Cardew's 'Treatise' (Mainly the Visual Aspects)

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Cornelius Cardew's 193-page *Treatise* is the longest and most elaborate piece of Graphic Music ever made. Although it was intended for improvisation and realization, using as many or as few pages as required, and with no fixed rules of interpretation, the piece can be regarded as a graphic construction inspired by music – and with 'music', in the broadest sense, as its subject matter. It was influenced by the philosophy of Frege and Wittgenstein, and in particular the latter's exhaustive treatise *Tractatus Logico-Philosophicus*, which not only inspired the title but almost certainly the composer's economical approach to this endeavour and the rigorous development of his material. It was composed from 1963 to 67.

Virtually all the pages of the score contain two fixed elements, one of which is more inviolable than the other: namely, a pair of staves at the bottom of each page and a central 'lifeline'[1] or horizontal line which divides the page into two halves. The two staves, which were intended for the convenience of a potential interpreter (for writing down his/her realization of a particular page of the score), are present throughout (although, as if to prove that anything is possible, one tiny violation does occur [on p.25] – a gesture typical of the composer!). However the lifeline is absent from a number of pages, is frequently obliterated, fragmented and generally incorporated into the overall effect of the design, as well as being used as a point of reference: either as a focal point or pivot, a 'ground' for objects to sit upon or a 'rail' from which they can hang.

Just as Wittgenstein tried to plot the limits of language by examining:
1. factual propositions, 2. 'pictures' of facts, and 3. elementary propositions as components of factual propositions (involving 'atomic' or key words) in an exhaustive and unified way[2], so Cardew limits his material to three basic elements, out of which a whole world of visual 'arguments' is constructed:

1. **Numbers** 2. **Elements of Musical Notation** 3. **Abstract Shapes**

All three could be said to be present on almost every page, in the form of:

1. **Page numbers** 2. **The two lower staves** and 3. **The 'lifeline'** (absent only from a few pages)

Page Numbers[3] speak for themselves (although with Cardew one can take nothing for granted) but **The two lower staves** have an influence which is profound; I will discuss this element first, using it at the same time as an introduction to the treatment of the **Elements of Musical Notation**. In a similar manner I will discuss **The Lifeline**, both for its own importance as a point of reference and as an introduction to the way in which other graphic materials are manipulated. A discussion of the **Numbers** will then be followed by a brief look at some of the complexities of both the treatment of the **Elements of Musical Notation** and the **Abstract Shapes** as a whole. As far as its structure is concerned, I will treat the work as if it were a conventional piece of music, reading it from left to right and from beginning to end. It is strongly apparent – whether one regards it as visual art, music or philosophical argument – that it was conceived in this way. Finally I will speculate a little on the links between the work and its influences, notably its connexion with Wittgenstein's *Tractatus*, as well as attempting to place it in the context of English Experimental Music of the 1960s.

The Two Lower Staves

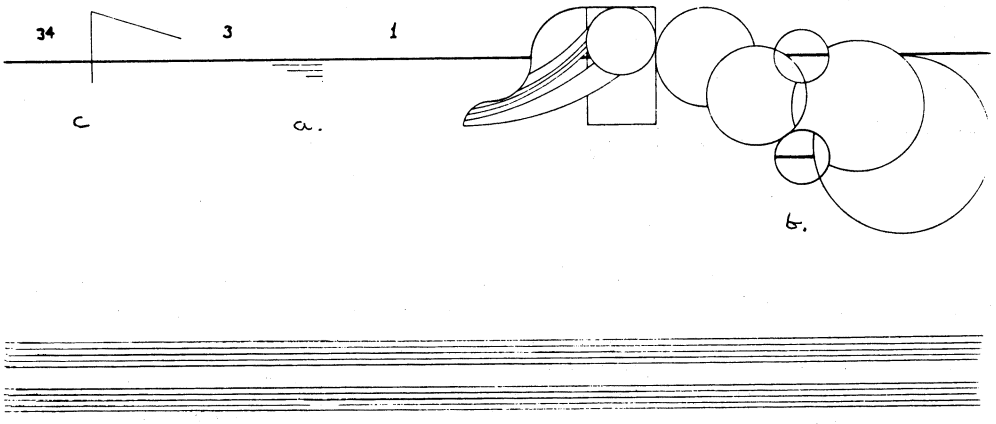
The purpose of these staves is described above, but their relevance to the score is profound, I

[1]This was the composer's own expression (*Treatise Handbook* p.10).

