
Audiomobiles, Sculptures and Conundrums

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ABSTRACT

Roberto Gerhard was a pioneer of electronic music in England creating a number of substantial concert, theatre and radio works from as early as 1954. Gerhard's electronic music is one of the richest repositories for understanding the development of the composer's late compositional technique. Apart from the *Symphony no.3*, 'Collages', none of Gerhard's electronic music is published. This paper will discuss aspects of Gerhard's electronic music, focusing on *Audiomobiles* (1958-59) and *Sculptures* (1963).

1. INTRODUCTION

Although Gerhard writes in *Concrete Music and Electronic Sound Composition* that he approached 'the electronic medium strictly as a sideline' [1], the importance of this work and its impact on his instrumental composition has thus far received scant academic interest. Gerhard himself maintained that working in the electronic medium had resulted in a,

number of far-reaching morphological changes in the manner of organizing sound and it seems to me that these changes are bound to affect methods of composition in the traditional field of instrumental composition as well. [2]

Gerhard's approach to electronic music traversed the aesthetic paradigms that polarized early *musique concrète* and *Elektronische Musik*, often using instrumental, concrete and electronic sound materials. Working very much on his own (the BBC Radiophonic Workshop was not opened until 1958, some four years after Gerhard has started working in the medium) he was critical of the dogmatic approach of his European contemporaries, writing that,

most of us had already noticed for some time that, whether German, Italian, Dutch or Belgian, electronic music sounds curiously alike in its timbral aspect. If the possibilities were really unlimited, one couldn't help feeling that these composers were strangely coincident and repetitive in the use they made of them [3]

and that the sine tone has a 'rigid, cold, dead-signal quality. It is utterly unsuited to convey anything warm, tender, vivid, alive in human experience' [4]. Gerhard was always more interested in the transformation of acoustic source materials, stating that 'the microphone captures the living spark of the natural acoustic source' [5]. Gerhard was, however, more circumspect than either Edgard Varèse or John Cage in his use of such acoustic sources. In his unpublished notebook from 1957 Gerhard writes that he considers that, 'the term 'musique concrète' is ridiculous' [6] and later in 1959 he wrote that,

in principle, anything that comes from an acoustic source is possible material for *musique concrète*. This, of course, throws the gates wide open – too wide, perhaps – to material of all sorts, musical and not so musical. The French themselves, for instance, are not above using pots and pans for their *exercices aux casseroles* as they describe them.' [7]

Gerhard's approach to electronic music with its emphasis on the abstract 'musical' quality of concrete sounds rather than their associative meaning and the sampling and transformation of his own instrumental compositions is akin to the work of Iannis Xenakis and Bruno Maderna – two composers for whom electronic music and its techniques were to play a central part in informing

their compositional aesthetic. Gerhard's use of concrete, instrumental and electronic sound sources in *Audiomobile II DNA* (1963) has a kinship in approach with Maderna's *La Rire* (1962) which incorporates the sounds of voices, footsteps in rain, white noise and sine-tone generators, as well as transformed timpani, flute and piccolo.

2. SOURCES

Whilst Schaeffer, Stockhausen and their respective colleagues at the GRM and WDR studios propagated concert electronic music and wrote significant treatises on their work and the new medium, Gerhard was a more practical composer. Unfunded by a major radio studio Gerhard's experiments were carried out in the public glare initially through composing incidental music.

One of the disadvantages of not working permanently in a major radio or state-funded studio meant that there was no archival administrative structure to preserve Gerhard's electronic works. Apart from the electronic component of the *Symphony no.3, 'Collages'* neither of the publishers of Gerhard's instrumental music hold copies of his electronic works, or incidental works incorporating electronics. The major repository of Gerhard's electronic music is the archive held in the Cambridge University Library [8]. This archive is not, however, complete. Four boxes, containing an undisclosed number of tapes were borrowed by David Drew, a close colleague of Gerhard's, in 1990 from Dr Rosemary Summers, the executor of the Gerhard estate [9].

