were made for an applied purpose, as a soundtrack, or as support for a theatre production, art event, or sculpture, and this engendered a perception that electronic music was good for providing weird noises, backgrounds and sci-fi sound effects, but was not to be considered on an equal footing alongside formally composed works intended for instrumental performance.

For a major concert of British electronic music at the Queen Elizabeth Hall, London, in February 1969 – involving Don Banks, Ernest Berk, Harrison Birtwistle, Tristram Cary, Lawrence Casserley, Justin Connolly, Hugh Davies, Donald Henshilwood, Alan Sutcliffe and Peter Zinovieff – the concert programme contained an interview conducted by Zinovieff with Francis Régnier of the Paris-based *Groupe de Recherches Musicales* (GRM). Zinovieff posed the question, 'How important do you think is the quality of equipment? In this country, there is a rather hostile attitude to good equipment. How would you comment on people who think of electronic music as an amateur's hobby carried on in one's attic?'³ In his answer

² Tristram Cary, *Audio Annual* (1971), pp. 42–9.

³ Peter Zinovieff, Queen Elizabeth Hall concert programme (10 February 1969), unpaginated.

Régnier declared that ‘it would be very difficult indeed for us to conceive that any attempt at composing electronic music in amateur conditions could be taken seriously’. That Donald Henshilwood and Ernest Berk were working in their own small private studios with equipment similar to that available to amateur experimenters, yet were deemed sufficiently credible to be included in a Queen Elizabeth Hall concert, reveals the elitism and tensions between those with institutional support, in contrast to the self-funded private individuals working at home. While Zinovieff fits the latter profile, he was an exceptional case, due to substantial personal financing and the purchase of his own computer. He exemplifies the division between those with access to sophisticated, cutting edge equipment plus the benefit of technicians to build, service and update studio facilities, compared with lone workers using ageing domestic gear, and constructing or adapting their own technically simple sound generating and shaping tools.

Did the more expensive, modern equipment of the period actually lead to higher quality results? I would argue that the notion that technology must be regularly updated or replaced with newer equipment in order for progress and better music to be made is one of the great fallacies that has been perpetuated throughout electronic music’s history. Were the GRM composers achieving musical results noticeably superior to the output of home studio experimenters? Mark Brend addresses this question in a *Shindig!* magazine review:

As everyone, amateur and professional, pop musician and serious composer worked with the same limited palette of equipment, raw sounds and techniques, there was a tendency for much of the music generated to sound as if (it) came from the same place. That’s not to say that it all sounded the same. Far from it. Rather that music made for the concert hall, for a TV show or just for fun, often sounded like it was all part of the same genre. This gave rise to a curious phenomenon whereby children watching a science fiction programme could be thrilled by music that most would consider indistinguishable in type from something played in a programme of experimental new music on the South Bank.⁴

Yet it appears that the consensus has been to overwhelmingly agree with the French composers, and accept that their position – like that of many other people in various parts of the world also with top-notch studio facilities and institutional support – grants them greater aesthetic credibility and historical importance.

Writers and scholars have tended to tell the same history with the same facts, from the technological and electronic instrument perspective, though inventions such as the Telharmonium, Trautonium and Theremin actually had relatively little to do with contemporary music and electronic composition. The tape recorder, as a fundamentally useful tool and an instrument in its own right, was far more important than the synthesizer in the early days of electronic music, but it lacks the performance cachet and approval of musicians, writers and fans alike. This has kept electronic musical instruments centre stage and has overshadowed the importance of the actual music that has been made, with British tape work especially suffering. There is a wealth of books about early electronic music which describe the history of the equipment and the workings of a synthesizer, yet the majority of them are telling exactly the same technology

⁴ Mark Brend, *Shindig!* no. 59 (2016), p. 68.

focused story and paying no attention to hundreds of composers and the pieces they created.

Over time such attitudes and tensions have led to much British electronic and modern music being ignored and forgotten, and the focus and historical narrative settling on a small number of acclaimed composers, to the exclusion of numerous others. The real story of early British electronic music is that it was made by a broad mixture of people coming from across a spectrum of social and educational backgrounds – from classically trained composers and self-taught musicians, to electronics engineers, filmmakers, spare room tinkerers and working class amateur experimenters. This miscellaneous collection of largely unfunded and unsupported practitioners – many of them working with domestic equipment at home – has allowed those in academia to ignore all but a select few who broke through into a much higher profile, and gained wide exposure due primarily to commissions for film, TV or radio.

