

# Introduction

Nono became interested and, indeed, fascinated by both the mechanics and the science of music ... and said that all music came from formulae.<sup>1</sup>

Theories do not have to be “right” to be enormously useful. Even error has its uses.<sup>2</sup>

## Introduction

This research investigates through practice the use of generative systems and disruptive processes in composition. The work is divided into three sections, each of which investigates specific areas whilst remaining within the context of the project as a whole. This commentary records the development of the work as well as explaining and contextualising the ideas that came out of the practical investigation.

The first chapter describes the origins of the research and the principles on which it is based. Initially, I investigated ways in which I could disrupt musical systems, the first chapter describes these experiments and shows how they led into the main body of the research. A number of exploratory pieces were produced, excerpts of which are included here solely as a demonstration of the experimentation that was undertaken. It was in these early pieces that the foundations for the later, successful pieces were laid.

The second chapter details the pieces that benefited from the experiments described in Chapter One and shows how they have developed from those investigations. Out of the early methods of disrupting systems I evolved a new method for composition that combined the constant and the random. The constant is in the use of a steady pulse and linear note group progression; the random in the cells of varying lengths that have been generated and positioned according to a numerical series derived from measurements taken from a barcode.

The third chapter describes the final pieces from the research. In these, the work is developed from all that has been learnt so far and takes the evolution a step further. Here the work has become a combination of sound and images. Moving away from the predominantly acoustic work of the early research, in these later pieces the sound is produced entirely electronically. In a similar move away from the more traditional concert hall music, the final works are installations designed to be positioned in one site for a set period of time.

This work is rooted in both my own earlier investigations and in wider musical theory and practice. There are four main practices that I have drawn on and combined within all these pieces, although any one may be more predominant than another in a given piece. These four practices are systems music, process music, ambient music and 'new tonality'<sup>3</sup>.

The use of systems or methods for the construction of music has been fundamental to my work for a number of years. This aspect of generative music has parallels with conceptual art<sup>4</sup>.

In conceptual art the idea or concept is the most important aspect of the work. When an artist uses a conceptual form in art, it means that all of the planning and decisions are made beforehand and the execution is a perfunctory affair.

The ideas need not be complex. Most ideas that are successful are ludicrously simple.<sup>5</sup>

My earlier work was far more in the style of the American minimalist composers, relying on repetition, and influenced by Reich's audible

processes and Glass' arpeggiated figures. The music presented here does not shy away from these practices but incorporates them into a broader compositional style.

All of this work has been heavily influenced by both the American and English experimental music of the 1960s and 1970s. I am of course not unique in this, composers such as John Adams, Louis Andriessen, Graham Fitkin, Andrew Poppy, Steve Martland, Joe Duddell and David Lang have all built on the practices of that period to a greater or lesser extent.

What you find I think in the English work is an interest in tonality, in referential material in some area of systems in some cases but in not wanting to maintain that tight control that you find in music which has been called avant garde.<sup>6</sup>

My music is not about 'maintaining that tight control' and is far closer to Bryars' description of English work rather than the American model. The defining of an English style, as opposed to an American one, is further clarified by Nyman when describing John White's machine music:

Incessant and rigorous, but implacable and impassive, they lack the high-octane energy of the American variety; they do not limit themselves to a single overriding procedure such as phasing; and being English they are ambling, friendly, self-effacing systems, which may break down ...<sup>7</sup>

There is no clearly defined distinction between the way that English and American composers used systems and processes, but rather an overlapping of styles and techniques. Reich, for example, wanted to be able to hear the process:

What I'm interested in is a compositional process and a sounding music that are one and the same thing ... I don't know of any secrets of structure that you can't hear.<sup>8</sup>

Other experimental composers such as Cage and Bryars would keep certain elements secret.

By retaining a certain privacy within the piece, a certain kind of hidden area where everything isn't revealed ... you're not laying all your cards on the table. If someone wants to find out what your cards are they've got to look very closely.<sup>9</sup>

Cage's secrecy is a by-product of his compositional method, the details of which are undetectable by the listener but also largely irrelevant to him; Bryars' is an integral part of his compositional results and can be penetrated to the depth that the listener wishes to go.<sup>10</sup>

The pieces in this folio are influenced by all these ideas and practices. The 'ambling, friendly, self-effacing systems, which may break down' is a strong model for these works. Sharing similarities with both Reich and Bryars, some processes are apparent through listening, others remain hidden but can be discovered if a listener should wish to.

