

Cornelius Cardew

TREATISE HANDBOOK

including

Bun No. 2

Volo Solo

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(by Michael Chant)

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Introduction

I wrote Treatise with the definite intention that it should stand entirely on its own, without any form of introduction or instruction to mislead prospective performers into the slavish practice of 'doing what they are told'. So it is with great reluctance – once having achieved, by some fluke, the 'cleanest' publication it were possible to imagine – that I have let myself be persuaded to collect these obscure and, where not obscure, uninteresting remarks into publishable form.

The temptations to explain why there is no explanation and offer instructions on how to cope with the lack of instructions hold no attraction. However, the years of work on Treatise have furnished me with a fund of experience obviously distinct from the experience embodied in the score itself. And this fund continues to accumulate, since my experience of and with the piece is by no means completed with the completion of the score; so some of the excreta of this fund may as well be made available to those who, because it's published, may shortly wish to be occupied with the score. Possibly some errors and misconceptions may thus be avoided.

To complete the information content of this handbook I must briefly outline the biography of the piece.

Early in 1963, on the basis of an elaborate scheme involving 67 elements, some musical, some graphic, I began sketching what I soon came to regard as my Treatise and pressed quite quickly ahead to what is now page 99. To start with my idea of what the piece was to be was so sketchy as to be completely inarticulate; later, in Buffalo in November 1966 I felt it necessary to completely re-compose the first 44 pages. In the summer of 1963 I put pages 45-51, 57-62, 75-79 into fair copy, using a much larger format than the one I finally decided on. The apparent musicality of page 99 seemed a stumbling block that impeded my way for some time to come. My next decisive action on the piece was in December 1964 when I put seven separate pages into freehand fair copy using the format that the piece now appears in. These pages were 53, 64, 74, 89, 93, 96/7 (as one page), 99. I quickly decided against freehand drawing for the finished score. In Rome in the first months of 1965 I pushed ahead to page 143, putting it into fair copy as I went along, with the exception of the 'black pages' which I did not finalise until much later (?Feb 1966). In England in the second half of 1965 I worked on redrawing in the new format the first passages I had copied out (45-51, 57-62, 75-79) as well as reworking the intervening material and drawing it in fair copy. When I came to Buffalo in October 1966 I thus had the score complete and continuous from 45-143.

By this time the fluency of my draughtsmanship had increased and my conception of the piece was expanding. I re-appraised the schematic material that I had yet to compose and made substitutions for some of the elements that had not yet come into play. For instance: I had originally planned to work with solid black ellipsoids towards the end of the piece; now I substituted either the idea of melodic presentation or the tree form that features prominently towards the end (at this point I cannot remember which of these two took the place of the ellipsoids). I had become

more and more strongly aware of the structure's adaptability to my desires since passages like 114-116 and 122-126, and especially from the experience of reworking 1-44. In the final 50 pages I exploited this adaptability to the full, even to the point of activating the (originally passive and merely pause-counting) numbers. These last 50 pages were written in the early months of 1967 in Buffalo.

After this exposition it hardly seems necessary to excuse the fact that many of the verbal notes written while working on the piece at different stages are likely to be mutually contradictory. If they are not it is not my fault. I have made no attempt to clean them up with a view to consistency.

One item weighs against my general reluctance in connection with this handbook, and that is the opportunity to print *Volo Solo*, which I find a useful piece, full of sweet airs, and now I come to think of it that may be the reason European publishers have so consistently sneezed at it.

The analytical article that follows *Volo Solo* was written in Rome shortly after the completion of that piece.

Two years have elapsed since the foregoing was written. I have taken advantage of this delay in publication to include some new material, in particular the lecture on improvisation. Not that I now consider Treatise 'improvisatory' any more than I did while writing it. But it does seem (using hindsight) to have pointed in the direction of improvisation. A square musician (like myself) might use Treatise as a path to the ocean of spontaneity. Whether it will equip him for survival in that ocean is another question altogether. The lecture on improvisation represents an initial survey based on a thin veneer of experience.

9.2.70.

Treatise: Working Notes

6th Feb 63

A composer who hears sounds will try to find a notation for sounds. One who has ideas will find one that expresses his ideas, leaving their interpretation free, in confidence that his ideas have been accurately and consisely notated.

8th Feb 63

Notation is a way of making people move. If you lack others, like aggression or persuasion. The notation *should* do it. This is the most rewarding aspect of work on a notation. Trouble is: Just as you find your sounds are too alien, intended 'for a different culture', you make the same discovery about your beautiful notation: no-one is willing to understand it. No-one moves.

14th March 63

I do not suggest that the art of composition is really a science of measurement and precision. I do think that any work demands precision of judgment, otherwise it will blow away. It is precision that illuminates (Confucius (Pound): "The sun's lance falling on the precise spot verbally"). This clarity is joy, however much it may suit our temperaments to continue rolling in the mud.



is alright if it is exactly what you want (although how interesting is it to want exactly that? Well, that depends on how badly you want it). But it is bad if it is a confession of failure. And that's the point; where is the difference located? Certainly not in the squiggle. Hence for you, dear listener, there is no difference whatever. (Which is why I can never turn to you for advice).

63

(Written in the score) NB the sound should be a picture of the score, not vice versa.

63

Interpreter! Remember that no meaning is as yet attached to the symbols. They are however to be interpreted in the context of their role in the whole. Distinguish symbols that enclose space (circle, etc.); those that have a characteristic feature. What symbols are for sounding and what for orientation. Example: The horizontal central bar is the main and most constant orientation; what happens where it ceases (or bends)? Do you go out of tune (eg)?

15th May 63

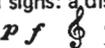
In connection with Frege's 'Foundations of Arithmetic': "Symbols are not empty simply because not meaning anything with which we can be acquainted". This reassurance is disqualified; he means it in the sense that one cannot be acquainted with — for example — 3. Frege would never have considered finishing the sentence with a full-stop after 'anything'. If anybody *had* written it, intending a reference to some super-imagery or Jungian idea evoking a response only in the unconscious,

Frege would have applied his sarcastic "Mysterious power of words devoid of thought" and his confident "No-one will expect any sense to emerge from empty symbols".

May 63

The test: Devote time not to writing on in the treatise, but studying it and trying to realise what exactly is at work in it. *How* does it keep my imagination at work? *What* actually am I manipulating in the way of material? Do I assume some material that is not explicit (eg, real sounds)?

May 63

Intrapolation from the universal shapes of geometry, etc, to the idiosyncratic musical signs: a disturbing element is the signs that are not intrapolated in this way. *pf*  in particular. These pre-formed symbols have no place in (my) netz of stavelines. How to get rid of them is the problem, since they are important indices for many of the basic elements.

26th May 63

The dot-dash relationship of events and happenings. Events: something short, compact, homogeneous that we experience as complete (though we may only experience a part of it in fact) and as one thing. Happenings: something that continues, the end is not legible in the beginning. Two sets of parameters: event parameters and happening parameters.

14th June 63

Visual communications. How to develop a visual presentation through logic. How to show continuity in a diagram; in a series of stages, or by *reading* left to right, etc. In Treatise, the same problem: Which lines are happening continuously, and which are instantaneous events; where to set the borderline? This should be solved. Otherwise work lapses into constant evasions. If one interpretation proves troublesome or unsatisfactory we slip into another; but this must be watched and conscious.

June 63

The grid. Like walking in a thick fog: suddenly we find a thread across the path, catch it and follow it—isn't it already an orientation, before we discover that it leads us up/down, to warmer/colder regions, in straight line or curve? The fact that we follow it makes it an orientation? But Frege: "being thought is a completely different thing from being true" (But Burroughs: "What do you mean is it true? It's only the latest bulletin")

Perhaps finally the merit of treatise will depend on its geometrical resolution! However, it can certainly never be interesting *as geometry* (I have neither the ability nor the desire to make it so).

June 63

A concept, in Frege's sense, defines limits so that one can say with authority whether or not something falls under it. The signs of Autumn '60 should be regarded in this way. If the sign for tremolo occurs it should be possible to hear off each

musician separately and say 'tremolo' or 'not-tremolo' with confidence. Only with this sort of properly decisive interpretation of the signs, are the signs justified as the material of the piece. Otherwise the signs are merely an excuse (for self-expression and random improvisation).

Back to Treatise. In the case of Treatise a line or dot is certainly an immediate orientation as much as the thread in the fog. For immediately it stands in relation to the thick central stave-line, which would correspond in some way to the track made by the man walking. This 'subject line' is essential; any other reference, such as page size, would be totally arbitrary. Note the disconcerting effect of broken staves in 'Winter Music'.

19th July 63

Diagrammatic writing: The aim is to make it so that a sign can only follow appropriately after another sign. (This sentence expresses it badly. A sign that is inappropriate simply will not fit, physically—that is the aim.) In Treatise a sign has to be *made* appropriate to its context. Like words that exist as various parts of speech: according to its position in the grammar you have to select the appropriate form of the word.

July 63

Some principles, positive and negative, to govern interpretation. Remember that space does *not* correspond literally to time. The distance to the sun does not correspond irrevocably to x light-years or months. The time taken does not depend only on speed; it depends on the route. Perhaps when interpreting it will be possible to select some lines as 'time-lines'. Symbols or groups can then be grouped immediately and as a whole and placed in relation to some such time-line. Obviously a circle need not have the duration of its diameter. It may refer to something quite outside the flow of music or sound. It might correspond to some such mark as 'Tuba' or 'espressivo', ie, as a determinant of running action.

Bear in mind that parts of the score may be devoid of direct musical relevance. (Like the composer David Tudor mentioned whose scores were interspersed with obscene poems for the interpreter to read—to himself). Whatever is seen in this way can be understood as 'influences' on the performance.