Tristram Cary's public profile was cemented with film soundtrack work for *The Ladykillers* (1955) and *Quatermass and the Pit* (1967), and his place in electronic music history and the public consciousness has remained steady, due largely to the abiding interest in BBC Television's *Doctor Who* series, for which he scored a number of stories, including the first appearance of the Daleks in 1963. Daphne Oram's fortunes have waxed and waned over several decades, beginning with recognition for her role in establishing and initially organising the BBC Radiophonic Workshop, continuing with her private studio work during the 1960s, and commissions from the likes of Shell Films, Schweppes, British Transport Films, English Electric and Lego. In later years her reputation dwindled and her Oramics drawn-sound experiments faded into obscurity, only to be resurrected with a Science Museum exhibition unveiled in July 2011, and a strong revival of interest in her work overall. Ernest Berk's standing has taken a quite different course however. He received a number of film soundtrack commissions from noted film director and editor David Gladwell in the 1960s and 70s, and his dance, choreography and electronic music earned him acclaim and performances across the UK and Europe. After his final compositions, made as an elderly man in the 1980s, his reputation as a 1950s pioneer fusing electronics and dance has declined to such an extent that today his name is rarely mentioned in electronic music history.

One explanation for the resistance shown to electronic experimentation by many in the music establishment – aside from the justifiable fear that it would put trained musicians out of jobs – is that a level playing field effect was created by the availability of new tape recording technology. For the first time it was not necessary to read music or to have studied it at graduate level to produce highly credible compositions, and this represented a direct challenge to the traditional hierarchies and privileged elites that dominate British society and its management of the arts. There remains a built-in snobbery within the establishment about what is legitimate as serious music, and what constitutes good music, and that was fundamental to the perception of electronic composition right from the start. Celebrated composers on the continent were seen as trailblazers of electronic modernism, while their classically trained counterparts in Britain were generally slow or unwilling to embrace the new tape music techniques. Had composers in this country of the generation and stature of William Walton, Michael Tippett or Benjamin Britten embraced electronic composition the story could well have been different. Of that age group it was instead

left to Spanish migrant Roberto Gerhard, who settled in Cambridge following the Spanish Civil War, to take up the tape recorder and splicing block and pursue his own electronic experiments. These were often carried out in conjunction with the BBC Radiophonic Workshop and, aside from his Symphony No. 3, *Collages*, they have until recently remained largely unavailable.⁵

When assessing the output of a range of British tape composers it is evident that many of them struggled to find outlets or commissions, and were driven by economic factors to compose in commercial fields. Some of them found job security in academia, with teaching posts at universities, while quite a number carried on prolific composing activity with soundtracks for advertising, industrial and feature films, and tape sounds made for library music publishers. Opportunities for electronic music were fairly limited, and while commercial work brought in decent pay packets, there was little or no critical acclaim, no matter how skilled or imaginative the individual pieces. Tristram Cary had been at the forefront of British electronic music since the very earliest days, and had built up a solid reputation with a wide range of film soundtracks, and a string of commissions for radio and TV. However, by the mid-1970s he was tempted to emigrate to Australia where fresh openings and greater acknowledgement awaited (he was awarded the Medal of the Order of Australia, for services to Australian music, in 1991). Although always easily switching between purely electronic, electro-acoustic, and conventionally scored music, in his final years he had settled solely on instrumental works and told this author in 2004 that he was regretful that he did not have a body of symphonies or string quartets to his name. Somehow, 50 years of electronic composition and being one of the first people in the world to start investigating the manipulation of electronic sound did not carry the same acceptance and kudos for him.