3. GERHARD'S ELECTRONIC MUSIC

Hugh Davies, in his 1981 *Tempo* article on Gerhard's electronic music wrote that,

Gerhard was not only the first important British composer to adopt electronic music techniques; it seems probable that he was, by a few months, the creator of the first British score to involve tape [10].

Gerhard's pioneering achievements can be put in a broader, less localized, perspective. The first *musique concrète* work, the *Étude aux chemins de fer*, was produced by Pierre Schaeffer in 1948 at the Club d'Essai, RTF (later INA-GRM). In 1950 Schaeffer and his then assistant Pierre Henry produced their first substantial work in the genre: the collaborative *Symphonie pour un homme seul*. The NWDR studio opened in 1953, where Stockhausen produced his first experiments with Elektronische Musik, the *Studie I & II* (1953 and 1954). The first acknowledged work that combined instruments and electronic sounds was Maderna's *Musica su due dimensioni* produced in Bonn, in 1952 for flute, cymbal and electronic tape. One of the most famous early works incorporating electronics was Varèse's *Déserts* (1954) for ensemble and tape. Varèse's work alternates rather than integrates the instruments and electronics, having three tape 'interpolations'. It was in the same year, 1954, that Gerhard completed his first ensemble and tape work, the incidental music for Bridget Boland's play, *The Prisoner*.

Although Gerhard wrote that he was primarily interested in producing electronic music for 'applied works... to works of radio and television, for the stage and screen' completing twelve substantial scores for ensemble or orchestra and tape between 1954 and 1964 for BBC Radio productions or for theatre, he produced a number of works with or for electronics not intended as incidental music. These include *Audiomobiles I-IV* (1958-59), the second of which became the soundtrack for Hans Boye and Anand Sarabhai's film *DNA in Reflection* (1963); *Lament for the Death of a Bullfighter*, for speaker and tape (1959); *Symphony no.3, 'Collages'* for orchestra and tape (1960); *Sculptures I-V* (1963) and the substantial, though unfinished *Vox Humana* (the *Ten Pieces for tape* are extracts from *Audiomobile II DNA*). They are listed in the Bowen catalogue as composed in 1961. However they are extracts from a work completed in 1963 and released on *Electronic Music*, by Roberto Gerhard, (Southern Library of Recorded Music, MQ 760) in 1964.)

4. AUDIOMOBILES & SCULPTURE(S)

If we examine the existing literature and sources referring to Gerhard's *Audiomobiles I-IV* and

Sculptures I-V we find a certain amount of confusion relating to both the dates of composition and the number of completed works in both cycles. In Joaquim Homs' 'Roberto Gerhard and his Music' [11] Homs refers to a visit he and his wife made to England in late 1959 to attend the premiere of Gerhard's *Symphony no.2*. Homs writes that,

we managed in addition to attend two film documentaries with concrete music by Gerhard: *Four Audiomobiles* (the second one about DNA being especially interesting)' [12].

This reminiscence poses a number of questions and is potentially misleading in a number of ways. The second documentary may have been *All Aboard* (1958) an animated film or *Your Skin*, a Unilever documentary for which Gerhard provided music [13]. The second and potentially more problematic issue is that the film for *Audiomobile II DNA* was not completed until 1963. Thirdly, Homs discusses the *Audiomobiles* as if they were already at this stage an existing series of works.

Whilst all extant sources have the *Audiomobiles I-IV* listed as completed in 1958-59, the references to *Sculptures I-V* are more varied. In the catalogue of works at the back of Homs' book there is a reference to *Sculptures, I-IV* for tape (1963) but no reference to the works in the main body of the book. Online resources list *Sculptures I-V* (1963). However, in the catalogue of works listed as Appendix II in 'Gerhard on Music' the reference is to '*Sculpture I* (1963): Electronic composition based on sound from a small-scale model of sculpture of brass rods by John Youngman' [14].