Just as the perfect geometrical forms are subjected in the score to destruction and distortion, corresponding perfect forms can be sought in sound (octaves and simultaneous attacks are two leads that spring to mind) and these destroyed or distorted. (Eg a circle with an opening might be read as an open fifth with major and minor thirds trilling).

Thus, just as space does not correspond to time (despite the fact that the score is read from left to right, in fact here as in speech or writing) so the vertical space does not necessarily have a constant correspondence in pitch. A set of nine parallel lines at equal spacing may correspond in pitch to notes as diverse as the nine in Wolff's 'For Pianist I', or to nine instruments of which two are brass, three

are woodwind, four stringed, etc, etc.

And yet, where the score becomes fanciful or whimsical so too should the music?

The score must *govern* the music. It must have authority, and not merely be an arbitrary jumping-off point for improvisation, with no internal consistency.

The numbers are included at the pauses for the reason that: any act or facet of the conception or composition of the score *may* have relevance for an interpretation. (In this sense Messiaen writes over a figure 'battements du coeur' etc, because this was *in fact* the reference, and it *might* be of some help to an interpreter). It is the *fact* that there were 34 blank spaces before the first sign put in an appearance.

28th Sept 63

In the Treatise the score seems not representational. No rules of representation. Except the central line represents perhaps the performer or a single line of thought...

Somehow all these terms seem needy and not relevant. What is the relevant way of speaking about Treatise? What are the terms? Can one really say anything explicit about it?

Perhaps I should be more grammatical about writing the score; employ vertical and horizontal connectives ... To connect what? When I am tempted to use objects it is most unsatisfactory of all.

'An articulated network' describes better what I am working on. Not a discussion of (representing) objects. Work with your hands on the material (the netting); don't try and set up grammatical rules which you will only ignore in the next page.

Concentrate on: The score must present something decisive and authoritative—almost dogmatic. Subtleties of design must be precise.

30th Sept 63

Reference. 'What is the reference of the network?' This is meaningless. Something—things—should be referable to the network.

'Make a sound; and then work on this sound with the aid of the Netz. Let the Netz work on the sound'. This *could* be a simple piece. But treatise is not *this* simple piece.

Oct 63

Map projection analogy. Why am I not able to see why it is stupid to make a projection of a projection? Isn't it obvious that if one projection is not suitable, you should make another one, starting from scratch? By distorting the grid-lines around Australia you can get any shape; by distorting the stavelines around a triad you can get any chord. Which is not interesting unless you have something

particular in view (?). What do I have in view?

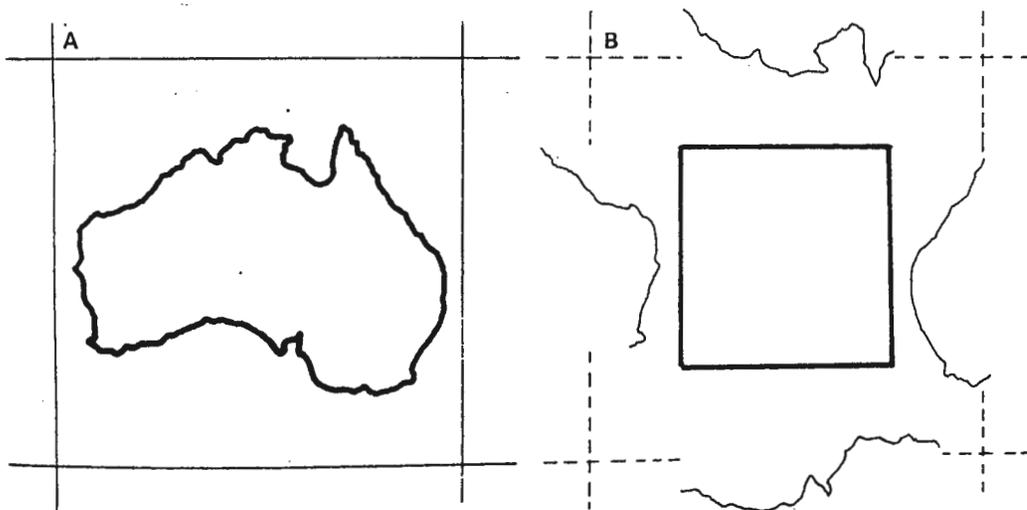
Blank—I give up ('Yes, my eyes are closed').

(What makes this live is the distortion of the 'any' chord. The way in which it has derived from the triad. 'Any chord' is nothing particular, but if it bears the marks of a distortion it has *that* character. This makes work on *Treatise* alive—the various interfering forces distorting and changing everything. The way the elements act on each other—it is like chemical processes: Acid bites, circles roll and drag, and bend the stave-lines of 'musical space'.)

However, if the grid lines are so distorted as to make Australia a perfect square, then in some way the shape of the grid-lines represents the shape of Australia—as though Australia could in some way be separated from its shape (Why should this be necessary?).

In similar fashion the dots of Cage's *Variations I* are stretched by the determination lines into sound. The lines are a manipulation of musical space. How did he do it? Musical space was his material. How? Grid-lines are not material.

Fig 1



The altered grid-lines in B now present a disintegrated mirror-image of the *outline* of Australia (enclosing no space). The space is enclosed by the square that Australia has become. To attempt this on a map of the world would present serious problems. It is only possible when concentrating on a single object (event). By treating certain grid-lines as the property of that object. (Eg the line between Australia and New Guinea cannot mirror both coastlines.)

It is impossible for me to abandon this piece (Rzewski's suggestion). As simply an arrangement of the 67 elements it is purely decorative. It must represent a true statement about a way of making music. Perhaps things will be made clearer by concentrating on the references of the elements. But ...

These cannot refer until they exist in combination.



In Fig 2, A does not refer. Add ♩ (B) and it refers to a particular area of musical space. But suppose you do not add ♩ but a small rectangle (C). What is the reference now? My thought—and this is what I want.

But it seems to refer more to my eye and hand and pen (so what? these represent my thought). The various 'empty symbols' must be combined with *intention*, with something in view. Can I make empty symbols significant intuitively?

But fig 2C is interesting. The rectangle now marks out a limited space for the insertion of a meaning index. A configuration waiting for sense (or life). Eg either D or E (♩ placed at will within the rectangle), etc. etc. Like: the *Art of Fugue* makes no less sense for the fact that it is waiting for someone to write 'string quartet' or 'organ' at the front.

The conflicts in the composition arise from the non-homogeneity of the list of elements. (From this also arise the intuitive 'content' of the piece. Every day we have to create order in a non-homogeneous host of circumstances). This gives me a certain satisfaction—that the difficulties that I experience in writing the piece are of the same kind as those I experience in the flow of eg, my emotional life.

Not quite right. I do not experience any difficulty at all in writing the piece, but in my attitude to what I have written and have still to write. As though it was a person I was living with, and was obliged to fathom to some extent for the sake of daily peace of mind, etc. No. It is not an obligation, it is my *desire* to fathom it out. "Love demands understanding".

Next point: whether or not the empty stave underneath is right. As being suggestive for beginners, it could be part of the score. But really the score itself is the empty stave on which the experienced performer should write.

Oct 63

Rzewski's first comment, that the score is ideal for measuring, is quite wrong. The score was drawn on a grid, and therefore measuring will produce uniform and boring results (it will just tell you what measurements were used in drawing the score)

(which implies that at the moment I am thinking that the interpreter should not be concerned with analysis). A measurement is made once and for all. It is stupid to repeat the process—remember playing Refrain with Karlheinz constantly re-measuring the dynamics. If the proportions were judged by eye it would be different—and interpretative measurement could then be revealing. Well, generally speaking the angles in Treatise were drawn by eye (not measured, so far), so measurers can attach themselves to these.

Dec 63

A practical attempt. Take the enclosed spaces and divide them into the following categories: triangles, circles, circle derivatives (not very many), squares, square derivatives (horizontal and vertical rectangles), irregular enclosures. Musical categories can be matched up with these: triads, trills, irregular tremolos, periodicities, deviating periodicities, clusters that disintegrate in the direction of whatever shape is closest. Dynamics for all shapes can be determined thus: horizontal dimension gives the degree of loudness; vertical dimension gives the degree of dynamic contrast (this works well with most figures, especially circles, because the lower the dynamic the lower the contrast. Vertical rectangles will present problems, as they demand low dynamics with high degree of contrast).

(To a person who thinks the piece is a code to which the key is missing, what I am doing will look like providing a key. Actually I am simply interpreting. The piece is an abstract work of design, to which meanings have to be attached such that the design holds good).

Triangles (triads) generally occur with at least one side horizontal or vertical. If a triangle hangs from a horizontal we can call it top-orientated, if it stands on a horizontal, bottom-orientated; similarly with verticals: left-orientated or right-orientated. These orientation lines can define properties of the triads, as follows:

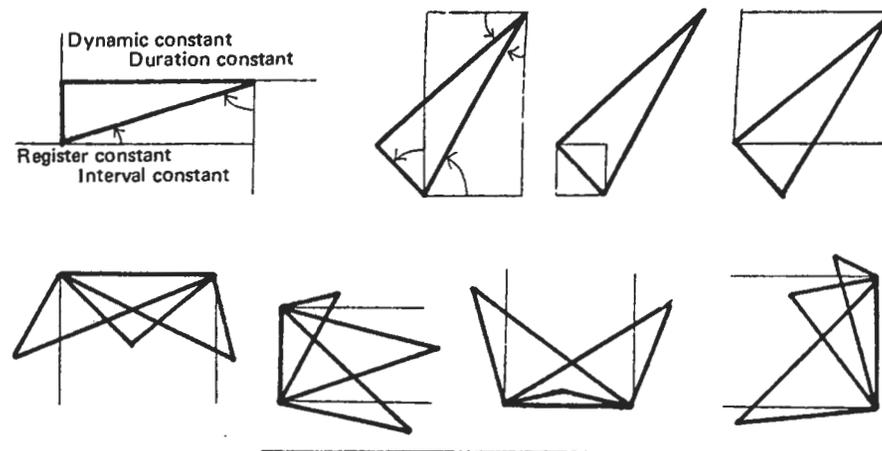
left-orientated—all three elements have equal dynamics,
 top-orientated—all three elements have equal duration,
 right-orientated—the three elements span two equal intervals,
 bottom-orientated—all three elements are in the same register.