Since starting to track down and examine the many hobbyist magazines from the 1950s to the early 1970s that catered for tape recording and electronics, including *Tape Recording*, *Amateur Tape Recording*, *The Tape Recorder*, *Practical Wireless*, *Practical Electronics*, *Wireless World*, *Radio Constructor* and *Everyday Electronics*, I have become aware that amongst ordinary people there was a substantial amount of suspicion, even hostility, towards experimental electronic music. Many didn't get it and couldn't understand why other folk would want to make and listen to such sounds. Typifying this attitude was a letter to *Tape Recording* magazine in September 1958 by correspondent David Harding, who professed to have been making *musique concrète*, but considered it, 'neither music nor art.'⁶ He went on to claim that 'the listener derives no pleasure from these eccentric compositions; the most he can do is to marvel at the techniques'. This wider adverse mood extended to record label managers and producers, creating a vicious circle. British electronic music was rarely released on record for the public to listen to at home, and rather like a contradictory 'Mary Whitehouse effect' – deploring a TV programme on its advance reputation before it had been transmitted – people would be critical about something they had not had the chance to listen to properly. The lack of record releases, especially when compared to European neighbours France, Germany and the Netherlands,

⁵ See, for example, the anthology CD *Roberto Gerhard - Electronic explorations from his studio + the BBC Radiophonic Workshop 1958–1967*, Sub Rosa, 2014.

⁶ *Tape Recording* (September 1958), p. 44.

has further contributed to the mistaken impression that little British electronic music was being made beyond the BBC Radiophonic Workshop. From the 1990s onwards, CD reissues and newly compiled anthologies of *Doctor Who* and various other Radiophonic sounds and music have only reinforced this perception.

Electronic music made in academic institutions and broadcasting stations automatically had an advantage over that made in private studios: it had establishment support, the stamp of approval from people in positions of power and influence, and it would be more likely to be given an airing in concerts, broadcasts or events. It would normally have been documented as part of the output of the institution where it was made, and thereby given some form of acknowledgement and a foothold in history. Since the 1968 publication of the *International Electronic Music Catalog*, compiled by Hugh Davies,⁷ there has been no-one to champion and chronicle amateur electronic music, and scant information has been collected on the work from private home studios. The demarcation between amateur and professional tape composition can be difficult to pinpoint, and there exists an obvious paradox when examining early electronic music: there is simultaneously a fine line and a massive gulf between the two worlds. To highlight this divide and ambiguity, I will touch on the work of two composers. I use the word 'composers' as I think that rightly puts them on an equal footing to those operating in the realm of serious classical music, even though they would not necessarily have recognised or applied that term to themselves.

Two Case Studies: Stuart Wynn Jones and F.C. Judd

Stuart Wynn Jones was employed in advertising in a professional capacity, while in his spare time he was a highly accomplished filmmaker, creating his own animations and electronic music soundtracks starting in 1955. He straddled the experimental film and music worlds – not an advantageous career move in this author's experience – and of the few examples I have managed to access of his work he appears to have reached a level easily the match of anyone in the professional field. Nowadays he receives the double indignity of being ignored and forgotten by both the music and the filmmaking establishment. But it wasn't always like that: one of his abstract films with electronic sound was shown in competition at the Brussels World's Fair in 1958, with artist Man Ray, composer Edgard Varèse and filmmaker Norman McLaren on the judging panel. Another of his experimental films was included in a major concert of British electronic music at the London Planetarium in March 1968. So while he was working at home in his spare time on his own creative projects, with extremely limited equipment, he was achieving a standard that was recognised and acclaimed by professionals.

Following in the footsteps of Scottish-born Norman McLaren, whose films were widely distributed and supported by the National Film Board of Canada for much of his career, Wynn Jones investigated synthetic sound via the creation of optical film soundtracks. Perhaps his earliest and most striking example in this field can be found in his two-minute animation, *Short Spell*, from 1956. Calculating divisions of a film frame based on frequency ratios, he was able to draw different tones with control over pitch and timbre, by varying the size,

⁷ Hugh Davies, *International Electronic Music Catalog* (Cambridge, MA: MIT Press, 1968).

shape and spacing of hand-drawn dots and lines. *Short Spell* represents a kinetic alphabet, with both picture and sound applied directly to clear 35 mm film stock, displaying a mastery of synthetic sound and direct animation techniques. He went on to develop a range of painted cards, each one featuring a different waveform pattern, which could be photographed individually with a specially adapted 16 mm camera. Using animation to capture the waveforms onto the soundtrack part of the film, a synthetic sound composition could be built up gradually frame by frame.