This music is not the pure systems music of the integral serialists, such as Boulez or Xenakis, where every detail is created within the system. I use systems that work on an already existing musical idea, a precomposed miniature or set of note groups or arpeggios. I describe the systems and ideas that I employ as fuzzy, coming from fuzzy thinking and fuzzy logic. I write more about this in the opening chapter but one issue that I see as central to this fuzziness is the idea of error. However perfect the human created system is designed to be, there will be errors within it.

On one occasion when a theorist, analysing one of his scores, observed that a particular note did not conform to the tone row, Schoenberg simply replied: "So what?" He recognised that the ear would not notice a small deviation from the strict rules. Similarly Xenakis would regard it as immaterial whether a particular note was played or not, since the ear does not perceive it as a discrete entity in music composed according to probability theory.<sup>11</sup>

(It is well known that serial composers often do not pick up mistakes in the performances of their work). Only a serial check, an administrative operation, can bring mistakes to light (as Ligeti did with Structures for 2 Pianos, by Boulez).<sup>12</sup>

The fuzzy perspective on these mistakes is that they are inevitable:

It is through man or human thinking that fuzziness comes into the world.<sup>13</sup>

That there are errors contained within the pieces submitted here I have no doubt, in fact there is a glaringly obvious one in *Barcode*. I have made an error transcribing the arpeggio pattern as early as the second arpeggio set :



*Barcode* bars 4-6

The disparity between the (incorrect) top line and (correct) lower line is obvious; in fact the arpeggio that I have used to construct the top line does not appear in the arpeggio set. Whereas Schoenberg and Xenakis would not, according to Sutherland, be overly concerned by any errors because they would not be detected aurally, the fuzziness of my system allows and even embraces these discrepancies between plan and execution. It is all the

more exciting if the listener perceives this error and has their expectations subverted (this is discussed further in Chapter One).

Alongside and, arguably, associated with the ideas of fuzziness, is serendipity. For example, in the piece *Sometimes...* it was by chance, rather than design, that I recorded the particular conversation about naturists at that time, on that day. The voice that introduces the work saying 'sometimes one can switch the tape recorder on' is the voice of a friend's father. This friend had a collection of tapes, recorded by his father, that he wanted to transfer to a digital format. Because he did not have the equipment to do this, he used my studio for a period of more than a week. For the majority of time I left him alone to do this; I was at work, out of the studio for vast periods of time. One day on returning for lunch, I walked in on him, listened for a while and heard that phrase. I had had in my mind the idea of producing a work involving cctv and the idea of being unknowingly watched and listened to, and this excerpt suited those ideas perfectly. It now seems extraordinary that out of all the hours he spent transferring this material I should walk in at that one particular moment.

Breton talks of how Alberto Giacometti had been facing an apparent psychological block in finishing the head of a sculpture, later to be called *The Invisible Head*. He and Breton had gone for one of their familiar Surrealist trawls of the Paris flea markets and had found themselves drawn inexplicably towards a peculiar metal half-mask which they were later to identify as a fencing mask. Giacometti later realised that the form of the object provided a solution as to how to complete the head of his sculpture. ... His point is that Giacometti's unconscious desires had effectively predisposed him to finding the object.<sup>14</sup>



The use of that type of material has obvious associations with the use of found material, the found object (or Duchamp's objet trouvé). The practice of using found material occurs throughout these works. In fact, the majority of works in this folio make use of found objects through the numerical series that have been derived from barcode measurements. The barcode did not have to have any particular connection with the piece and could come from a variety of sources. Barcodes that were used in these works were found on magazines, creme egg wrappers and even a Gavin Bryars' cassette found in the sale racks of W.H. Smiths!

These pieces also incorporate elements of Brian Eno's ambient music and Satie's furnishing music. Eno's ambient music is simple, sparse and dreamlike and is able to support both close and background listening.

I was trying to make a piece that could be listened to and yet could be ignored ... perhaps in the spirit of Satie who wanted to make music that could "mingle with the sound of the knives and forks at dinner".<sup>15</sup>

Many of the qualities that are evident in the ambient works of Eno are shared by composers working in different ways using different techniques. Whilst the music of Feldman is not ambient, his works appear motionless and have no obvious sense of a beginning or end, whilst the music remains a music of repetition.