If a triangle has both a horizontal and a vertical side then the triad has two constants (two combinations of constants cannot occur: equal durations in the same register, and equal dynamics with equal intervals).

Every triangle can now be seen in relation to these orientation lines. They form a rectangle whose dimensions depend on the triangle. Triangles with two orientated sides or no orientated sides form complete rectangles; those with one orientated side form open-ended rectangles (see fig 3). The deviation of the sides of the triangle from the sides of the rectangle can then be used to determine the deviation from the constant of the various aspects of the triad. Depending on whether the angles are obtuse or acute these deviations can occur either outside or inside the rectangle. This distinction can be interpreted as indicating a deviation in the triad

either at the point of attack or after the attack. (A deviation of duration at the point of attack could mean arpeggiation; deviation of register after the attack could mean that by means of harmonics the notes of a triad resonate in different registers after the attack, to take two slightly difficult cases). In the cases of double-orientated and non-orientated triangles it will be found that one side (in the former case the non-orientated side, in the latter it can be any one of the sides) has a double reference—it indicates a deviation from two constants. In the case of a single-orientated triangle (open-ended rectangles) one aspect of the triad is undetermined (this makes it possible for the combinations to occur that were referred to as impossible above).

Fig 3



Dec 63

Colouring Treatise. Two quite different uses of colour: to clarify and to express. Colouring Treatise, is one trying to clarify the notation, the design of the piece? Does it need clarification? What is there to explain? That such and such elements are combined in such and such ways?

Surely it is more as though one were trying to express the (subjective) effect that the design has on one. And one is trying to express this effect *back through* the design.

I should try and invent a concrete case: the design affects me in such and such a way, and I use it in such and such a way to express this affect that it has on me, etc, etc. The fact that this idea makes me feel tired is suspicious. Cannot the design simply stand on its own, and then I just choose to make music *besides*?

Because: Psychologically the existence of the piece is fully explained by the situation of a composer who is not in a position to make music. The question to be put: 'If he cannot make music (circumstances do not allow) what *can* he make?'. The answer: 'Treatise'.

What it is, is clear: the fusion of the graphic material of two professions. The difficult question is, what is our attitude to it? What are we to *do* with it? The only way to be rid of it is to finish it.

3rd Jan 64

Once you have written music—not just dreamed it but actually committed it to paper—and not great music by any means, you can never be the same again, even if you never write another note. Once you know what it is like to move in that sphere, you always want to return there. The Treatise is almost like a document or movie of that sphere—a travelogue of the land of composition. A real piece of music of course is *not* a document from the sphere of activity in which music is written, it is 'just' a piece of music, which all lovers of music can understand. Treatise tells *what it is like* to manipulate sounds in composition. Sounds—ideas; reading Treatise is a twilight experience where the two cannot be clearly distinguished.

26th June 64 (Florence)

Withdrawal symptoms. The notation is more important than the sound. Not the exactitude and success with which a notation notates a sound; but the musicalness of the notation in its notating.

28th June 64

Treatise. There is a great difference between: a) doing anything you like and at the same time reading the notations, and b) reading the notations and trying to translate them into action. Of course you can let the score work on previously given material, but you must have it work *actively*.

19th Sept 64

Bun for Orchestra: "...for all those who give up halfway, the fainthearted, the soft, those who comfort their souls with flummery *about* the soul and who feed it—because the intellect allegedly gives it stones instead of bread—on religious, philosophic and fictitious emotions, which are like buns soaked in milk". (Musil)

This bun is a *stone* bun soaked in milk.

3rd Nov 64

Making orchestra transcription of Treatise (for instance) is not undertaken for the sake of public recognition, but simply surrendering to the vulgar desire to hear what I imagine. The technique of performance is losing its hold on me (I mean 'the way music is made' as a kind of philosophical enquiry). I remember with gratitude how a similar preoccupation with systems of notation relaxed its grip on me some time ago. Not that I lost interest; simply the threat of an obsession was removed.

5th Feb 65

Treatise. Watch for the laughs! (in re being with 7 Hungarians telling funny stories and finding that I knew where to laugh).

14th Feb 65

In work such as Bussotti's a merely profane interest is aroused (purely aesthetic?). Therefore, asked what all those squiggles in Treatise mean, I might reasonably answer: a) that it is very complicated to explain, and explanations are of dubious value, and b) that in any case it is secret.

21st Feb 65

Wittgenstein: "And if e.g. you play a game you hold by its rules. And it is an interesting fact that people set up rules for pleasure, and then hold by them".

11th March 65"

Treatise: What is it? Well, it's a vertebrate...

22nd Nov 66

Performance advice. Divide the musicians into those involved in dot events (percussionists and pianists?) and those involved in line events. Dot events to be exclusively soft.

20th Jan 67

Reflection before a performance. A musical score is a logical construct inserted into the mess of potential sounds that permeate this planet and its atmosphere. That puts Beethoven and the rest in perspective!

Acknowledgements

Acknowledgements to those who gave me help and encouragement while working on Treatise.

Kurt Schwertsik ("Well, it's certainly a composition")

Giuseppe Chiari ("Il tuo Treatise e importantissimo")

Frederick Rzewski ("Why don't you just abandon it?")

Robin Page (for his continuous enthusiasm, waning only when the piece was complete)

Stella ("You must be a genius *or something*")

Andrew Porter

The Arts Council of Great Britain, for a grant to enable me to complete the composition

Ed Budowski, for his alacrity in publishing the work

Treatise: Résumé of pre-publication performances.

June 64

On the terrace of the Forte Belvedere, Florence (semi open air) pp 57-60 and 75-79 were played as two separate sections lasting 1½ and 4 minutes. Performers were Frederic Rzewski (noises from piano and other sources), Mauricio Kagel (reading aloud), Italo Gomez (cello), Sylvano Bussotti (percussion) and the composer (whistles).

The concert was organized by Giuseppe Chiari and the Gruppo Settanta. Rzewski played the central line (one of the few times the centre line has been interpreted) as continuous sound. At each break in the line he would start a new sound. This served as orientation for the other players, who with the exception of Kagel were also concerned with limited aspects of the score. Kagel insisted on his "freedom".

May 65

Pages 89-106 were performed at Walthamstow Forest Technical College (London). Duration 30 minutes approx. Other items in the programme were LaMonte Young's Poem, Michael von Biel's World II and my own Solo with Accompaniment. Performers were John White (tuba), Roger Smalley (piano), John Tilbury (piano), David Bedford (accordion), Clem Adelman (saxophone) and the composer (guitar and conductor). On this occasion John White set the precedent for "perverse" interpretation by reading ascending lines as descending intervals. The concert was announced in the Financial Times with the following text by the composer:

EXPERIMENTAL MUSIC, by Cornelius Cardew

In Walthamstow tomorrow afternoon at 2:20 a concert of Experimental Music is to take place. It is the latest in a long straggling series of such concerts in this country. It is a sign that the seed of a new kind of musical life planted here by the American composer, John Cage, in 1956 is still growing, albeit in rather out-of-the-way places.

"Generation Music 1" was the title given by John Tilbury and me to our first concert of Experimental Music at the Conway Hall in January, 1960. Since then we have continued to propagate this music with occasional encouragement from institutions (a concert at the Mermaid Theatre in 1961, part of a concert at the American Embassy in January 1964, under the auspices of the Park Lane Group and a concert at the ICA in December, 1964). Visitors from abroad have provided additional stimulus, for instance, the German composer Michael von Biel personally financed a Wigmore Hall concert in June, 1962.

This amount of concert experience has brought at least one fact to our attention, namely that this music is not really "concert music" and hence not readily digestible by the Concert public. The concert at the ICA included works by seven composers all radically different from one another and each of whom provided more food for listening and thought than could easily be assimilated in a single evening. The

audience's neurotic response is thus explained: no sooner had they begun to get their teeth into one set of problems and sensations, than a completely different set would be set before them.

In many of these compositions no particular sounds are specified. And obviously where no sound is specified, any sound may occur: in other words, many of these pieces are capable of generating an unlimited amount of action within the field delimited by the composition, or along the lines laid down by the composition. This means that their best chance of creating understanding in an audience is to expand freely in an unlimited amount of time. And since different performances of the same piece can be very different in character (if different musicians are performing, for example) each piece should be performed a number of times.

The theatre situation seems the only possibility for giving an adequate representation of such pieces. For a start, a repertoire of 20 compositions could be booked for a 2 month season at a London theatre, each composition being given three performances spaced out over two months

In Walthamstow the situation is very different. The boardroom of the South West Essex Technical College and School of Art has been made available to John Tilbury, who holds a Liberal Studies lecturing post at the College, and endeavours to initiate day-release carpenter's, plumbers' and joiners' apprentices into the mysteries of Experimental Music. His job is to de-solemnise the word "music" which is heartily abhorred by the majority of his students. To this end he has invited David Bedford (melodica and other sound producing media), John White (tuba), Roger Smalley (piano), Clem Adelman (tenor sax), and myself to play a program of works by Cage, von Biel, LaMonte Young and myself.

The general thesis of this programme is that music is not the same as sounds (a deep proposition that will probably never be fully clarified), that sounds (any sounds) *become* music if they are made or used by a musician, and that sounds are a feature of musical performance, but not a feature of musical composition. For example, my own work, TREATISE is a continuous weaving and combining of a host of graphic elements (of which only a few are recognizably related to musical symbols) into a long visual composition, the meaning of which in terms of sounds is not specified in any way.