At the same time as holding a regular full-time job, being an active member of the London based Grasshopper Group of amateur and semi-professional filmmakers and enthusiasts, and creating his animated short films, Wynn Jones was writing articles for *Amateur Cine World* magazine, encouraging hobbyist filmmakers to take up animation and make experimental soundtracks of their own. He was interviewed for *Amateur Tape Recording (ATR)* magazine which was edited by F.C. Judd, and this revealed a skilful practitioner of sound and vision, modestly combining craft and art into a stimulating union. The ATR article concluded with this typically self-effacing observation from Wynn Jones: 'our lives are conducted in such crowded circumstances nowadays that neighbours do have a point when they suggest that one ought to do these experiments in a padded cell.'

The careers of both F.C. Judd and Stuart Wynn Jones oscillated between amateur and professional status, perhaps not confident about where they properly belonged. They each achieved recognition at their peak, but then moved on and gradually slipped out of view until they became more or less unknown. The British Film Institute lists most of Wynn Jones's short films, made from the mid-1950s to the 1980s, but very few are available for screening publicly. This means the discussion, evaluation and appreciation of his work is problematic at best, and unless an institution or person in a position of influence comes forward to help this frustrating situation is likely to continue for the foreseeable future.

Coming from an engineering background, Fred Judd typifies much of the same British technical skill and ingenuity as Stuart Wynn Jones, and they both shared an impulse to disseminate the techniques they had developed, to encourage the common man or woman to have a go at creating something experimental. Judd was one of the key proselytizers of electronic music during the 1950s and 60s, and as well as writing dozens of articles on the topic he travelled up and down the country giving lectures and demonstrations to members of a sprawling network of amateur tape clubs. For a time, at least, he must have felt energised by the idea of using his engineering skills to build his own equipment, construct his home studio, and then make the kind of tape music that had hardly been heard before. Yet there is a sense of ambivalence about whether the kinds of pieces he was producing were that of a composer and, ultimately, whether he was making music that was worthwhile and that people would want to listen to. When I spoke to his widow Freda in 2010 it was clear that, although she was extremely proud and supportive of her husband's work, she thought *musique concrète* was a strange and unfathomable noise. I suspect that in Fred's working-class milieu in the 1960s, there were many who shared her opinion. It becomes apparent that over time he was worn down by a dearth of encouragement and a lack of acceptance from the general public.

In 1956 he wrote a two-part article for *Radio Constructor* magazine entitled 'Effects with a Tape Recorder.'⁸ This was an example of him merely dipping his toe into the waters of experimental music, and it involved his explanation of various modifications to the tape machine. By 1960 he had clearly stepped up a gear, with his own home studio well established in the suburbs of east London, and the appearance of his article, 'How to Make Modern Music with a Tape Recorder', in *ATR* magazine in November that year.⁹ The piece is illustrated with photos of him and his studio equipment and a shot of Daphne Oram at the controls of her Brenell tape recorders in her Tower Folly studio. It should be noted that in so many of the articles I have discovered written by British electronic music-makers, it is actually quite rare for them to reference work by their British colleagues. Far more often they rely on the tried and trusted names of Pierre Schaeffer, Karlheinz Stockhausen and Luciano Berio to exemplify the widespread work that was being carried out. The pattern is set very early on for those important and well-documented names to dominate the narrative of early electronic music, to the exclusion of many other people in this country who were creating convincing and innovative compositions. For instance in his 1975 book *The New Music*, British composer and writer Reginald Smith Brindle states in his chapter on electronic music that, 'The first electronic music studio was established at the Westdeutscher Rundfunk, Cologne, in 1951 under the directorship of Herbert Eimert.'¹⁰ This frames the history from an establishment, institutional perspective and ignores the fact that Tristram Cary is documented in the *International Electronic Music Catalog* as having started assembling his home electronic studio in 1947, or that Louis and Bebe Barron established their private studio in New York the following year.

