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Proceedings Paper:

Les Musiques Électroacoustiques: Construction of a Discipline

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For the past 3 years I have been studying the work of the English musicologist Hugh Davies. Davies was well-known as a performer, and builder of his own idiosyncratic electronic musical instruments, but in this presentation I will be focusing on his work as a researcher and documenter of electronic music during the 1960s. My hypothesis is that Davies redefined what electronic music was during that period, and, that his definition of electronic music still holds true today (at least as far as electronic music in an academic context is concerned). My argument is that Hugh Davies constructed the discipline of what is now known as electroacoustic music.

Two questions are as follows. First of all, how did Davies go about constructing a discipline of electroacoustic music? To answer that question I will examine Davies's published and unpublished research work from 1961–1968. Second, to what extent was he successful? Or, to put it another way, to what extent has Davies's definition of electronic music been accepted? To answer this second question I will examine subsequent published literature and projects from 1968–2012 that have cited or been based on Davies's work, and show how the structure of Davies's model of electronic music is reflected in this subsequent work.

The strategies that Davies used to construct his own discipline of electronic music were as follows. First, he mapped the existing territory of electronic music in a number of documents and publications between 1961 and 1964. Then, from 1966–1968, he adjusted and extended the map to meet his own specifications, providing, in effect, a new model—a new vision—of electronic music. Third, while he was doing this he also made sure that he fought off any competition, so as to ensure that it would be his map—not someone else's—that would define electronic music in the future.

Davies started to map the territory, first of all, with a brief and sketchy 'Survey of Electronic Music and Musique Concrète' (written while he was still at school),[1] then with a discography in which he started to catalogue electronic music on record and tape (started in 1962, published in 1964, supplement in 1966),[2] then by writing an extended historical overview for his undergraduate dissertation,[3] then—in an article entitled 'New Directions in Music'—by providing a set of hypotheses on future developments.[4] In these studies Davies identified a number of different disciplines, published discourses, and countries in which relevant activities were taking place. Musique concrète—the discipline of music with recorded every-day sounds—was practiced in

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[1] Hugh Davies, 'A Survey of Electronic Music', 1961. (Unpublished essay, Hugh Davies Archive, The British Library.)
[2] Hugh Davies, 'A Discography of Electronic Music and Musique Concrète', Recorded Sound: The Journal of the British Institute of Recorded Sound, 14 (1964), 205–224; Hugh Davies, 'A Discography of Electronic Music and Musique Concrète: Supplement', Recorded Sound: The Journal of the British Institute of Recorded Sound, 22-23 (1966), 69–78.
[3] Hugh Davies, 'Electronic Music and Musique Concrète: An Historical Survey' (Oxford, 1964).
[4] Hugh Davies, 'New Directions in Music', The New University, 12 (1963), 8–17.

France and discussed in a book by Pierre Schaeffer;[5] Elektronische Musik—music with electronically generated sounds—practiced in Germany and documented by Eimert and Stockhausen;[6] and 'computer music' in the United States (Illinois), described in a book by Lejaren Hiller and Leonard Isaacson.[7]

In the early 1960s a lot of activity took place in isolated disciplinary, discursive, and geographic enclaves as just described. What Davies did that was original and innovative was to begin to write about these fragmented disciplines as if they were the constituent parts of single praxis, and began to place the various fragmented discourses into a single historical narrative of electronic music. (This process had already started to some extent, as reflected in some of the literature from this period. Two other books mentioned in Davies's research are Prieberg's Musica ex Machina[8] and Judd's Electronic Music and Musique Concrète,[9] both of which attempted some degree of generalisation rather than focusing on a single individual discipline. Davies was rather critical of the latter, but described the former as 'the most useful book yet issued, [...] unfortunately not yet translated into English.'[10] My suggestion is that Davies took this process of generalisation further than any preceding author had, and in rather different directions.)