Any number of musicians using any media are free to participate in a "reading" of this score (it is written from left to right and "treats" of its graphic subject matter in exhaustive "arguments"), and each is free to interpret it in his own way. Any rigidity of interpretation is automatically thwarted by the confluence of different personalities.

I, as the composer, have no idea how the piece will sound in performance. And why should I? Our "Great Musical Heritage" is not in the immutable grooves of the thousands of gramophone records transmitting to us the great voices of the past. It

is the enrichment of something primitive that we all carry around inside us: our living response to present experience.

Sept 65

pp 45-64, 74, 89-127 were performed at the Theatre Royal, Stratford (London). Treatise was the only musical item on the programme, which was organized by Mark Boyle for the Institute of Contemporary Arts. Duration was 40 minutes approx. Performers: John Tilbury (piano), the composer (cello), Kurt Schwertsik (horn), John Surman (saxophone), Keith Rowe (electric guitar). Peter Greenham conducted.

This was the first performance in which the pauses (numbers) were read as repeated chords. Briefly, the system is this: at each number each performer selects a note at random and plays it as softly as possible, repeating it as often as the number indicates and holding each repetition for a number of seconds corresponding to the number of repetitions. For example: 5 equals five repetitions of the same chord each lasting 5 seconds (the repetitions are coordinated by the conductor). The number 1 is regarded simply as a silence.

Three rehearsals preceded this performance, and Schwertsik made the ominous remark 'The more you say about it the more sense it makes'. Page 74 was coordinated in detail as a piece on its own, each of the five players associating himself with one of the lines of the five-line system the page is based on. Thus the short line at the beginning rises from position 3 to position 2, and in the interpretation a phrase begun by musician 3 is completed by musician 2. Etc. Also in this performance the general principle was initiated of regarding distance away from the centre line as being indicative of loudness (the centre line representing silence).

Oct 65

A solo reading of pp 107-126 at Watford Institute of Technology (London). In the first half of the programme I played a solo version of Stockhausen's Plus-Minus, and I used the same instrumentarium for Treatise: piano, gong, three transistor radios. Duration approx 20 minutes.

Here for the first time I regarded the five-line system as a chord which progresses according to certain rules linked with angles made by the lines (see note for 4 trombones below). Small enclosed spaces connected with the five lines I interpreted as preparations inserted in the relevant strings of the piano. The gong was associated with squares in the score, and the radios with circles.

15th Jan 66

BBC recording of pp 107-126 for the series 'Composer's Portrait'. Duration 20 minutes approx. This performance was largely based on the performance of October 65. Musicians taking part were John White (trombone), John Tilbury (piano), David Bedford (accordian), Keith Rowe (electric guitar), Peter Greenham (Hammond organ) and the composer (piano, gong and radios). The broadcast was preceded by

the following text:

A composer's portrait is his Music. So I decided that this programme should consist mainly of music. Quite to what extent this music is *mine* is a point I will come back to in a minute. First I would like to say something about the piece itself, whose name is Treatise — T-R-E-A-T-I-S-E.

The idea of writing Treatise came to me at a time when I was working as a graphic designer in a publisher's office. While there I came to be occupied more and more with designing diagrams and charts and in the course of this work I became aware of the potential eloquence of simple black lines in a diagram. Thin, thick, curving, broken, and then the varying tones of grey made up of equally spaced parallel lines, and then the type—numbers, words, short sentences like ornate, literary, art-nouveauish visual interlopers in the purely graphic context of the diagram. Recently, working on the performance we are going to do now, it has struck me that the use of a wireless set as a musical instrument is analogous to the appearance of type on a diagram. It is a pre-processed, fully-fashioned element in amongst a whole lot of raw material.

Actually the score of Treatise does not contain any type. It is a score consisting entirely of lines and shapes—it contains no sounds, no directions to putative performers. It is still incomplete—about 80 pages exist, of which we will be playing a batch of 19. When it is finished it will be about 200 pages long—200 pages of lines and shapes clustered around a strong, almost continuous central line, which can be imagined as the life-line of the reader, his centre, around which all manner of activity takes place. Some of the graphic material is actually musical in origin—for instance, the five-line musical staff is constantly in evidence in all shapes and sizes—but it is always ambiguous. Nevertheless, it is my contention that an instrumentalist who reads through 200 pages of such material will inevitably find himself forming musical associations, and these will form the basis of his interpretation.

Such associations belong of course to the musician who has them, and that is why I hesitated at the beginning to talk of the sounding music as *my* music. What I hope is that in playing this piece each musician will give of his *own* music—he will give it as his response to *my* music, which is the score itself.

This performance was re-broadcast on 8th Feb 1970, preceded by the following text:

I now regard Treatise as a transition between my early preoccupation with problems of music notation and my present concerns—improvisation and a musical life. It was a strenuous transition; I worked on the piece for five years, not knowing where it would lead, and came out of it more lost than when I went in, and desperately scanning the horizon for the next mountain range.

However I would have been a great deal loser if it hadn't been for the performance of January 1966, the tape of which you will hear in a minute. This was one of the first occasions on which I worked with Keith Rowe, who bore more or less the

same relation to the electric guitar as David Tudor did to the piano (I put that in the past tense because by no stretch of the imagination could you now call them guitarist or pianist respectively).

Keith Rowe, together with Lou Gare, Eddie Prevost and Laurence Sheaff had at that time already begun their AMM weekly improvisation meetings, which I joined shortly after this. Joining AMM was the turning point, both in the composition of *Treatise* and in everything I have thought about music up to now. Before that, *Treatise* had been an elaborate attempt at graphic notation of music; after that time it became simply graphic music (which I can only define as a graphic score that produces in the reader, without any sound, something analogous to the experience of music), a network of nameless lines and spaces pursuing their own geometry untethered to themes and modulations, 12-note series and their transformations, the rules or laws of musical composition and all the other figments of the musicological imagination.

Up to the time of this performance, improvisation had always terrified me; I thought it must be something like composing, but accelerated a million times, a feat of which I knew I was incapable. With the AMM improvisers I discovered that anyone can play, me too, provided, as a Chinese musician of the 16th century put it, "the thoughts are serious, the mind peaceful and the will resolute", and what comes out in such play is vital and direct, rather than a translation or interpretation of intellect, attitude, notation, inspiration or what have you.

Well, scrutinise any point closely enough and you are liable to see it as a turning point, in relation to which everything else is either before or after,—and this tells us something about the activity of scrutinising, but very little about music. Which is my devious way of saying that what you are going to hear is music, not a turning point, and the players of the music are John White, David Bedford, John Tilbury, Keith Rowe, Peter Greenham and myself. We played a section of about 20 pages occurring somewhere towards the middle of the 193-page score. These 20 pages were at that time the most recent instalment; the rest of the score was still to be written.

19th February 66

At the American Artists' Centre in Paris we performed pages 89-142 taking 40 minutes approx. Performers were John Tilbury, David Bedford and the composer. This was the first reading to include the 'black pages' (black areas were regarded as melody) and the first public performance that 'went astray' (disconcertingly Tilbury was two pages behind most of the time). *Treatise* was preceded by *Volo Solo* on piano and prepared piano and followed by a simultaneous performance of works by George Brecht, Lamonte Young and Michael von Biel.

? February 66

Leeds, England. A reading by circa 15 art students plus Robin Page and the composer of pages 89-129. A coloured and enlarged score was used (painted by the students during the preceding days) and the (student) conductor moved a

baton continuously along it to keep everyone together. Duration 30 minutes approx. Also on the programme were compositions by Cage, George Brecht and LaMonte Young.

The following note was written in May 66 to support my application to the Arts Council of Great Britain for a grant to forward me towards the completion of the piece:

Treatise is a graphic score, composed without reference to any system of rules governing the interpretation. It was begun in 1963 and is still incomplete; the hundred pages that are ready at present represent slightly over half the whole piece. The length of the score is the justification for the absence of an interpretative system; the graphic material is treated of in such an exhaustive manner that an interpretation (musical or otherwise) is able to emerge quasi-unconsciously in the mind of the reader in the course of reading the score. Any number of musicians with any instruments can take part. Each musician plays from the score, reading it in terms of his individual instrument and inclination. A number of general decisions may be made in advance to hold the performance together, but an improvisatory character is essential to the piece. An appreciation or understanding of the piece in performance should grow in much the same way as the musicians' interpretation. Orientation is slow, in proportion to the length of the piece, but it is spontaneous, since no specific orientation is prescribed.

18th Sept 66

Warsaw Autumn Festival late night concert. We read pages 45-88 and took approximately one hour over it. Performers were John Tilbury and Zygmunt Krauze (pianos), David Bedford (accordion) and the composer (cello/conductor). All instruments except accordion were amplified.

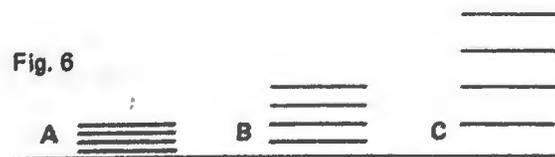
Originally a trombone quartet from Sweden were to have taken part in this performance, and with this in mind I wrote the following provisional instruction sheet for them:

All play together wherever the 5-line musical staff appears (agree as to what constitutes an appearance). Each trombonist should appropriate one of the five lines as his particular domain (ideally there should be five trombones, or a way may be found whereby each of the four will interpret one of the four spaces between the lines). In the example below the top line is read by 1st trombone, 2nd line by 2nd trombone, 4th line by 3rd trombone and bottom line by 4th trombone. Each trombonist selects a particular note for the first occurrence of the staff. This note may be articulated in any way, not necessarily as a single held duration corresponding to the length of the line. Intervalllic progression from the original note can be derived as shown in Fig 4: A means perfect or augmented fourth up; B means minor or major third up; C means minor or major second up; D means perfect or augmented fourth down; E means minor or major third down; F means minor or major second down.