[2]In his book *Wittgenstein* (Fontana, 1971), David Pears summarizes the aims of *Tractatus* in this way, denoting them X, Y & Z.

[3]Like everything else, the page numbers are in Cardew's hand, but as they play no active part in the piece, I mention them only for completeness.

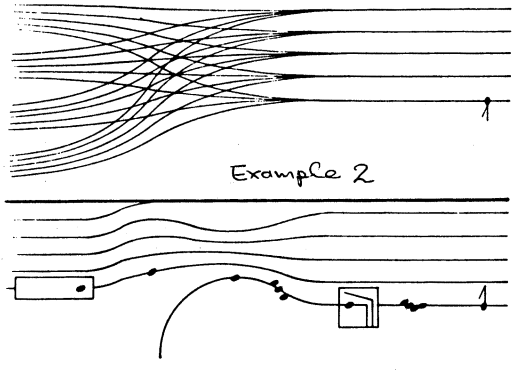
Ex.1

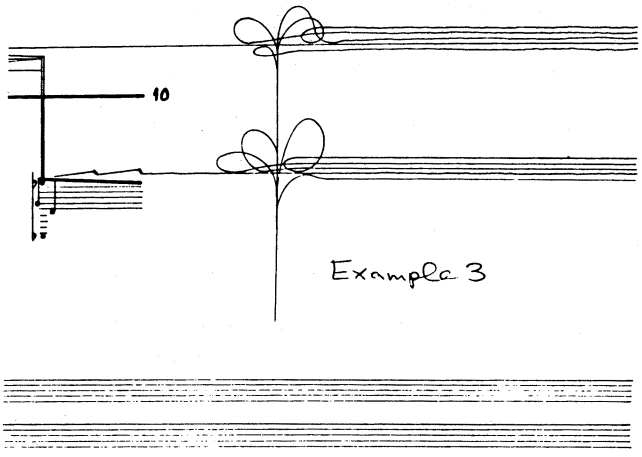


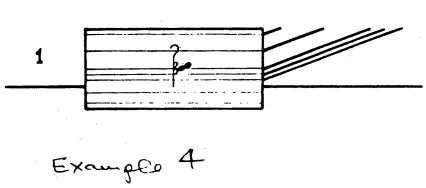
believe that not only are they there for the convenience of the reader/performer, but that they 'represent' the reader in an almost metaphysical manner. They symbolize the 'unknown' to whom the composer is trying to communicate the uncommunicable. This is not to do with any imperfections which might have arisen in the ruling of the staves, but in the fact that the staves are used as a major motif in the 'text' above. In other words the exact spacing and thickness of the two five-line staves occurs and reoccurs throughout the piece – quoted, half-quoted, looped, curved, convergent, divergent, aslant, in fact in every conceivable configuration. Many other thicknesses and spacings are also used to suggest staves, but the characteristics of the **lower staves** are particularly dominant. From the first tiny reference on p.1 (Ex.1a), through many variants – the convergence on p.30, for example (Ex.2) – through to the end of the work, they act as a major motif and, as if in valediction to the unknown reader/performer, the final 'cadence' of the piece consists of the composer providing two such staves of his own. On p.191 (Ex.3) the 'lifeline' stops and after two beautifully drawn loop-designs (cf.Ex.2), the staves emerge as shown: the top stave is hand-drawn (apart from line 2), the bottom is ruled (apart from line 2) and the process continues for two more pages of empty staves, identical except for the minute fluctuations of the composer's unguided hand. (NB. Straight lines, drawn without a ruler, have occured three times in the piece already, thus preparing the reader/performer for the final 'cadence'.) Its uncanny emptiness cannot but remind one of the final sentence of Wittgenstein's *Tractatus*: 'What we cannot speak about we must pass over in silence'. The composer and performer, as it were, are united in this silence.

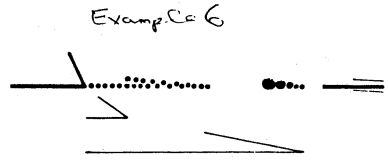
The Lifeline

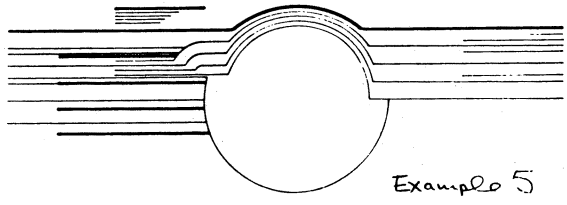
This element is present in its central position for most of the score and although it is nearly obliterated many time (eg. on p.133, at the 'climax' of the score, where large black circles virtually fill the page), some small portions usually survive. Only five pages are entirely