Actually now I just try to repeat the same chord. I'm reiterating the same chord in inversions. I enjoy that very much, to keep the inversions alive in a sense where everything changes and nothing changes.<sup>16</sup>

Kenneth Martin, when speaking of his paintings, makes a point that is also applicable to music:

it is not a reduction to a simple form of the complex scene before us, it is the building by simple events of an expressive whole.<sup>17</sup>

This is the same for ambient music; simple musical events are built up and layered into an 'expressive whole'. On one level the music alters very little and appears to drift along. On the other hand, the music requires close listening to perceive the subtle changes of event. In Gavin Bryars' *Jesus' Blood Never Failed me Yet*, the orchestral accompaniment to the tramp's voice builds up so slowly as to be almost imperceptible. The changes in orchestration are so slight and occur so quietly that it requires close listening to hear these changes. A superficial listening gives the impression that the piece is doing nothing, merely having a tramp's voice on a tape loop accompanied by strings. However, the linear nature of the development can be heard by listening to the first few minutes and comparing that to the final few; the true amount of development that has occurred in the piece then becomes evident. In opposition to this, Feldman's music appears to have neither a beginning nor an end; the start and the finish of the piece appear almost arbitrary. It is not necessary for a listener to hear what has gone before as each chord is individual and not part of an overall pattern. Like the music of Satie where 'each sound event, liberated from its dramatic role in the traditional tonal structures, is free to be itself'<sup>18</sup>.

Sharing similarities with this style of ambient, still music, the music presented here is not goal orientated in its construction. The length of a piece has been determined solely by its purpose (i.e. for a workshop or a performance) or by the act of fitting a number of beats into a measured barcode. The music does not work through climaxes or conventional structural devices but can be described as wallpaper music, based on circular patterns that have no clear beginning or end.

What I really wanted was music that would last until you switched it off  
– eight hours or forever. <sup>19</sup>

In a similar way to that in which there is no structural goal, there is also no harmonic goal within these works. This ‘new tonality’ and simplicity was important to the American minimalists and the later English systems composers. In the pieces submitted here the music does not work harmonically. The majority of these pieces are constructed from a series of note groups which alter from one to another by means of as small a change as possible. Ultimately this results in a series where there is only a single chromatic change from note group to note group. Through this technique the change from one group to another is almost imperceptible.

Satie’s use of tonality/modality (is) merely the medium through which music happens to flow. Chords, tunes, succeed each other, they do not progress. <sup>20</sup>

There are similarities in the music of Satie and the music of the American minimalists, there are links from Satie, through Cage to the minimalists and particularly, to the more experimental works of Young and Riley. Like Satie’s *Vexations*, the early minimalist compositions have no harmonic direction

and involve repetition but also include the use of a steady pulse to drive the music on.

the minimalist style ... (presents) uncomplicated harmonic sonorities (often familiar triads and seventh chords), by limiting harmonic materials principally to diatonic collections, and by presenting these harmonic sonorities in an extremely slow harmonic rhythm. The melodic aspect of the minimalist style is perhaps its most obvious characteristic: extensive melodic lines are entirely absent.<sup>21</sup>

Terry Riley's *In C* uses none of the traditional harmonic devices, it does not employ cadences nor conventional chord relationships. It has no directional element, there is no sense of an harmonic journey from one point to another, rather a sense of harmonic stasis.

*In C* is not really 'in C' at all, even if one accepts a loosely 'modal' rather than strictly tonal understanding of the term<sup>22</sup>

Though over the course of the piece a number of tonal centers may be established through sheer repetition, the idea of a tonal center as a goal never materializes.<sup>23</sup>

The English Experimental composers also explored similar uses of tonality.

There are these "primary colours" musically speaking, that [are attractive] to some of the tonal people at the moment, and we're availing ourselves of them, and why not, because they're potent musical elements, and it seems unnecessarily unsporting not to use them.<sup>24</sup>

Gavin Bryars uses tonality that does not have 'traditional 'functional' implications'.<sup>25</sup> Hugill Thomson goes on to explain Bryars' use of an enharmonic pivot as a way of linking chords within the progression. These pivots maintain the movement of the music without implying that there should be an end goal.