Fred Judd opened his November 1960 *ATR* article with these positive words of encouragement for tape activists,

The composer of electronic music or musique concrète has little need to offer justification of his work. He can regard it as an experiment in an unexplored field, and can supply musical motive by pointing to the fascination of creating new sounds.

In December 1962, writing for *Radio Constructor* magazine, Judd reflected on 'Electronics in Third Stage Music', and after a general overview of the subject he adopted a distinctly contrary position. He commented, 'During its short history, electronic music has suffered a considerable setback because of failure on the part of its innovators to produce compositions acceptable to the general public.' He went on to say

Other problems have been lack of awareness as to its real potential, acoustical unfamiliarity on the part of the listener, and the presentation of material aimed to provide "novelty value." The science fiction and horror film has done a great deal of harm with soundtracks of "atonal bleeps" and "electronic shrieks," which amount to nothing more than unflattering imitations of the real thing, produced with the aid of an audio tone generator and a tape recorder.¹¹

This last point is very curious indeed, as Judd had set up the label Castle Records and was closely involved with Contrast Sound

⁸ F.C. Judd, 'Effects with a Tape Recorder', *Radio Constructor* 9/12 (1956), pp. 763–5.

⁹ F.C. Judd, 'How to Make Modern Music with a Tape Recorder', *Amateur Tape Recording* 2/4 (1960), pp. 14–15.

¹⁰ Reginald Smith Brindle, *The New Music* (Oxford: Oxford University Press, 1975), p. 104.

¹¹ F.C. Judd, 'Electronics in Third Stage Music', *Radio Constructor* 16/5 (1962), pp. 329–31.

Productions, specifically to record and make available sound effects discs. The Castle releases included three 7" EPs of his electronic music, the first of which, from 1963, contained a whole side of science fiction type sounds intended to be used as sound effects by amateur recordists. The same year he created the score for the ITV puppet show *Space Patrol*, a children's science fiction series, which exhibits his atmospheric and uncompromising electronic music. His equivocal position is further illustrated in his book *Electronics in Music* published in 1972. He explained that he once contacted the Philips record label about a potential release, and they pointed out to him that, 'the demand by the public for electronic music was just not sufficient to warrant the production of gramophone records'. Judd goes on to add that 'in view of some of the dubious avant-garde warblings at that time (circa 1960) this was not surprising'.

Throughout the 1960s Judd had been on a mission to spread the gospel of electronic music to the masses across the British Isles, delivering a series of articles and lectures focused on the subject. Ferrograph tape recording equipment first became available in 1948, and during the 1950s dozens of other manufacturers entered the market, driving down prices to an affordable level within the reach of a sizeable number of ordinary working people. Considering the extensive ownership of tape recorders, Judd encouraged those at home or attending tape clubs to try their hands at musique concrète and make their own experimental compositions, and his articles and books were written clearly from a practical 'how to do it' standpoint. By the early 1970s, however, he had undergone a significant change of heart, and had this to say in *Electronics in Music*: 'Knowledge of how to compose electronic music can be obtained only by special training courses available at universities and schools of music.' He further observed, 'Indeed this writer makes no claims whatsoever as a music composer, but was in fact awarded a first prize for electronic music in a professional contest.'¹²

Clearly a strong sense of ambivalence existed in Judd's attitude towards tape composition, and it appears that he did not need the establishment or critics to dismiss and sideline his or his colleagues' work in the field: he was already starting to do that himself. After his 1972 book he left electronic music behind for good, and it is only in the last few years that there has been an opportunity to assess his very worthwhile contributions. All of his extant tracks are collected on the anthology CD, *F.C. Judd – Electronics Without Tears*, released in 2011 on the small independent record label Public Information.

While Fred Judd and many other electronic composers became disenchanted or simply moved on to pastures new, there were some, such as Ernest Berk, Peter Keene and Steve Duckworth, who stuck with experimental electronic music over several decades, and never lost their interest. Beginning in the 1950s, Berk, born in Cologne in 1909, maintained his electronic work through to the mid-1980s, and even his final recordings made as a pensioner, reveal a raw hard-edged sound undiluted by outside changes in fashion. He eschewed new-fangled technology in favour of the outmoded equipment that he had started with in the 50s, and for which he retained a personal affinity. During his long career as dancer, choreographer and composer, he created around 200 tape compositions, but only a handful of these have had a limited release on record, and most remain unavailable.