without it, two of which I have already discussed (ie. the last two pages). The others are pp.115–6 and 141. Here the justification is almost certainly to prepare the reader/performer for *Treatise*'s 'climax' and to signal its passing with silence (p.141 is entirely empty except for the lower staves). That *Treatise* has a climax, of a powerfully 'musical' kind, is obvious to anyone following it through. Black circles are used throughout the piece, often as crotchet heads, but the first of significant size occurs on p.113. The lifeline ceases on the following page and is absent for 2⅜ pages as more black circles and their derivatives accumulate. It then returns, with what is at first a slow build-up, but grows powerfully, with fierce arrow-like features rhythmically propelling the action forward until the circles reappear at p.130, swelling to the final climax on p.133, after which the circles diminish only slowly, until seemingly 'coming to rest' on p.140.[4] The 'silence' of p.141 not only provides a fitting contrast to the climax but also prepares us for the 'silence' of the final 'cadence'.

The involvement of the lifeline in the design is apparent from the very first page. Not only are shapes superimposed upon it, it is also frequently echoed (eg. Ex.1b). The thickness of the line helps to identify it, as indeed the thinness of the lower stave lines is important to *their* identity; these two pen-widths are by far the commonest in the piece and Ex.4 (from p.5) is just one of countless examples. The lifeline's frequent involvement with 'stave' systems can also be imagined from this example, as indeed in Ex.5 (from p.17) where it is not only 'echoed' but briefly curved by a stencil as part of an implicit circle. The departure from its central position, either as a curve or as an oblique line, is often open-ended, leaving temporary lacunae. Sometimes it is broken quite savagely, as on p.126 (Ex.6) or even 'hollowed out' as in Ex.7 (from p.94). Ex.8 (from p.183) is an excellent example of the lifeline being used as a pivot, and the

[4]Richard Barrett draws particular attention to this section, quoting pp.130–133, in his excellent article on Cardew in *New Music 87* (OUP).

extraordinary 'factory' on p.66 (Ex.9) illustrates the use of the lifeline as a 'ground'[5]. Finally it is worth mentioning that, in anticipation of the final cadence, the lifeline is 'hand-drawn' by the composer on pp.169–171 and is virtually the only feature in a particularly sparse section.

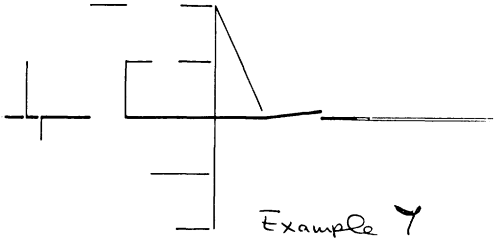
The Numbers

Numbers play an important part in Cardew's *Octet'61*. In fact its title refers to the numbers 1–8, which are featured liberally amongst the 'hieroglyphs' which make up the work (*Octet'61* is, in fact, for any number of players, and is dedicated to the painter Jasper Johns, many of whose canvasses use numbers). In *Treatise*, numbers are scattered fairly sparsely throughout the score, although some sections are entirely without. At no point do they resemble musical symbols such as time signatures, tempo markings, etc. In fact the composer lays down strict rules which affect their appearance: 1. They are always hand-written with the same width of pen; 2. They are always the same size; and 3. They always sit 5mm above the lifeline (or central plane if the lifeline is temporarily absent). Sometimes they act as markers: the long section which starts on p.23 is patently 'triggered' by a number 1, and after a powerful climax spread over three pages is terminated in like manner, with no other numbers coming between. Several examples of the 'triggering' or punctuating effect of numbers can be found elsewhere.

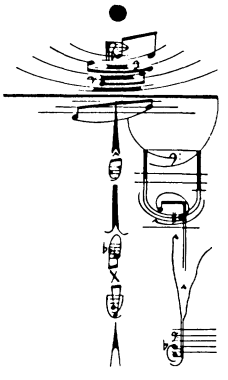
In this way, nine numbers are used in all: 1,2,3,4,5,6,8,10 & 34. (A tiny 7 appears once, but in a special context which I will discuss later). The vast bulk consist of **1**s (96); the remainder diminish rapidly in number: **2**(27), **3**(19), **4**(9), **5**(7), **6**(1), **8**(1). The **34** begins the piece (Ex.1c) and the **10** marks the end of the lifeline before the final 'cadence' (Ex.3). The **8** and the **6** are found very near to the beginning and end of the piece respectively (pp.4 & 189): this may have a muted significance but it is far from coincidental. The tally of numbers and their hierarchic ratio (Cardew was still close to Stockhausen's thinking at the time) may well have been fixed at the onset, while the overwhelming dominance of the **1** suggests a more symbolic role (an atom, the first person singular or whatever). In any event there are entire sections, notably the climactic section (pp.114–141), which have no numbers other than **1**.