Fig. 5.

Fig 5 is an example: A is a passage from p 45 of the score: B is a possible realisation of it. The chord at the beginning of B is arbitrarily selected, the chord in brackets at the end is used for the commencement of the next occurrence of the 5-line staff. Generally speaking dynamics should be governed by the spacing of the lines.



In fig 6, A is soft, B is medium, C is loud. Naturally each trombonist may also select other material in the piece to associate himself with. But at each occurrence of the 5-line staff the four players should function as a group.

17th Dec 66

Albright-Knox Art Gallery in Buffalo NY. Pages 1-20 were read, lasting 20 minutes approx. Performers were Carlos Alsina (Wurlitzer organ), Klaus von Wrochem (violin), Edward Burnham (percussion), Jan Williams (piano), Maryanne Amacher (halfshare of electric bass), Paul Zonn (clarinet), Jean Dupouy (viola), William Penn

(trumpet), Andrew White (sax and electric bass), Makoto Michii (double bass) and the composer (radio/conductor).

The number 34 at the beginning was reduced to 17 and the performance began with 17 pianissimo chords each lasting 17 seconds. Each instrumentalist was concerned with particular configurations in the score. The five-line system was interpreted as a progression of five-note chords worked out by the composer, played by Alsina, Zonn, Von Wrochem, Michii, Dupouy. Conducting procedure: all instrumentalists besides following whatever beats were given (these were arranged beforehand) were supposed to turn pages in time with the conductor, who was sitting in front and has his score placed so that all could see which page was open. The following note was printed in the programme:

Treatise is a long continuous drawing—in form rather similar to a novel. But it is composed according to musical principles and is intended to serve as a score for musicians to play from. However, indications of sounds, noises and musical relationships do not figure in the score, which is purely graphic (rare exceptions occur when the signs used are reminiscent of musical notations—to the professional musician, these appear as lights in the fog, but for the fully indoctrinated reader, they pose knotty problems in musicology). The score does not specify the number or kind of instruments to be used, nor does it provide rules for the interpretation of the graphic material. Each player interprets the score according to his own acumen and sensibility. He may be guided by many things—by the internal structure of the score itself, by his personal experience of music-making, by reference to the various traditions growing up around this and other indeterminate works, by the action of the other musicians working on the piece, and—failing these—by conversation with the composer during rehearsal. The general characteristic of the work is given by the title. TREATISE is an exhaustive investigation or 'treatment' of a number of related topics.

20th Dec 66

Carnegie Recital Hall, New York City. Pages 1-44, duration 30 minutes approx. Same personnel, method and programme note as preceding performance. The initial number was again changed to 17.

16th Jan 67

Arts Council Drawing Room, London. Pages 107-116, duration 50 mins. Performers: John Tilbury and David Bedford (assisted by Francine Elliott). Performers used watches and allowed 5 minutes per page. The first half of the programme was devoted to Solo with Accompaniment.

15th Sept 67

Prague. Quax Ensemble led by Petr Kotik. Performance probably comprised pages 1-44. Programme details follow:

Quax Ensemble Prague

Music Concert: Sunday, September 15th 1967

4 PM – 7:30 PM

Faculty of Law Student Building

17 October Street

Prague 1.

Performers: Petr Kotik, Jan Hyncica, Pavel Kendelik, Vaclav Zahradnik, Josef
Vejvoda

Assistance: Jan Spaleny

Technical Direction: Jan Rendl

PROGRAM:

4:00–4:20 PM Karlheinz Stockhausen: Plus-Minus

4:30–5:10 PM Petr Kotik: Contraband [live electronic sound]

5:30–7:30 PM Cornelius Cardew: TREATISE

Single admission: 10 kes,

Available in ticket counters.

8th April 67

Commonwealth Institute, London. Pages 1-193, duration 150 minutes approx.

Performers were Zygmunt Krauze, John Tilbury, David Bedford, John White, Egon Mayer, John Surman, Lou Gare, Laurence Sheaff, Eddie Prévost, Keith Rowe, Robin Page. The performance was directed by the composer. Programme note:

Treatise is a continuous graphic score of 193 pages to be read in sequence and from left to right. It is comparable to a lengthy work of prose treating exhaustively of a number of topics. In Treatise the topics are graphic elements, and an unspecified number of performers is free to relate to these elements as each sees fit. There are no rules governing this relationship. No player is told what to play; each has to find this out for himself by reading the score.

Probably this will be the only occasion on which the work will be read through from beginning to end as a single performance. In future — as in the past, at various stages of the work's incompleteness — sections of it will be performed, and performers will be free to interpret these sections in greater detail than will be possible in the present reading. The function of the whole is to establish the language so that each detail can become clear and explicit.

The work is played without a break; listeners requiring an interval should take one at their discretion.

Conducting procedure was the same as for the performance of 17th Dec 66. But this time the 34 was left intact at the opening. The 34 repeated chords each lasting 34 seconds accounted for about 20 minutes of the performance. Again the various aspects of the graphic score were allocated to the various players, some of them

working in pairs. Robin Page was to read the 'representational' elements in the score (those that are reminiscent of real-life objects) as the basis for his visual interpretation. Rowe and Sheaff read straight lines, the former concentrating on horizontals, the latter on verticals. Mayer read freehand lines. And so on. This was a very strenuous performance; as John White remarked afterwards: "It was a music lesson". Only in the last two pages did the tension finally relax (at least in me). From amongst the various sustaining sounds music seemed to be issuing gently from some unspecified source. As though the duration of the performance had been devoted to clearing, ploughing and planting an expanse of desolate land, and only in the last few minutes did the first green shoots begin to show. I felt that with Treatise behind us we were at last in the land of music.

This was the first in a series of four concerts devoted to Experimental Music sponsored by the Arts Council of Great Britain and Michael White. The remaining concerts were devoted to Music for Four Pianos (Terry Riley, Earle Brown, Cage and Feldman); Experimental Works (LaMonte Young, George Brecht, Cage and Ichiyanagi) and Improvised Music (AMM).

19th May 67

York University (England). This performance was billed as a public rehearsal in the afternoon followed by a concert in the evening. We used the two stretches of approx 2 hours each to read the entire score (with a break of one hour in the middle). Performers were Ranulf Glanville, Keith Rowe, Robin Page, John Tilbury, John White and the composer. Each player read the score in his own time, choosing his material independently of the others. The numbers were counted subjectively and generally soundlessly — no more repeated chords. No co-ordination was attempted.

For my own part (played on cello and amplified assorted circles) I decided that the most interesting things to interpret were those that had not been composed. Thus on the cello I read irregular enclosed spaces having 20 sides or more (10 sides or more if extending over 2 pages and 5 sides or more if extending over 3 pages or more): These I read as melodic phrases, curving sides as glissandi and distance away from the centre line indicating dynamics (pitches free). The amplified circles I used for black areas having 20 sides or more (10 or more if over 2 pages, etc. as before). In the pages where black areas occur I interpreted the bold central line as constituting a black area. For the numbers I used an abacus to count off environmental sounds. Material not relating to my own part I read as relating to the music being produced by the other musicians. This was a satisfying performance.

On the Role of the Instructions in the Interpretation of Indeterminate Music.

The writing down of music is in process of disintegrating. In the past the notation of music was dependent on flexible conventions and a performer could use these to correct the tendencies of an aural tradition. In other words: by going back to study the notation of a piece a prospective interpreter could verify whether or not a certain popularisation by a famous virtuoso was justifiable. In the notation of music today two tendencies are apparent: 1) to so reduce the flexibility of the conventions that they become virtually inflexible (this means that and nothing else), and 2) to so increase the flexibility of the conventions that they in fact become non-conventional (this may mean this, that or the other, and not necessarily any of these). This is a simplification, and the examples I propose to discuss in this text are intended to show the complex situations that can arise with respect to pieces of music that are really delightfully simple and refreshingly primitive. (Everyone knows the anguish undergone by people who in the end come out with some gloriously simple remark like 'There is no other God but me' or '*Cogito ergo sum*').

I propose to use my own *Volo Solo* as an example to demonstrate the 'normal' situation encountered in indeterminate music, ie that there are certain notations, and then certain instructions about how these notations are to be read or understood. My other example will be LaMonte Young's *X* (any integer) for Henry Flynt, a remarkable case of a piece that consists of no notations, and performing instructions that no one can agree upon.

Many pieces (*Volo Solo* is one) contain internal implications some of which (not all) the composer is aware of. These he describes in his instructions. But there may be other implications which require that certain instructions should be waived and others observed. Performers have to be careful to realise the exact nature of the notation *apart* from the instructions before venturing to shift the piece's emphasis onto another aspect. The tones of *Volo Solo* are the nucleus of the piece. The notion of performing excessively fast is a relative one: an amateur's fast will be relatively slow, therefore slowness is not something alien to the piece, therefore some virtuoso (he would also have to be something of a mental virtuoso) might decide to play it at a leisurely speed. Even at that speed he might manage to make the instrument 'break apart', although that again, being a subjective experience, is not necessarily binding. So, in this case, the notes represent a sort of base camp, the instructions pointing out one route (or group of routes) to the summit which is a performance. The instructions are the imposition of a system on a mass of raw material, and no system, however closed, perfect and complete, can lay claim to being the only one, since what a system really represents is a human interpretation and ordering of given facts or material.