Davies also began to identify activities in countries less usually associated with the genesis of electronic music, such as Poland and Japan. Davies thought that it was important for countries to retain their national identities, musically speaking, because he felt that the international cross-fertilisation of distinct musical traditions was a potent force of musical innovation.[11] Because national identity was important for Davies, he tended to classify things by nationality, and we see that reflected in his writings of this period.[12]

Having mapped the existing territory, Davies then began to adjust and extend the map to his own specifications, providing in effect a new model of electronic music. He did this by compiling and publishing what was his 'magnum opus' of this period—a 330 page volume entitled Répertoire International des Musiques Électroacoustiques / International Electronic Music Catalog, started in 1966 and published in 1968.[13] In the Catalog Davies attempted to list every single piece of electronic music in existence, anywhere in the world. He also produced appendices that identified all uses of electronic music in Poetry, Jazz, Sculpture, Painting, and a number of other interdisciplinary areas. In other words, he expanded his initial map of electronic music by adding extra disciplines; by documenting the existence of electronic techniques in areas not traditionally associated with art-music composition. The Catalog is arranged alphabetically by country, representing a continuation of Davies's tendency to classify by nation, and also ensuring that all countries—including less well-known ones—were represented equally. Within each country, individual studios are listed, and under each studio there is a chronological list of the compositions realised there, including details of the composer, title of the work, the duration, the number of channels, and so on. The composers are all listed in an index at the back of the Catalog, so that it is possible to discover all of the works of a particular composer. The lists of electronic music works were classified according to their function:

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[5] Pierre Schaeffer, *À la recherche d'une musique concrète* (Paris: Éditions du Seuil, 1952).

[6] Herbert Eimert and Karlheinz Stockhausen, Electronic Music, Die Reihe (Theodore Presser, 1955), I.

[7] Lejaren Hiller, *Experimental Music : Composition with an Electronic Computer* (Westport, Conn: Greenwood Press, 1959).

[8] Fred K. Prieberg, Musica ex Machina: Über das Verhältnis von Musik und Technik (Berlin: Ullstein, 1960).

[9] Frederick Charles Judd, Electronic Music and Musique Concrete (London: Neville Spearman, 1961).

[10] Davies, 'A Discography of Electronic Music and Musique Concrète', p. 207.

[11] Davies, 'New Directions in Music'.

[12] Davies, 'A Survey of Electronic Music'; Davies, 'New Directions in Music'; Davies, 'Electronic Music and Musique Concrète'.

[13] Hugh Davies, Répertoire International Des Musiques Electroacoustiques / International Electronic Music Catalog (Paris & Trumansburg, NY: Groupe de Recherches Musicales de l'ORTF & Independent Electronic Music Center, Inc., 1968).

as seen in Figure 1, the system of classification devised by Davies included works intended for concert performance, or as a sound-track for a theatre performance, or intended for radio broadcast, and number of other categories. This was another way in which Davies sought to classify electronic music in a way that made it his own: by defining the various categories into which works of electronic music could fall.

| Standalone music | Applied music | |
	Live	Recorded
C (tape)	O (opera)	F (film)
C+ (tape & insts.)	B (ballet)	R (radio)
C* (live electr.)	Th (theatre)	TV (television)
	MT (music theatre)	D (disc)
(c = concert)	Sn (sonorisation)	In (interval signal)
		St (study)

Figure 1. **Functional classifications of 'electronic music' used by Davies in the Catalog.**

When Davies compiled the Catalog, he sent a questionnaire to studio managers. In it, he did not ask completely open questions, but rather, he asked about particular things. For example, Davies specifically asked studio managers to provide information on electronic music that was connected with painting or sculpture. He did not ask (for instance) about electronic music works involving dance. If he had asked studio managers about electronic music in dance, one wonders, how might the picture painted by the Catalog be different? Davies also asked studio managers to classify the electronic music works realised at their studios according to his own predetermined system of functional classifications (see Figure 1). Studio managers were not allowed to invent their own classifications: they had to pick from one of the options that Davies had prescribed. If Davies had allowed studio managers to specify their own classifications, again, one wonders, how might the emerging picture have been different? The point I'm making here is that Davies, to some extent, shaped the answers he received according to the questions that he asked, and this is one of the ways he designed a model of electronic music to meet his own specifications.