Hugh Davies writes that Gerhard's list of works printed in the programme accompanying the London Sinfonietta's Schoenberg/ Gerhard Series in 1973,

gives dates and titles for some of the electronic works that conflict with the list assembled by Gerhard and the present author... four *Audiomobiles* are dated c.1958-9, and *Sculptures I-V* are listed as if all had been completed in 1963... Indeed there were other audiomobiles, including 'a capriccio in the manner of Goya', but they were 'just a series of illustration-examples for a lecture' given in 1959; *Audiomobile 2* became the title of the concert version of the soundtrack for the DNA film (did it incorporate the second of the original audiomobiles, or was the original set considered as No.1?). No subsequent ones were mentioned by Gerhard in compiling the 1967 list. [15]

As no published versions of the *Audiomobiles I-IV* or *Sculpture(s I-V)* currently exist, the tape archive at the Cambridge University Library is the only resource available. At present this resource has not been fully catalogued. A number of tape boxes are empty, spools of tape are in bags, and some tapes are in boxes that are incorrectly labelled. The fact that some tapes and boxes have been reused only adds to the lack of clarity. It is interesting to note that references to *Audiomobile II* always refer to the work in conjunction with the 1963 film *DNA in Reflection*. Below is a list of references to *Audiomobiles* and *Sculptures* from the current catalogue of tapes held at the Cambridge University Library:

- 01.045 *Audiomobile No.2 DNA* (empty box)
- 01.148 Roberto Gerhard *Audiomobile 2*
(DNA) (1963) 15" p.s. full track
- 01.077 *Audiomobiles* examples
- 01.231 *Version II Audiomobile 3 'Sculpture'* starts
7.5 then 15ips stereo'
- 01.235 *Audiomobile I 15" Sculpture* full track
Roberto Gerhard
- 01.239 *Audiomobile 3 'Sculpture'* (empty box)

Of the six references to the *Audiomobiles*, two are empty boxes; tape 01.048 has an erroneous tape in the box (an organ concert on one side and the end of a broadcast of Dvorak's *Symphony no.9* on the other); tape 01.077 is also an erroneous tape containing a chamber work, various electronic sounds, including a partial recording of Stockhausen's *Gesang der Jünglinge*; tape 01.231 contains what I believe to be *Sculpture I* (because of both the sound materials and the length of the composition) and 01.235 contains a recording of *Audiomobiles I*.

There are also three references to *Sculpture* alone:

- 01.013 'low pitched *Sculpture* at end of reel'
- 01.015 'green [leader tape] for *Sculpture*'
- 01.016 '*Sculpture* last take'

Of these three references tape 01.015 and 01.016 are empty boxes. In the catalogue there is no mention of *Audiomobiles IV* and a number of confusing conflation of title in which Gerhard seemingly gives the both *Audiomobile I* and *III* the subtitle *Sculpture*.

In his *Tempo* article on Gerhard's electronic music, Hugh Davies writes that following *Symphony no.3 'Collages'* that,

Gerhard's electronic music was once again largely background music. Only one short work was specifically composed for concert use: *Sculpture I* based on sounds produced by a small sculpture of brass rods made by John Youngman. Material for four further works with the same title was assembled (early 1967: 'as yet unedited') but like other projects appears never to have been completed... [16].

In private letters to Davies, Gerhard indicates that he has '...an accumulation of work in a state of near-readiness, I mean ready for com-po-si-tion, namely ca 25 to 30 7" reels of multilevel compounds classified as 'good'' [17]. One such example is tape 01.116 on the box of which Gerhard has written 'very good bits of electronic music' and contains 24 minutes of highly developed (almost) continuous electronic music derived from the Youngman sculpture. As none of Gerhard's electronic concert works were commissioned, one scenario is that the pressure of earning a living as a composer meant that these works were never finished. With Gerhard's work in the 1960s being predominantly large commissions such as *The Plague* (1963-4), *The Anger of Achilles* (1963/4), *Concerto for Orchestra* (1965), *Epithalamium* (1966), *Symphony no.4* (1967), *Leo* (1969) and the unfinished *Symphony no.5* (1969) there was little time to complete time consuming works for tape that carried little financial reward.