¹² F.C. Judd, *Electronics in Music* (London: Neville Spearman, 1972).

In contrast to the disillusionment of Judd, Duckworth (b. 1948) and Keene (b. 1953) are unusual in continuing their electronic experiments from boyhood to the present day, and their enthusiasm for the subject remains refreshingly undiminished. Like Judd and Stuart Wynn Jones, however, their modesty and lack of self-promotion has seen them garner next to no recognition in electronic music circles. Duckworth has tended to distribute his music to a small group of friends and contacts, and has consequently been left unheralded. Keene has applied his technical skills and knowledge to audio-visual and sculptural projects, developing a marvellous range of idiosyncratic electronic contraptions. With his emphasis on mixed media work for gallery shows operating on the fringes of electronic music, he has similarly been unjustly overlooked, though he has found some measure of commercial success in the art world. Wynn Jones, Judd, Duckworth and Keene represent the tip of a substantial undiscovered iceberg, and though their achievements are not celebrated, it should not mean that they and their fellow unsung experimenters are deemed unworthy of serious investigation and study.

Cage and Beyond

The amateur tape clubs that spread right across the country, and the ownership of over two million tape recorders in Britain by the mid-1960s, represents a futuristic post-war folk music: a garden shed musique concrète movement, responding in a DIY make-do-and-mend manner to the climate of modernity and science fiction that had gathered pace since the end of the second world war. The space race between the USA and Soviet Union superpowers – with the drive to launch satellites into orbit, and get the first astronauts on the moon – created a climate in which science and technology were considered exciting developments in a new and better world. Manmade machines and spacecraft were generating electronic noises by default, and the possibility of harnessing those types of sounds for music, was in the air across the world. On a more earthbound level were the multi-million-pound World's Fairs held in Brussels, Seattle and New York in the late 1950s and 60s, culminating in Expo 67 in Montreal and Expo 70 in Osaka. These were spectacular space age events usually held for six months and attended by tens of millions of people, and experimental electronic music had a widespread and inspiring presence. That was all part of the zeitgeist of the era in which electronic music was born, but it was a relatively short and rapidly changing time.

Over many years the discussion of experimental music history of the mid-twentieth century has tended to sidestep the excitement generated by electronics and its penetration into the hearts and minds of ordinary working people. Instead the focus has settled on a select group of European and American composers, with John Cage most often taking centre stage. While his importance and influence is undeniable, the constant referencing of his name exaggerates his significance, and becomes a lazy and unhelpful shorthand applied to a rich and complex subject. The existence of a grass roots, tape recorder-driven 'futuristic folk music', which developed through the 1950s and 60s has not been recognised; when discussing British experimental music of the post-war period, the tendency is to reach for the circle of people surrounding Cornelius Cardew and the Scratch Orchestra, or those of the 'Manchester School' (Birtwistle, Maxwell Davies, Goehr et al.). The work of electronic music composers in

Britain hardly gets a look in, and through the longstanding lack of information, it often gets excluded from the discourse.

By the early 1990s I had already started making my own electronic music in my bedroom studio, and was intrigued to hear or read about any of the pieces that had been made in the 1950s and 60s. I borrowed the book *Experimental Music* by Michael Nyman, first published in 1974,¹³ and was keen to pick up any information on the history of electronic music. The subtitle is 'Cage and Beyond', so understandably the text is heavily weighted towards the John Cage school of thought, but many other composers come under consideration, including American tape exponent Richard Maxfield and live experimental groups AMM, Sonic Arts Union and MEV. A glance through the index reveals that of the 100 composers documented in *Tape Leaders*, only one (Brian Dennis) is mentioned in Nyman's volume. Of course, Nyman was under no obligation to write about British *musique concrète* and electronic sound, but, perhaps inadvertently, his book has set the conventions for discussing post-war British experimental music – framing it in terms of people like Cornelius Cardew, Gavin Bryars and John Tilbury – while completely ignoring Ernest Berk, Tristram Cary, Daphne Oram and a hundred or so others. Those involved with electronics in scored and improvised music, such as Lawrence Casserley and Hugh Davies, and the groups Gentle Fire and Intermodulation, are also omitted,¹⁴ with the absence of Gentle Fire being particularly pertinent, in that the group performed compositions by many of the figures on whom Nyman focuses: Christian Wolff, Cornelius Cardew, Morton Feldman, Alvin Lucier and John Cage.