The case of LaMonte Young's *X* for Henry Flynt is more difficult. What is the nucleus of that piece? What the instructions? We may deduce that LaMonte's idea embraced the following categories and that he made decisions with regard to them

(decisions are given in parentheses):

- a) a sound (cluster, gong, bucket of bolts,)
- b) repetition of a sound (uniform)
- c) a time interval (1-2 seconds)
- d) an articulation of the time interval (a relatively short silence between sounds)
- e) a dynamic (as loud as possible)
- f) (*not* total duration of the piece, but) Number of sounds
- g) a number of performers (one)

These categories and their interrelationships constitute the matrix of the piece.. The decisions relating to b, c, d are expressly given by LaMonte. The decisions for a and f are definitely left open. e and g have been cursorily fixed, but without special mention. (g was altered by Rzewski, for example, in his performance in Rome with Hans Otte, and the piece was virtually destroyed). When we score the piece in this way it becomes apparent that everything may be altered (by altering the values in brackets) without altering the structure of the piece. Such alterations would produce a family of pieces. all 'topologically' identical. (Invent some). But when LaMonte insists on detail, he insists on his decisions for b, c, d. He *insists* on the variability of f, and *permits* the variability of a (This variability is from performance to performance, not within a single performance).

The foregoing analysis concerns itself with the *internal* structure of the piece. There are other angles. Let us for example take a frontal view: What is interesting about the piece in performance, from the audience's point of view?

- 1) Its duration, and proportional to that:
- 2) the variation within the uniform repetition.
- 3) the stress imposed on the single performer and through him on the audience. (Note that none of these form part of the compositional structure of the piece. These elements occur *rather in spite of* the instructions, although naturally they are the *result* of them. What the listener can hear and appreciate are the *errors* in the interpretation. If the piece were performed by a machine this interest would disappear and with it the composition. Truly this piece is gladiatorial; what the audience comes to witness is a rosy crucifixion.)

Empirically then we can proscribe the 'area' of the piece (a subgroup of the family of topologically identical pieces): (Of course a different subgroup of that family might produce a different set of interesting and essential features in performance. eg with a large number of players the variation from uniformity is greater, but in the case of Rzewski's performance we have seen that this is just what diminished the interest of his performance. As in Homeopathy, perhaps the effect of the variation varies in inverse proportion to its magnitude.)

This 'area' then is:

- a) one dense heavy decaying sound
- b) repeated as uniformly and regularly as possible

- c) at an interval of circa 1-2 seconds
- d) with a short silence between each repetition
- e) the sound is played as loud as possible
- f) a relatively large number of times
- g) by one performer.

Here we see that a, c, d, f are still free, but within fairly strict limits (and once the choices are made they must be adhered to uniformly), and b and e are relatively fixed (by 'as possible'), and g is fixed immutably (by the number 1).

Now we have to consider the internal implications in this piece of the words 'as possible', as they occur for instance in e: as loud as possible. Suppose the number of repetitions chosen is 3792, and the performer is in peak physical condition but has not played the piece before, and suppose also that he is playing it as a large cluster on the piano. The first cluster is very loud indeed, but after a certain number (say 600) he is physically exhausted and unable to control the movements of his arms beyond just letting them fall and then picking them up again with ever-increasing difficulty. He is still playing 'as loud as possible' but the variation in the sound has risen steeply; it is in fact no longer loud in the absolute sense, and it is unrecognizably deformed. So now suppose the performer has rehearsed the piece beforehand and realises the strain that he will suffer in the course of it. For the sake of maintaining uniformity he decided to play the cluster moderately loud and thus keep the variation within homeopathic limits. Some listeners might prefer this latter attitude, finding the spectacle of iron reserve and endurance an edifying one, whereas the spectacle of the physical destruction of a man is a degrading one (even though it be only temporary). Others may prefer the former attitude, on the grounds that 'there is more happening', or that the spectacle of destruction is necessary for the fortification—or understanding—of the constructive instinct, or purely for sadistic reasons.

So much for the words 'as possible' in connection with loud. Let us now look at their implications as applied to 'uniformity and regularity.' What is the model for this uniformity? The first sound? Or does each sound become the model for the one succeeding it? If the former, the first sound has to be fixed in the mind as a mental ideal which all the remaining sounds are to approach as closely as possible. (In practice the first sound too is an attempt to approach a mental image that exists already before the piece began). If the latter method is chosen, constant care has to be taken to assimilate the various accidental variations as they occur. David Tudor has approached the piece in this way and tells how, on noticing that certain keys in the centre of the keyboard were not being depressed it became his task to make sure that these particular keys continued to be silent. This task of assimilating and maintaining accidental variations, if logically pursued, requires superhuman powers of concentration and technique. (It also presents the possibility that the piece might come to a 'natural end' before the decided number of repetitions has been accomplished). It must be remembered that although uniformity is demanded ('as far as possible'), what is *desired* is variation. It is simply this: that the variation that is desired is that which results from the human (not the superhuman) attempt

at uniformity.

These same remarks can be applied to the prescription 'as regularly as possible', with the added difficulty that there are two kinds of regularity: subjective regularity and mechanical regularity, besides various other regularities that may be created by dependence on characteristics of the sound. For instance, the sound might be cut off each time when it reaches a certain dynamic level, and thus the time-interval would vary in proportion to the variation in the loudness with which the cluster is played—which might be considerable, as we saw earlier.

What emerges from all this is that in the work of many composers (including Feldman, Wolff, Cage, myself, Rzewski, LaMonte Young and even Stockhausen if he himself happens to be absent) the interpretation of the *instructions* for a piece has a decisive influence on the performance. We have seen that to say that the instructions govern the performers' interpretation of the notations does not cover the case. Very often a performer's intuitive response to the notation influences to a large extent his interpretation of the instructions. In a lot of indeterminate music the would-be performer, bringing with him all his prejudices and virtues, intervenes in the composition of the piece, influences its identity in fact, at the moment when he first glances at the notation and jumps to a conclusion about what the piece is, what is its nature. Then he turns to the instructions, which on occasion may explain that certain notations do not for instance mean what many people might at first blush expect, and these he proceeds to interpret in relation to his preconceptions deriving from the notations themselves. This is often a good thing. Since very often the notations themselves are the determining factor in the method of composition of a piece, and hence in the piece's identity and structure. And the composer often provides his instructions as an interpretation of the piece, and not a binding one (as is clear in many of Cage's scores). Often, then, these instructions are limiting (at best) and misleading (at worst) and their interpretation is a matter of great importance for would-be performers. And the most important matter for the performer to decide is: which instructions are interpretative (an interpretation provided gratuitously by the composer) and which ones are essential to the piece, ie are actually notations in their own right, in which case they must naturally be respected. Ideally then, we should while composing strive to eliminate all mere interpretation, and concentrate on the notation itself, which should be as new and as fresh as possible (hence less likely to arouse preconceptions in the interpreter—though if you have a good interpreter isn't it likely that his preconceptions will be good too?) and should contain implicit in its internal structure, without any need of any instruction, all the implications necessary for a live interpretation.

At the outset I said of my *Volo Solo* that the instruction, 'as fast as physically possible' was an interpretative instruction, and that since an amateur's 'fast' is relatively slow, that 'speed' is not an essential of the work. But there is another instruction which says that the piece may be played by a 'virtuoso performer on any instrument', and if the piece is to be played only by virtuosí, i.e. people who are able to perform magic on their instrument, then it cannot be performed by an

amateur, and this may lead us to conclude that speed is after all essential to the piece. But that is not the case—none of the instructions to the piece are essential, they are all interpretative, even the very title itself which might be taken to imply that it must be played by someone 'alone'. But no, I can very well imagine it being performed by several players. So none of the remarks that surround the piece are essential. In fact the most useful instructions are those which make it plain under what conditions the notation itself is not binding (ie when notes may be omitted, etc).

At this point we may anticipate the probable end of the enquiry and assert—I repeat, this is only a probability—that what is implicit in the notation is this: that nothing whatever is binding, not even the well-tempered scale that I chose purely as a matter of convenience. I hope I have now made it clear that the writing down of music is in process of disintegrating. Volo Solo is evidence of the far advancement of this process at the present time, but I hope this will not prevent virtuosi and others all over the world from turning over its crumbling leaves during the short and precious duration of its half-life, on the off chance of deriving insight, edification or at least enjoyment from playing these notes that are not 'binding' (whatever that may mean), and perhaps even communicate something of this to a completely hypothetical and unlikely listener. It is a widely accepted doctrine—and I accept it myself with almost indecent alacrity since my survival depends on it—that even the meanest and most imperfect creature may be the unconscious bearer of a seed which, if by chance it fall on fertile ground, may take root and grow, and contribute, even if only infinitesimally, towards making Everything All Right.

12th February 1965

Towards an Ethic of Improvisation

I am trying to think of the various different kinds of virtue or strength that can be developed by the musician.

My chief difficulty in preparing this article lies in the fact that vice makes fascinating conversation, whereas virtue is viewed to best advantage in action. I therefore decide on an illustrative procedure.

Who can remain unmoved by the biography of Florence Nightingale in Encyclopaedia Britannica?

The career of Ludwig Wittgenstein the philosopher (brother of the famous lefthand pianist who emigrated to America)—whose writings incidentally are full of musical insights—provides an equally stirring example:

He used a large inheritance to endow a literary prize. Studies in logic brought him to the publication of his *Tractatus Logico-Philosophicus* (1918) at the end of which he writes: "My propositions are elucidatory in this way: he who understands me finally recognizes them as senseless,..." and in the introduction: "... the truth of the thoughts communicated here seems to me unassailable and definitive. I am, therefore, of the opinion that the problems have in essentials been finally solved." Then, in the introduction to his second book 'Philosophical Investigations' (1945) he writes: "Since beginning to occupy myself with philosophy again, sixteen years ago, I have been forced to recognize grave mistakes in what I wrote in that first book

"For more than one reason what I will publish here will have points of contact with what other people are writing today.—If my remarks do not bear a stamp which marks them as mine,—I do not wish to lay any further claim to them as my property.

"I make them public with doubtful feelings. It is not impossible that it should fall to the lot of this work, in its poverty and in the darkness of this time, to bring light into one brain or another—but, of course, it is not likely."