When he was compiling the Catalog, as mentioned, Davies made deliberate efforts to fight off the competition. For example, a musicologist based at a university in the United States—Dr Sven Hansell—had produced a document entitled 'A Provisional List of Electronic Music Compositions,'[14] which was dated February 1966—several months before Davies had even started work on his Catalog. Through quite a long series of letters and correspondence[15] Davies eventually made sure that Hansell would not publish his Catalog commercially, thus ensuring that his own project would not have any major competition.

Turning now to my second question, to what extent was Davies successful in defining electronic music? To what extent has the model of electronic music built by Davies in the 1960s been accepted? The Catalog was published in 1968, and since then, quite a substantial body of literature

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[14] Sven Hostrup Hansell, A Provisional List of Electronic Music Compositions (University of Illinois, School of Music, Experimental Music Studio, 1966).
[15] Hugh Davies, letter to Sven Hansell, undated c. February 1967; Sven Hansell, various letters to François Bayle, Henri Chiarucci, Hugh Davies, Robert Moog, and Reynold Weidenaar dated between 8 February 1967 and 23 May 1968. Unpublished.

has cited it. What we find is that the structure of the Catalog is quite conspicuously reflected in that body of literature, as shown in Figure 2. For example, there are a number of studies that focus on the electronic music of a particular nation or geographic area, reflecting the Catalog's alphabetic organisation by country.[16] There are studies that focus on a particular studio,[17] or on a particular composer,[18] because those things are quite easy to look for in the Catalog. There are also a number of published articles that are based on one or other of the Catalog's appendices, for example an article on the history of electro-acoustic approaches to sound poetry.[19] There are even some published articles that are based upon the 'number of tracks' column in the main part of the Catalog. Simon Emmerson, for example, makes the observation that the first experiments in multi-channel sound—conducted at the GRM in Paris in the early 1950s—were carried out quite some time before multi-channel tape-music became common. In other words, multi-channel sound was 'invented' (if you like) as a live performance activity, and it wasn't until later that it was used in the studio. The data that Emmerson uses to back up that argument is the data that appears in the 'number of channels' column in the Catalog, which shows that almost all the works at the GRM studio were monophonic up to 1958, some 7 years after the live performance experiments in multi-channel sound.[20] Elsewhere, Manning makes use of the 'tracks' column in a similar way.[21]

Organisational features of the Catalog	Bodies of literature citing it
Organised alphabetically by country	Studies focusing on electronic music of a particular nation / geographic area
Organisation by individual studios	Studies that focus on the output of an individual studio
Composers indexed	Studies that focus on the work of an individual composer
Appendices mapping out different disciplines	Studies looking more closely at those disciplines
Works listed under a number of headings	Studies making use of the information under those headings

Figure 2. Organisational features of the Catalog versus bodies of literature citing it.

There are also at least two quite prominent text books that use the data contained within the Catalog as the basis for making some quite general assertions about the nature of electronic music history. Manning, in Electronic and Computer Music, talks about an 'exponential growth' in electronic music during the 1960s and uses statistics from the Catalog as the proof of that.[22] Similarly, Thom Holmes, in Electronic and Experimental Music, notes that the number of electronic music studios worldwide

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[16] For example: Ricardo Dal Farra, 'Something Lost, Something Hidden, Something Found: Electroacoustic Music by Latin American Composers', Organised Sound, 11 (2006), 131–142; Petri Kuljuntausta, First Wave: A Microhistory of Early Finnish Electronic Music (Helsinki: Like, 2008); Libor Zajicek, 'The History of Electroacoustic Music in the Czech and Slovak Republics', Leonardo Music Journal, 5 (1995), 39–48.

[17] Mikko Ojanen, 'Helsingin yliopiston elektronimusiikkistudion varhaisvaiheet', 2012 <https://helda.helsinki.fi/handle/10138/37412> [accessed 3 March 2013].