From the evidence of the tapes in the Cambridge University Archive, the various catalogues and the personal communications with Hugh Davies it seems that only *Sculpture I* was ever completed. A more tentative hypothesis is that Gerhard initially intended on giving the work the title *Audiomobile 3 'Sculpture'* as he had for *Audiomobile 2 'DNA'*, but in processing the sounds of the Youngman sculpture realized its sonic potential for a more extended self-contained series of work.

However, we still need to answer Hugh Davies' question regarding *Audiomobiles II*: did it incorporate the second of the original *Audiomobiles*, or was the original set considered as No.1? If the set of *Sculptures* were not completed what of the *Audiomobiles* and their date of composition?

Hans Boye in his personal recollection of the making of *DNA in Reflection* writes that,

we could understand from Roberto Gerhard's remarks, that the job had taken much - too much - of his time, and he wasn't happy about that, but since he had started on it he also wanted to complete it. After some further Sunday morning test-runs of film and soundtrack - sometimes arranged with short notice - Roberto Gerhard presented us, after a total of a couple of months, with a reel of quarter-inch tape (full track, 15 inches per second) which we then could get added to the film. [18]

This implies that while the first *Audiomobile* is likely to have been complete in 1958-59 and that the projected series was planned, like the *Sculptures*, with extensive preparative work. However, it was only in 1963 when Boye and Sarabhai approached Gerhard that the second of the *Audiomobiles* was actually composed. Further evidence that this is the case can be demonstrated by the fact that *Audiomobile II DNA* contains i) electronic sound materials, most probably created in the BBC Radiophonic workshop when Gerhard was working on the *Lament for the Death of a Bullfighter*. Gerhard did not have the facility to create electronic sounds in his private studio ii) sound materials from preparatory sounds for *Symphony no.3 'Collages'* (including tape 01.004)

made in 1959-60 iii) samples of the Youngman sculpture made in 1963. All of this evidence suggests that Gerhard used materials that he already had to hand as his starting point for *Audiomobile II*. This hypothesis is further strengthened by Gerhard's own programme note for the work (here paraphrased by Hans Boye) when it was presented at the National Film Theatre, London,

For the catalogue Roberto Gerhard explained that he intentionally compiled the soundtrack from "layer upon layer of sounds from his library of recorded sounds in such a way that it was in opposition to the precise description of the film supplied by the film makers". And he named it again "an aleatory soundtrack" meaning that the sounds were picked randomly from his library. [19]

As is evident from the final composition, *Audiomobile II DNA* may contain a disparate collection of sounds, but they are brought together in a tightly structured, dynamic and vital work. One reason that Gerhard may have termed *Audiomobile II DNA* an aleatory soundtrack is not because the sounds were picked randomly but because of its method of construction. Gerhard considered the sound-montage 'something of a game; something like a jigsaw puzzle with pieces upside-down or the wrong way around, bumping into one another and thus emphasizing their isolation, rather than giving them a common purpose which would lift them onto a plane of poetic imagery' [20]. Gerhard was not the type of personality to consider any composition a 'game'. What we can infer from this statement is the intuitive freedom that working in the electronic medium gave Gerhard – an immediate tactility of working with, and transforming, sound. Here a further comparison with Maderna may be drawn. About electronic music, Maderna once said, 'we no longer listen in linear time - our consciousness casts various projections of time that can no longer be represented with the logic of one dimension' [21]. Working with electronic music made Maderna trust in his compositional intuition. The influence of electronic music in Maderna's instrumental composition can be found in works such as the *Serenata per un satellite*. Gerhard himself wrote that 'the way time is felt in electronic music differs entirely from the way time is experienced in traditional music.' Gerhard was adamant that there is a fundamental difference between working with electronics and instruments. He uses the term sound-behaviour to characterize this difference. Gerhard writes,

the operative work is *behaviour*, it will be noticed, not colour; colour is never of decisive importance. Instead of 'behaviour' I might have used the term *sound-activity*. The electronic medium, in effect, makes possible new modes of action with sound which have greater freedom of tonal movement, of configuration and of textural weaving than those which our traditional instruments permit. [22]