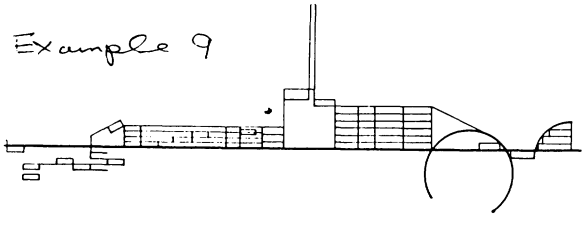
As has been shown, Cardew makes rules but at some point usually breaks them. Indeed the 'number rules' remain unbroken for a very long time, and it is not until page 174 – where a set of seven tiny numbers appears inconspicuously near the bottom of the page (Ex.10) – that the 'rules' begin to be broken. Then on p.182, five Letraset **1**s (also arranged vertically) are placed above and below the lifeline (Ex.11). These deviations play a significant part in bringing the piece to a close: the 'coda' which follows begins with a much quoted *tour de force* on p.183 (Ex.12) while further violations of the 'number rules' occur on pp.185 & 188–191 with hand-drawn numbers below the lifeline. The **10** which brings the lifeline to an end

[5]Several designs in *Treatise*, intentionally or otherwise, resemble objects, a fact that was not lost on the players. Christopher Hobbs first drew my attention to the 'factory' and always referred to p.145 as the 'train-set' page.

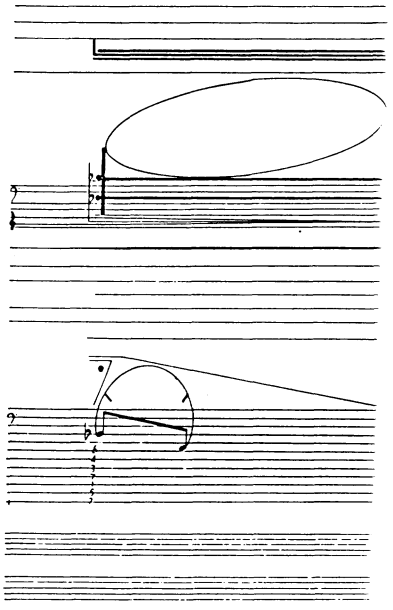


Example 8

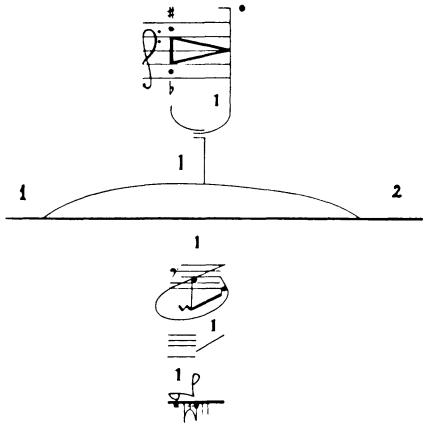




Ex.10



Ex.11



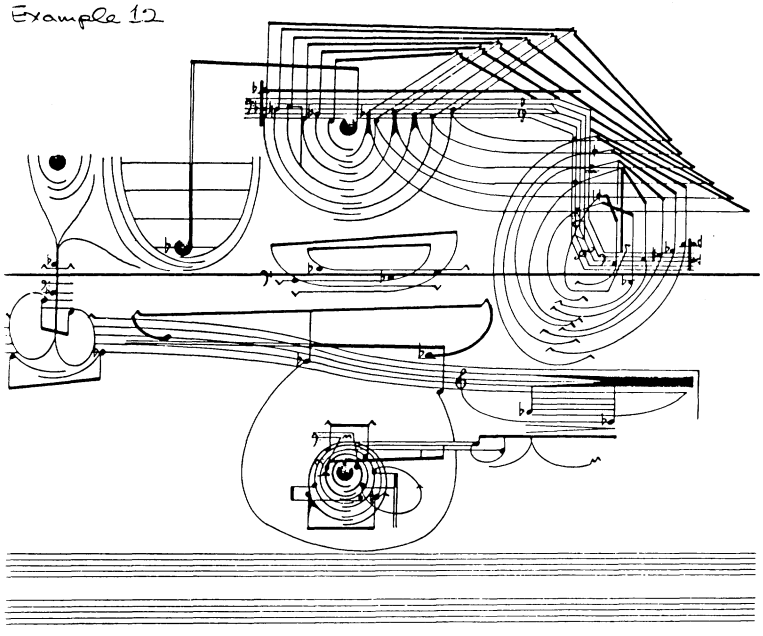
on p.191 (Ex.3) to my mind unites the dominant **1** with the circle which has been such a feature of the work as a whole, both graphically and as note-head. Indeed it could be said that here, in the plane of the lifeline, all three elements are unified in the final numbers.