The result of these techniques is to create 'tonal' music which exists in a state of suspended animation.<sup>26</sup>

The pieces presented here also combine the constant and the random or the 'linear and the multiple'.<sup>27</sup> The combination of the aurally-inspired and theoretical constructions, planning and transformation. The practical creation of this style of work therefore combines the apparently conflicting roles of the composer and the construction engineer. There is a similar combination of practices that runs through the majority of these works. That is, the combination of a generative system that instigates the construction of the work and a process of transformation that alters the music as it continues. This can be seen in, for example, *Basso Bagatelle* in the transformation of the horizontal to vertical and in the final section of *Sign of the Circler* where the music is gradually transposed.

There are a plurality of elements that constitute the finished pieces in this folio. They are all constructed by using limited or restricted resources; the pieces operate within a tightly confined set of restrictions. These restrictions are set both harmonically and structurally and vary from piece to piece. Although these works use some elements and practices of minimalism, generative art, systems music, ambient music and others they are not purely any of those ideas, rather an amalgamation of them all into a unique whole.

## Endnotes

- 1 Wright, David C. F.. Luigi Nono. <http://www.musicweb.uk.net/Nono/>
- 2 Toffler, Alvin. *Future Shock*. Bantam, New York. 1980. p.6.
- 3 Although the terms systems and process music have been to a certain extent interchangeable I make a clear distinction between the two. For the purposes of this commentary system means an external force, something that generates the material whereas a process happens within the piece itself, a change from one state to another.
- 4 To illustrate further the relationship between these pieces and conceptual art I have included a more detailed methodology of some of the works in Appendix 1.
- 5 Sol Le Witt from *Paragraphs*. Quoted in Wood, Paul. *Conceptual Art*. Tate Publishing, London. 2002. p.38.
- 6 Gavin Bryars. From *Gavin Bryars*. Directed by David Rowan, Arbor Films. 1988.
- 7 Nyman, Michael. *Experimental Music; Cage and Beyond*. Studio Vista, London. 1974. p.144.
- 8 Reich, Steve. Music as a Gradual Process in *Writings about Music*. The Press of the Nova Scotia College of Art & Design, Halifax. 1974. p.10.
- 9 Gavin Bryars quoted in Potter, Keith. *Just the Tip of the Iceberg; Some Aspects of Gavin Bryars' Music*. Contact. Summer 1981. p.6.
- 10 Potter, Keith. *Just the Tip of the Iceberg; Some Aspects of Gavin Bryars' Music*. Contact. Summer 1981. p.6.
- 11 Sutherland, Roger. *New Perspectives in Music*. Sun Tavern Fields, London. 1994. p.82.
- 12 Schat, Peter. *The Tone Clock*. Harwood Academic Publishers, Reading. 1984. p.15.
- 13 Negoita, C.V. *Fuzzy Systems*. Abacus Press, Kent. 1981. p.21.
- 14 Hopkins, David. *Dada and Surrealism; a very short introduction*. Oxford University Press, Oxford. 2004. p.90.
- 15 Eno, Brian. Sleeve notes to *Discreet Music*. Obscure Records. London. 1975.
- 16 Feldman, Morton. *Morton Feldman Essays*. Beginner Press, Kerpen. 1985. p.230.
- 17 Kenneth Martin. [http://main.sbc.org.uk/hg/sub\\_hg/acc/11283583](http://main.sbc.org.uk/hg/sub_hg/acc/11283583). May 2002.
- 18 Gillmor, Alan. *Satie, Cage, and the new Asceticism*. Contact 25. Autumn 1992. p. 15.
- 19 Brian Eno from *Brian Eno – A Quantity of Stuff*. Stuart Maconie for BBC Radio 2. 2000.
- 20 Nyman, Michael. *Experimental Music: Cage and Beyond*. Studio Vista. London. 1974. p.31.

21 Johnson, Timothy A. *Minimalism: Aesthetic, Style, or Technique?* Music Quarterly. Winter 1974. Vol. 78. no. 4. p.748.

22 Potter, Keith. *Four Musical Minimalists*. Cambridge University Press, Cambridge 2002. p.113.

23 Johnson. p.745.

24 John White. Quoted in Walker, Sarah Elizabeth. *Eclecticism, Postmodernism, Subversion: New Perspectives on English Experimental Music*. Unpublished PhD City University. July 1995. p.50.

25 Thomson, Andrew Hugill. *The Apprentice in the Sun: and introduction to the music of Gavin Bryars*. Musical times. Vol. 130. Dec 1989. p.725.

26 *ibid.*

27 Jeanette Winterson. Brooks, L. *Power Surge*. The Guardian. London. 2/9/00