[18] For example: Gregorio García-Karman, 'Roberto Gerhard's Tape Collection: The Electronic Music', in Proceedings of the 1st International Roberto Gerhard Conference: may 27-28th 2010, 2010, pp. 107–122 <http://www.robertogerhard.com/wp-content/uploads/2011/10/15-Karman.pdf> [accessed 20 May 2013]; Francesco Giomi, 'The Work of Italian Artist Pietro Grossi: From Early Electronic Music to Computer Art', Leonardo, 28 (1995), 35–39.

[19] Larry Wendt, 'Sound Poetry: I. History of Electro-Acoustic Approaches II. Connections to Advanced Electronic Technologies', Leonardo, 18 (1985), 11–23 <doi:10.2307/1578088>.

[20] Simon Emmerson, Living Electronic Music (Ashgate Publishing, Ltd., 2007), p. 150.

[21] Peter Manning, 'The Significance of Techné in Understanding the Art and Practice of Electroacoustic Composition', Organised Sound, 11 (2006), 81–90 <doi:10.1017/S1355771806000112>.

[22] Peter Manning, Electronic and Computer Music (Oxford University Press, 2004), pp. 401–2.

increased dramatically between 1948 and 1966, again using statistics drawn from the Catalog to prove this.[23]

Landy, in an article on the musicology of electroacoustic music, even goes so far as to use the Catalog as a general pointer to the entire 'history of [electroacoustic] music (and its pre-history),' on which topic he footnotes the Catalog.[24] Such examples illustrate the Catalog's totemic status as a unique record of historical activities in electronic music, to the extent that the Catalog is sometimes even used as a symbolic representative of electronic music history itself.

The Catalog also continues to play an important role as an inventory. At the time it was compiled, Davies was at pains to point out that it was the first ever attempt to catalogue every piece of electronic music in existence, and that it would never be possible to attempt such a thing again.[25] And, he was right, because even today the Catalog is (as far as we know) the closest thing in existence to a complete inventory of electronic music compositions up to the end of 1966. Or, at least, a complete list of the compositions that meet Davies's definition.

In the 1990s, the Catalog was used as the basis of a new project—Internationale Dokumentation Elektroakustischer Musik or 'EMDoku' for short.[26] That project used the Catalog to provide the data for compositions up to the end of 1966, and began the process of adding pieces composed after that date, using the format and system of classifications prescribed by Hugh Davies in the Catalog. (Actually, the classification system used in EMDoku is slightly adapted from Davies's, but remains very similar.) The EMDoku database has been identified by the director of the Groupe de Recherches Musicales, Daniel Teruggi, as the closest thing in existence to a complete inventory of all electronic music.[27] This is another example of how Davies's work continues to define electroacoustic music in the present day.

In conclusion, what I have tried to show is that, during the early 1960s Hugh Davies set out to map the territory of electronic music, by writing about it historically as part of a grand tradition, by emphasising activity in different parts of the world, and by producing a discography and thereby starting to index it. Then, with the Catalog, he started to extend that map so that it more closely reflected his own particular view of what electronic music should be. In particular, he thought that electronic music should be interdisciplinary—including activities such as sculpture, poetry and painting as well as activities more traditionally associated with the electronic music studio. He thought it should be international, not in the sense of a single, homogeneous, global praxis, but rather, representing all nations as equals, and celebrating their distinct national identities. In turn, we see the structure of the Catalog reflected in subsequent literature that cites it, and in subsequent projects that build on its prinicples and systems of classification. In my view this demonstrates that the Catalog occupies an important position in electroacoustic music history, and is therefore worthy of wider recognition and closer academic attention.

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[23] Thom Holmes, Electronic and Experimental Music: Technology, Music, and Culture, 4th ed (New York: Routledge, 2012), p. 154.

[24] Leigh Landy, 'Reviewing the Musicology of Electroacoustic Music: A Plea for Greater Triangulation', Organised Sound, 4 (1999), 61–70 (p. 64).

[25] Davies, Catalog, p. v.

[26] Folkmar Hein, 'Internationale Dokumentation Elektroakustischer Musik', 1999 <http://www.emdoku.de/> [accessed 18 April 2013].

[27] Daniel Teruggi, 'Electroacoustic Preservation Projects: How to Move Forward', Organised Sound, 9 (2004), 55–62.

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