In addition to Gentle Fire and Intermodulation, the 1960s in Britain saw Half Landing, as well as Unit Delta Plus in conjunction with the Hornsey Light/Sound Workshop, all active with electronics in performance in the second half of the decade. Lawrence Casserley and the group Hydra were up and running in the early 1970s, and Ernest Berk and his Dance Theatre Commune were already long established in the crossover world of dance, performance and electronic music. This area of British mixed-media activity needs much deeper investigation, particularly as a veil of obscurity surrounds many of the key players. Audience eyewitness accounts can be few and far between, and the memories of protagonists are often hazy or dismissive when looking back to fresher faced experiments carried out with unsophisticated equipment. The very lack of advanced computer processing, and the mass of dials, switches and whirring tape spools on stage, is in fact one of the most appealing aspects to the modern eye and ear, so accustomed to backs of laptop screens facing the audience and minuscule hand movements controlling software, which for all anyone knows could be totally pre-programmed.

Conclusion

Early British electronic music – made before high-tech equipment became available, and before those raw kinds of sounds started to be considered unacceptable for mainstream audiences and were gradually watered down and filtered out – still has a strange, compelling

¹³ Michael Nyman, *Experimental Music: Cage and beyond* (New York: Schirmer Books, 1974).

¹⁴ Berk, Cary and Oram are also absent from *A Guide to Electronic Music* by Paul Griffiths (Thames and Hudson, 1979), and *Electronic and Experimental Music* by Thom Holmes (London: Routledge, 2002).

and abrasive edge. Unlike old style folk music, trad jazz and skiffle, which all have more-or-less fixed templates and familiar instrumentation, electronic music has always been in a state of flux, with users and manufacturers of equipment constantly redesigning and updating and quickly moving on, whilst severing some of the connections with the roots of *musique concrète* and experimental electronics. The early British music with its unrefined sounds and magnetic tape loops, and already suffering from a lack of exposure and recognition, was quickly regarded as a primitive passing phase, and a cleaner, more streamlined digital approach eventually became the dominant model for composition and recording.

It would be spurious to claim that there were tens of thousands of *musique concrète* devotees across Britain during the 1950s and 60s, absorbed in making and listening to experimental tapes and regularly attending live electronic concerts. Nevertheless, it appears there was an ardent following for electronic music, operating amidst indifference and sceptical reactions from music critics and the public at large. As time has moved on this interest and activity has been underacknowledged or completely overlooked, to the point where much of the evidence has been lost or remains hidden away. Since my research began in earnest in 2009, and I started meeting composers or their next of kin, reel-to-reel tapes have been unearthed and salvaged, including recordings by F.C. Judd, Malcolm Pointon, Cyril Clouts, George Newson and Peter Keene. In most cases these tapes were not digitised and represented the only surviving documentation of the work.

The creative endeavours of many people in Britain who worked in home studios with makeshift or self-built equipment – battling against the limitations to experiment in a new medium – have been ignored for far too long. Their tapes have effectively been regarded as worthless and of no historical interest to the outside world, revealing a fundamental injustice, and a consideration of value and artistic worth based on status or commerciality. It is true that British composers were often their own worst enemies in failing to fully acknowledge their personal achievements, or neglecting or dismissing their early electronic work. It is fair to say that a simplified, selective and convenient history favours the powerful and influential, and it inhibits the understanding of what is a fascinating yet inadequately researched subject. I hope that my work with *Tape Leaders*, and the probing of others prepared to challenge the orthodoxy and narrow representations of the recent musical past, will make some difference and at least provide an improvement in our understanding. Much of the early British electronic music was made by self-taught independents and mavericks operating outside of the system; it seems ironic that it is exactly the same kind of people in today's world who must reach back and uncover their predecessors' untold stories.