Elements of Musical Notation

Cardew is extremely economical with his choice of musical elements. Apart from the staves, which have already been discussed, note-heads are featured a great deal, both hand-drawn (ie. slightly oblique – see bottom of Ex.2) or completely circular (as in Ex.12, where there is a mixture). Minim heads occur just as frequently and are treated in the same way. Only occasionally do tails join up with the heads; they are most often featured headless but are alluded to constantly. The only rests I have found are:

and these are used very sparingly indeed. Treble and bass clefs are used significantly, but no C clefs. Of the accidentals, flats are most frequent, sharps fairly common, whilst I can find only two naturals; again, the thinking seems to be hierarchical. All these elements are treated as part of the graphic process and are subject to every

Example 12



imaginable form of treatment: turned around, turned upside down, echoed, enlarged to the point where symbolism ends and abstraction begins, and so on. Like the **Numbers**, the hand-drawn aspect sets them apart, but here the composer substitutes graphic equivalents which are in turn distorted and recombined. In other words the treatment of the musical elements is extremely comprehensive, particularly considering the role of the staves already discussed.

Of the dynamics, only **p** and **f** are used, but to excellent effect, notably on pp.23–29 where a large **f** dominates the beginning of the graphic section mentioned already (see **The Numbers** section). The most striking page of **p** and **f** motifs, however, is p.138. Here the subtleties of Cardew's art, as well as his way of 'arguing' with shapes, are particularly apparent. (Alas, space precludes the inclusion of this page as an example.)

The Graphic Shapes

Curves, straight lines and areas of black are 'all that is the case'[6], to paraphrase Wittgenstein (given that the composer is restricted to black ink and white paper). Shapes of various degrees of regularity, imperfection or, for that matter, recognizability, are formed from these elements. The circle has pride of place, the square is used with great significance, rectangles are fairly frequent, whilst the use of triangles is almost minimal. Up to p.46, it is as if the latter were being deliberately avoided. Again, the treatment is hierarchical. There is no attempt to create any feeling of depth; the whole work is as flat on the page as a Mondrian or Pollock, even though there is considerable use of overlay. Perspective, however, is quite absent.

Circles amongst shapes are as predominant as the **1**s amongst the numbers, and regular portions of circles are also very frequent as, indeed, are regular portions of squares (ie. ¼, ½, & ¾ shapes) whilst the oval plays an important part towards the end (ie. from p.144). If the piece is all but terminated by the **10** discussed earlier, it is also initiated by a similar combination, ie. **34** (see Ex.1c)[7]. Given that *Tractus'* final sentence ('What we cannot speak about we must pass over in silence') is dramatically the seventh and final premise/complex (in all its simplicity) of the entire work, *Treatise* 'begins' where words fail, and if the **34** is insufficient evidence for this (see footnote), then the horizontal 'graphic' seven (ie. tilted through 90 degrees) which follows it (again Ex.1c) should be ample proof of Cardew's intentions[8]. This, however, brings me to my final section.

Tractatus, Treatise and Experimental Music

As a work of graphic art, *Treatise* has undoubted highlights, and as a graphic work whose subject matter is music, it is second to none[9]. As the piece relates just as much to the Wittgenstein, there are many sections in the Cardew which strongly resemble exhaustive 'arguments' (albeit in graphic terms) and often austerely so: the 'coda' is one example while another section which particularly springs to mind (pp.167–173), is very sparse indeed with its hand-drawn 'life-line' and very little else. Here one feels that the composer, like Wittgenstein, is trying to reduce an argument to its most basic components, while at other times there are whole complexes of multiple forms. This complexity, as well as the difficulty of making any single logical code of 'translation' from graphics to sound – especially as musical notation itself is part of the complicated interplay of forces – can thoroughly inhibit a musician such as myself from attempting to 'realize' even a small section of the piece (indeed Cardew himself, when he later turned against his experimental music, was most critical of the way in which in the 1960s, people imagined 'that anything could be turned into anything else'[10]. However, at the time, Cardew himself preferred *Treatise* to be performed by (to quote Michael Nyman[11]) 'people who by some fluke have (a)