In his later writing Wittgenstein has *abandoned theory*, and all the glory that theory can bring on a philosopher (or musician), in favour of an illustrative technique. The following is one of his analogies:

"Do not be troubled by the fact that languages a. and b. consist only of orders. If you want to say that this shows them to be incomplete, ask yourself whether our language is complete;—whether it was so before the symbolism of chemistry and the notations of the infinitesimal calculus were incorporated in it; for these are, so to speak, suburbs of our language. (And how many houses or streets does it take before a town begins to be a town?) Our language can be seen as an ancient city: a maze of little streets and squares, of old and new houses, and of houses with additions from various periods; and this surrounded by a multitude of new boroughs with straight regular streets and uniform houses.

"It is easy to imagine a language consisting only of orders and reports in battle.—Or a language consisting only of questions and expressions for answering yes and no. And innumerable others.—And to imagine a language means to imagine a form of life."

A city analogy can also be used to illustrate the interpreter's relationship to the music he is playing. I once wrote: "Entering a city for the first time you view it at a particular time of day and year, under particular weather and light conditions. You see its surface and can form only theoretical ideas of how this surface was moulded. As you stay there over the years you see the light change in a million ways, you see the insides of houses—and having seen the inside of a house the outside will never look the same again. You get to know the inhabitants, maybe you marry one of them, eventually you are inhabitant—a native yourself. You have become part of the city. If the city is attacked, *you* go to defend it; if it is under siege, *you* feel hunger—you are the city. When you play music, you *are* the music."

I can see clearly the incoherence of this analogy. Mechanically—comparing the real situation to one cogwheel and the analogy to another—it does not work. Nonetheless, in full conscience I soil my mouth with these incoherent words for the sake of what they bring about. At the words 'You are the music' something unexpected and mechanically real happens (purely by coincidence two teeth in the cogwheels meet up and mesh) the light changes and a new area of speculation opens based on the identity of the player and his music.

This kind of thing happens in improvisation. Two things running concurrently in haphazard fashion suddenly synchronise autonomously and sling you *forcibly* into a new phase. Rather like in the 6-day cycle race when you sling your partner into the next lap with a forcible handclasp. Yes, improvisation is a sport *too*, and a spectator sport, where the subtlest interplay on the physical level can throw into high relief some of the mystery of being alive.

Connected with this is the proposition that improvisation cannot be rehearsed. Training is substituted for rehearsal, and a certain moral discipline is an essential part of this training.

Written compositions are fired off into the future; even if never performed, the writing remains as a point of reference. Improvisation is in the present, its effect may live on in the souls of the participants, both active and passive (ie audience), but in its concrete form it is gone forever from the moment that it occurs, nor did it have any previous existence before the moment that it occurred, so neither is there any historical reference available.

Documents such as tape recordings of improvisation are essentially empty, as they preserve chiefly the form that something took and give at best an indistinct hint as to the feeling and cannot convey any sense of time and place.

At this point I had better define the kind of improvisation I wish to speak of. Obviously a recording of a jazz improvisation has some validity since its formal reference—the melody and harmony of a basic structure—is never far below the surface. This kind of validity vanishes when the improvisation has no formal limits. In 1965 I joined a group of four musicians in London who were giving weekly performances of what they called ‘AMM Music’, a very pure form of improvisation operating without any formal system or limitation. The four original members of AMM came from a jazz background; when I joined in I had no jazz experience whatever, yet there was no language problem. Sessions generally lasted about two hours with no formal breaks or interruptions, although there would sometimes occur extended periods of close to silence. AMM music is supposed to admit all sounds but the members of AMM have marked preferences. An open-ness to the totality of sounds implies a tendency away from traditional musical structures towards informality. Governing this tendency—reining it in—are various thoroughly traditional musical structures such as saxophone, piano, violin, guitar, etc., in each of which reposes a portion of the history of music. Further echoes of the history of music enter through the medium of the transistor radio (the use of which as a musical instrument was pioneered by John Cage). However, it is not the exclusive privilege of music to have a history—sound has history too. Industry and modern technology have added machine sounds and electronic sounds to the primeval sounds of thunderstorm, volcanic eruption, avalanche and tidal wave.

Informal ‘sound’ has a power over our emotional responses that formal ‘music’ does not, in that it acts subliminally rather than on a cultural level. This is a possible definition of the area in which AMM is experimental. We are *searching* for sounds and for the responses that attach to them, rather than thinking them up, preparing them and producing them. The search is conducted in the medium of sound and the musician himself is at the heart of the experiment.

In 1966, I and another member of the group invested the proceeds of a recording in a second amplifier system to balance the volume of sound produced by the electric guitar. At that period we were playing every week in the music room of the London School of Economics—a very small room barely able to accommodate our equipment. With the new equipment we began to explore the range of small sounds made available by using contact microphones on all kinds of materials—glass, metal, wood, etc.—and a variety of gadgets from drumsticks to battery-operated cocktail mixers. At the same time the percussionist was expanding in the direction of pitched instruments such as xylophone and concertina, and the saxophonist began to double on violin and flute as well as a stringed instrument of his own design. In addition, two cellos were wired to the new equipment and the guitarist was developing a predilection for coffee tins and cans of all kinds. This proliferation of sound sources in such a confined space produced a situation where it was often impossible to tell who was producing which sounds—or rather which portions of the single roomfilling deluge of sound. In this phase the playing changed: as individuals we were absorbed into a composite activity in which solo-playing and

any kind of virtuosity were relatively insignificant. It also struck me at that time that it is impossible to record with any fidelity a kind of music that is actually derived in some sense from the room in which it is taking place—its shape, acoustical properties, even the view from the windows. What a recording produces is a separate phenomenon, something really much stranger than the playing itself, since what you hear on tape or disc is indeed the same playing, but divorced from its natural context. What is the importance of this natural context? The natural context provides a score which the players are unconsciously interpreting in their playing. Not a score that is explicitly articulated in the music and hence of no further interest to the listener as is generally the case in traditional music, but one that co-exists inseparably with the music, standing side by side with it and sustaining it.

Once in conversation I mentioned that scores like those of LaMonte Young (for example “Draw a straight line and follow it”) could in their inflexibility take you outside yourself, stretch you to an extent that could not occur spontaneously. To this the guitarist replied that ‘you get legs dangling down there and arms floating around, so many fingers and one head’ and that that was a very strict composition. And that is true: not only can the natural environment carry you beyond your own limitations, but the realization of your own body as part of that environment is an even stronger dissociative factor. Thus is it that the natural environment is itself giving birth to something, which you then carry as a burden; you are the medium of the music. At this point your moral responsibility becomes hard to define.

“You choose the sound you hear. But listening for effects is only first steps in AMM listening. After a while you stop skimming, start tracking, and go where it takes you.”

“Trusting that it’s all worth while.”

“Funnily enough I don’t worry about that aspect”.

“That means you *do* trust it?”

“Yes, I suppose I do.”*

Music is Erotic

Postulate that the true appreciation of music consists in emotional surrender, and the expression music-lover becomes graphically clear and literally true. Anyone familiar with the basis of much near-eastern music will require no further justification for the assertion that music is erotic. Nevertheless, decorum demands that the erotic aspect of music be approached with circumspection and indirectly. That technical mastery is of no intrinsic value in music (or love) should be clear to anyone with a knowledge of musical history: Brahms was a greater composer than Mendelssohn, though it can be truly asserted that Mendelssohn displayed more

*Except from a dialogue on AMM by David Sladen.

brilliance in technical matters. Elaborate forms and a brilliant technique conceal a basic inhibition, a reluctance to directly express love, a fear of self-exposure.

Esoteric books of love (the Kama Sutra for example) and esoteric musical theories such as Stockhausen's and Goeyvaerts' early serial manipulations lose a lot of their attraction when they are readily available to all.

Love is a dimension like time, not some small thing that has to be made more interesting by elaborate preamble. The basic dream—of both love and music—is of a continuity, something that will live forever. The simplest practical attempt at realising this dream is the family. In music we try to eliminate time psychologically—to work *in* time in such a way that it loses its hold on us, relaxes its pressure. Quoting Wittgenstein again: "If by eternity is understood not endless temporal duration but timelessness, then he lives eternally who lives in the present".

On the repertoire of musical memories and the disadvantages of a musical education.
The great merit of a traditional musical notation, like the traditional speech notation ie writing, is that it enables people to say things that are beyond their own understanding. A 12-year-old can read Kant aloud; a gifted child can play late Beethoven. Obviously one can understand a notation without understanding everything that the notation is able to notate. To abandon notation is therefore a sacrifice; it deprives one of any system of formal guide-lines leading you on into uncharted regions. On the other hand, the disadvantage of a traditional notation lies in its formality. Current experiments in mixed-media notations are an attempt to evade this empty formality. Over the past 15 years many special-purpose notation-systems have been devised with blurred areas in them that demand an improvised interpretation.

An extreme example of this tendency is my own TREATISE which consists of 193 pages of graphic score with no systematic instructions as to the interpretation and only the barest hints (such as an empty pair of 5-line systems below every page) to indicate that the interpretation is to be musical.

The danger in this kind of work is that many readers of the score will simply relate the musical memories they have already acquired to the notation in front of them, and the result will be merely a gush made up of the various musical backgrounds of the people involved. For such players there will be no intelligible incentive to *invent* music or extend themselves beyond the limitations of their education and experience.