Gerhard's notion of sound-behaviour bears a close conceptual resemblance to what Denis Smalley would later term spectromorphology [23] – literally the shaping of sound through time. In line with thinking in fields of sound-activity the electronic works are driven by gesture and texture led sections. Although Gerhard did not care for Schaeffer's term for the basic perceptual unit in *musique concrète*, the *objet sonore*, it is clear that in his electronic works and increasingly in his later instrumental works, he nevertheless moved away from the 'note' as the essential unit, to his own notion of the sound object or sound-field as building blocks for his works.

5. CONCLUSION

In examining the source documents, tapes, existing catalogues and extant writings about Gerhard's electronic music there is a need to re-evaluate Gerhard's catalogue of works. In proposing a title for the projected series: *Audiomobiles I-IV* and *Sculptures I-V*, Gerhard unwittingly implied that these works were in fact complete. We find fabrication becoming taken as fact merely by dint of repetition both in print and online. We can hypothesise that it is likely that Gerhard never completed all of the *Audiomobiles* or *Sculptures*. What we have are *Audiomobiles I & II*, *Sculpture I* and an extensive amount of detailed preparatory but incomplete mixes for the other projected works.

6. REFERENCES

- [1] GERHARD, R., 'Concrete music and electronic sound composition' in BOWEN, M. (ed.), *Gerhard on music. Selected writings*, Aldershot, Ashgate, p. 180
- [2] Ibid. 1 p. 180
- [3] Ibid. 1 p. 181
- [4] Ibid. 1 p. 183
- [5] Ibid. 1 p. 183
- [6] Gerhard unpublished notebooks, CUL Gerhard.7.115 f.20
- [7] Ibid. 1 p. 184
- [8] See KARMAN, G. *Roberto Gerhard's Sound Archive at the Cambridge University Library*, 29.12.2007 and KARMAN, G. *Roberto Gerhard's Tape Collection*, 10.10.2008
- [9] Personal email correspondence between Dr R. Summers and the author
- [10] DAVIES, H. 1981. 'The Electronic Music' in *Tempo*, New Series, No.139: 35-38
- [11] HOMS, J. (ed. BOWEN, M.) 2000. *Roberto Gerhard and his Music*, Anglo-Catalan Society, Sheffield, 2000
- [12] Ibid 11, p. 60
- [13] In ed. BOWEN, M. 2000. *Gerhard on music. Selected writings*, Aldershot, Ashgate, the catalogue of works, Appendix II, p. 248 has manuscript scores deposited in the CUL for *Your Skin* and *All Aboard*. In DAVIES, H. 1981. 'The Electronic Music' in *Tempo*, New Series, No.139 the works are listed as being electronic.
- [14] Ibid. 1, p. 261
- [15] Ibid. 10, p. 36
- [16] Ibid. 10, p. 35
- [17] Ibid. 10, p. 35
- [18] BOYE, H. 2010. 'How Roberto Gerhard was persuaded to make the soundtrack for the 16mm film DNA in Reflection' in *Proceedings of the 1st International Roberto Gerhard Conference*, Huddersfield University
- [19] Ibid. 18
- [20] Ibid. 1, p. 184
- [21] From a transcription of Maderna's 1957 presentation at Darmstadt (made by Horst Weber, 1984)
- [22] Ibid 1, p. 194
- [23] SMALLEY, D. 1997. 'Spectromorphology: Explaining Sound Shapes', in *Organised Sound*, 2(2): 107-126