[6]*Tractus* (here in the Pears/McGuinness translation) opens in a quasi-biblical way:

> *1 The world is all that is the case.*
>
> *1.1 The world is the totality of facts, not of things*
> *etc.*

[7]On the **34** at the beginning, we have only the following cryptic remark by the composer to go on: 'It is a fact that there were 34 blank spaces before the first sign put in an appearance'. Whatever this means (34 attempts to begin the piece perhaps?), it does reinforce the significance of the upturned 7, which by definition is the first sign to appear *after* the 34 'blank spaces'.

[8]This 'graphic' seven appears frequently throughout the score; most significantly perhaps on p.174 (Ex.11) where it is to be found, this time in a vertical position, above the little string of numbers mentioned above.

[9]Silvano Bussotti is, to my mind, closest to Cardew in artistic merit as a creator of graphic or near-graphic music. Many painters have, of course, also made music the subject matter of their work: Paul Klee's *Heroic Fiddling* (a hommage to his friend, Adolph Busch) for example. Kandinsky's abstract canvasses also owe much to music, as is well known; indeed his choice of title frequently reflects this, eg. *Composition No.4, Improvisation No.2*, etc.

[10]From *Stockhausen Serves Imperialism and other articles* by Cornelius Cardew, (Latimer, 1974) p.83.

[11]From *Experimental Music: Cage and beyond* by Michael Nyman (Schirmer Books, 1974), p.100.

acquired a visual education, (b) escaped a musical education and (c) have nevertheless become musicians' (ie. improvisors mainly of Jazz, such as Keith Rowe and Eddie Prevost, who were the leading figures in AMM, a group to which Cardew belonged in the early 1960s.) My appreciation of the work, however, stems not from a regard for it as a piece of experimental music, but from a fascination with its visual dexterity and the author's attempt to create a large and entirely logical world of 'visual' musical imagery which seems to say everything 'about' music but none of which is music.

To describe the influence of Wittgenstein on Cardew and its relevance to English Experimental Music in general, we need to broaden our approach. On completing *Tractatus*, Wittgenstein felt he had said all that could be said in that particular field and turned away from philosophy altogether, initially to work as a school-master. Later, more dramatically, he denounced *Tractatus* altogether as, essentially, pursuing the wrong approach and proceded to evolve an altogether different philosophy, arguably as influential as his earlier work had been. Without going into details, it is not difficult to see strong parallels with Cardew's own development after *Treatise*: the formation of the Scratch Orchestra with Cardew as its essential luminary, close in style to the way in which Wittgenstein taught at Cambridge, with its way of 'working out' ideas *in situ* with sudden insights, and significantly, with others (students, disciples or whatever); and then later, in 1971, Cardew's renunciation of virtually all former 'experimental' ideas in favour of a much more direct and practical kind of music (theoretically: 'music for the people' but rarely turning out as such). In fact this desire to say as much as possible in one highly complex direction (*Treatise*), to evolve ideas in a more social context (the Scratch Orchestra), and then to start afresh in a dangerously retrospective area (the re-application of tonality), is a tribute not only to the composer's strength of conviction but also to the courage with which he could repudiate his earlier work. I do know that Cardew was particularly fond of this quotation from Ezra Pound's 53rd Canto (at least at the time he wrote *The Great Learning*, but I suspect subsequently as well): 'Tching' (the great 18th-Century Chinese emperor, Tching Tang) 'prayed on the mountain and wrote MAKE IT NEW on his bath tub; Day by day make it new!' I suspect that Cardew found kindred spirits not only in old Chinese emperors (or for that matter, in Ezra Pound, whose translation of the Confucian *Great Learning* Cardew used in his settings), but especially in Wittgenstein whose intense desire to say 'everything and nothing' – and, in a sense, contain the world – was such an inspiration to the creator of *Treatise*.

I would like to thank Christopher Hobbs, who was a member of AMM for a time and took part in several 'realization' of *Treatise*, as well as Virginia Anderson who is a leading authority on English Experimental Music, for stimulating many of the ideas of this article. Michael Parsons, who was particularly close to Cardew during the 'Scratch Orchestra' period, also made some helpful suggestions.