Ideally such music should be played by a collection of musical innocents; but in a culture where musical education is so widespread (at least among musicians) and getting more and more so, such innocents are extremely hard to find. Treatise attempts to locate such musical innocents wherever they survive, by posing a notation that does not specifically *demand* an ability to read music. On the other hand, the score suffers from the fact that it *does* demand a certain facility in reading graphics, ie a visual education. Now 90% of musicians are visual innocents: and ignoramuses, and ironically this exacerbates the situation, since their expression or interpretation of the score is to be audible rather than visible. Mathematicians

and graphic artists find the score easier to read than musicians; they get more from it. But of course mathematicians and graphic artists do not generally have sufficient control of sound-media to produce "sublime" musical performances. My most rewarding experiences with Treatise have come through people who by some fluke have (a) acquired a visual education, (b) escaped a musical education and (c) have nevertheless become musicians, ie play music to the full capacity of their beings. Occasionally in jazz one finds a musician who meets all these stringent requirements; but even there it is extremely rare.

Depressing considerations of this kind led me to my next experiment in the direction of guided improvisation. This was 'The Tiger's Mind', composed in 1967 while working in Buffalo. I wrote the piece with AMM musicians in mind. It consists solely of words. The ability to talk is almost universal, and the faculties of reading and writing are much more widespread than draughtsmanship or musicianship. The merit of 'The Tiger's Mind' is that it demands no musical education and no visual education; all it requires is a willingness to understand English and a desire to *play* (in the widest sense of the word, including the most childish).

Despite this merit, I am sorry to say that 'The Tiger's Mind' still leaves the musically educated at a tremendous disadvantage. I see no possibility of turning to account the tremendous musical potential that musically educated people evidently represent, except by providing them with what they want: traditionally notated scores of maximum complexity. The most hopeful fields are those of choral and orchestral writing, since there the individual personality (which a musical education seems so often to thwart) is absorbed into a larger organism, which speaks through its individual members as if from some higher sphere.

The problems of recording

I have touched on this problem twice already. I said that documents such as tape-recordings of improvisation are essentially empty, as they preserve chiefly the form that something took and give at best an indistinct hint as to the feeling and cannot of course convey any sense of time and place. And later, that it is impossible to record with any fidelity a kind of music that is actually derived from the room in which it is taking place—its size, shape, acoustical properties, even the view from the window, and that what a recording produces is a separate phenomenon, something really much stranger than the playing itself, since what we hear on tape or disc is indeed the same playing but divorced from its natural context.

A remark of Wittgenstein's gives us a clue as to the real root of the problem. In the Tractatus he writes: "The gramophone record, the musical thought, the score, the waves of sound, all stand to one another in that pictorial international relation, which holds between language and the world. To all of them the logical structure is common". (4.014) This logical structure is just what an improvisation lacks, hence it cannot be scored nor can it be recorded.

All the general technical problems of recording are exacerbated in the recording of improvisation, but they remain technical, and with customary optimism we may suppose that one day they will be solved. However, even when these problems are solved, together with all those that may arise in the meantime, it will still be impossible to record this music, for several reasons.

Simply that very often the strongest things are not commercially viable on the domestic market. Pure alcohol is too strong for most people's palates. Atomic energy is acceptable in peacetime for supplying the electricity grid, but housewives would rebel against the idea of atomic converters in their own kitchens. Similarly, this music is not ideal for home listening. It is not a suitable background for social intercourse. Besides, this music does not *occur* in a home environment, it occurs in a public environment, and its force depends to some extent on public response. For this reason too it cannot happen fully in a recording studio; if there is hope for a recording it must be a recording of a public performance.

Who can be interested purely in sound, however high its 'fidelity'? Improvisation is a language spontaneously developed amongst the players and between players and listeners. Who can say in what consists the mode of operation of this language? Is it *likely* that it is reducible to electrical impulses on tape and the oscillation of a loudspeaker membrane? On this reactionary note, I abandon the topic.

News has to travel somehow and tape is probably in the last analysis just as adequate a vehicle as hearsay, and certainly just as inaccurate.

Virtues that a musician can develop

1. *Simplicity* Where everything becomes simple is the most desirable place to be. But, like Wittgenstein and his 'harmless contradiction', you have to remember how you got there. The simplicity must contain the memory of how hard it was to achieve. (The relevant Wittgenstein quotation is from the posthumously published 'Remarks on the Foundations of Mathematics': "The pernicious thing is not, to produce a contradiction in the region where neither the consistent nor the contradictory proposition has any kind of work to do; no, what *is* pernicious is: not to know how one reached the place where contradiction no longer does any harm".)

In 1957 when I left The Royal Academy of Music in London complex compositional techniques were considered indispensable. I acquired some—and still carry them around like an infection that I am perpetually desirous of curing. Sometimes the temptation occurs to me that if I were to infect my students with it I would at last be free of it myself.

2. *Integrity* What we *do* in the actual event is important—not only what we have in mind. Often what we do is what tells us what we have in mind.

The difference between making the sound and being the sound. The professional musician *makes* the sounds (in full knowledge of them as they are external to him); AMM *is* their sounds (as ignorant of them as one is about one's own nature).

3. *Selflessness* To do something constructive you have to look beyond yourself. The entire world is your sphere if your vision can encompass it. Self-expression lapses

too easily into mere documentation—"I record that this is how I feel". You should not be concerned with yourself beyond arranging a mode of life that makes it possible to remain on the line, balanced. Then you can work, look out beyond yourself. Firm foundations make it possible to leave the ground.

4. *Forbearance* Improvising in a group you have to accept not only the frailties of your fellow musicians, but also your own. Overcoming your instinctual revulsion against whatever is out of tune (in the broadest sense).

5. *Preparedness* for no matter what eventuality (Cage's phrase) or simply *Awakeness*. I can best illustrate this with a special case of clairvoyant prediction. The trouble with clairvoyant prediction is that you can be absolutely convinced that *one* of two alternatives is going to happen, and then suddenly you are equally convinced of the other. In time this oscillation accelerates until the two states merge in a blur. Then all you can say is: I am convinced that either p or not-p, that either she will come or she won't, or whatever the case is about. Of course there is an immense difference between simply being aware that something might or might not occur, and a *clairvoyant conviction* that it will or won't occur. No practical difference but a great difference in feeling. A great intensity in your anticipation of this or that outcome. So it is with improvisation. "He who is ever looking for the breaking of a light he knows not whence about him, notes with a strange headfulness the faintest paleness of the sky" (Walter Pater). This constitutes awakeness.

6. *Identification with nature* Drifting through life: being driven through life; neither constitutes a true identification with nature. The best is to *lead* your life, and the same applies in improvising: like a yachtsman to utilise the interplay of natural forces and currents to steer a *course*.

My attitude is that the musical and the real worlds are one. Musicality is a dimension of perfectly ordinary reality. The musician's pursuit is to recognize the musical composition of the world (rather as Shelley does in Prometheus Unbound). All playing can be seen as an extension of singing; the voice and its extensions represent the musical dimension of men, women, children and animals. According to some authorities smoking is an extension of thumbsucking; perhaps the fear of cancer will eventually drive us back to thumbsucking. Possibly in an ideal future us animals will revert to singing, and leave wood, glass, metal, stone etc. to find their own voices, free of our torturings. (I have heard tell of devices that amplify to the point of audibility the sounds spontaneously occurring in natural materials).

7. *Acceptance of Death* From a certain point of view improvisation is the highest mode of musical activity, for it is based on the acceptance of music's fatal weakness and essential and most beautiful characteristic—its transcendence.

The desire always to be right is an ignoble taskmaster, as is the desire for immortality. The performance of any vital action brings us closer to death; if it didn't it would lack vitality. Life is a force to be used and if necessary used up. "Death is the virtue in us going to its destination" (Lieh Tzu).

Responses to Virtues, for Theorizing

(This critique of the foregoing was written by Michael Chant on 29th April 1968)

“Simple”, if it is to be used to denote any aspect of what is true, must be taken to mean ‘without parts’. However, we also want to use the word to convey a state of mind, or, further, an attitude of mind to what is the case. We want to be happy. ‘Simplicity’ cannot be a virtue, except in reference to a state of pure happiness. The world is then essentially without parts in that firstly, we discern no problems, and secondly, we sense no dichotomy between the internal and external worlds. We may say that we feel no discontinuities. In no sense can “simple” be used to signify “the opposite of complex”, where by “complex” I mean ‘multiform’. We cannot speak of a ‘contradictory fact’. And I think we cannot tolerate a ‘felt contradiction’. Logic—meaning ‘system of reasoning’—must not be taken as standing for something absolute. A contradiction has reality only when it can be felt. If we discern a contradiction, we must resolve it by rejecting the mode of reasoning which generates it. Can we be happy while yet being aware of contradictions?

Integers are the abstractions of temporal discontinuities. Ordinal nos. are existentially prior to cardinal nos. To be happy implies the rejection of integrity. A person who respects integrity will perceive sounds as external disturbances, a musician will think of music as he thinks of words—a statement of a feeling (or expression of an external fact). Communication is an entirely internal phenomenon. Sounds which stand for themselves demand an effecting of communication by a rejection of the dichotomy between internal and external worlds. What subsists between man and his environment is the expression of a form.

To imagine oneself as exclusively concentrating on a one self is to ignore the relationship that exists between self and other. To imagine that one can alter one factor in this relationship without altering the other is to delude oneself. The relationship is a formal one—a continuity between altering the environment and altering oneself. Art is a statement of the further continuity of this relationship, it is an education. The ground lines are not static.

To imagine one can improve the external world by attempting to bring about its conformance to one’s present ideal is thus seen to be an illusion. If something environmental is found grating, one must seek to adjust the relationship, not the external or internal world.

All that is needed is recognition that a relationship exists.

It is a distinctive feature of life that this sort of relationship exists, is called forth whenever we can speak of life. It calls forth time as a form. What is distinctive of consciousness is the control of this form. Art is the way of controlling this form internally. Music, as conventionally understood, is a record of the composer’s experiences in this direction. We can go beyond this conception of music (and perhaps it may be as well therefore to drop the term) by letting a composition be a statement of how to control the form.

In pure happiness the relationship is null.