

The 'open' form – literature and music
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'Open' or 'variable' forms have preoccupied many musicians and writers since the beginning of the twentieth century. The concept of the 'open' work challenges the single trajectory of the art work, the notion of organic unity and even the concept of the musical 'work' itself. Moreover, we should not forget that the concept of the 'open' work (according to some definitions) need not necessarily demand the use of 'open' forms. 'Open' forms represent, therefore, one of the major paradigmatic shifts from late-Romanticism to Modernism. The use of such forms in music can be identified in the works of composers in the immediate post-war years. Particularly celebrated examples include the (as yet unfinished) *Troisième Sonate* by Pierre Boulez (it seems that 'open' is often synonymous with unfinished in the works of Boulez) in addition to *Klavierstück XI* by Karlheinz Stockhausen and the electroacoustic work *Scambi* by Henri Pousseur – the starting point of this project.

Openness and Literature

It is clear that 'open' works have existed in literature for decades. Umberto Eco cites James Joyce as a writer whose works can be described as 'open' - though this uncontroversial statement must still be examined carefully. Eco cites, for example, passages from *Ulysses* and the entire work *Finnegans Wake*. Referring to the latter he claims: '(...) the opening word on the first page is the same as the closing word on the last page of the novel. Thus, the work is finite in one sense, but in another sense it is unlimited' (Eco, 1989: 10). 'Open' in this context, therefore, means that the individual, constituent elements of the novel or poem cannot be changed but the form in which they are presented is so unusual or ambiguous that the reader has no choice but to allow (or submit to) a number of different – perhaps very different - interpretations.

Nevertheless, there are other versions of 'open' works which are more relevant to the present discussion. These are works where there is an explicit invitation by the author to re-arrange the order of individual parts (as far as I am aware Joyce never suggested the chapters of *Ulysses* could be read in a different order!). One remarkably prescient example

is the grand project of the French Symbolist poet Stéphane Mallarmé (1809-1898). (Like several other ‘open’ works it is ironic that it remained unfinished at his death.) Mallarmé intended to write a book called *le Livre* – the biblical allusion in this title should not go unnoticed. *Le Livre* was intended to be printed, not in standard book format, but on loose pages. Thus Mallarmé had to acknowledge the possibility of many different ‘readings’; each one would result from new configurations of the individual sections. Naturally, in each of these different readings words and phrases would cluster together in patterns not envisaged by Mallarmé even though he was the ‘author’ of the complete text.

Another literary ‘open’ work – a more modern one – is the *Cent Mille Millions de Poèmes* by the writer and mathematician Raymond Queneau (the number to which Queneau refers is written out as 100,000,000,000,000). Queneau’s book consists of ten sonnets. Each one consists of the standard 14 line sonnet form (Queneau favours the Petrarchan division into 4, 4, 3, 3 lines rather than the Shakespearean 12, 2 line form). The pages are divided into separate horizontal strips with one line printed on each. Queneau was inspired by children’s books in which characters are illustrated on pages divided into horizontal strips. Thus, the head from one could be combined with the torso of another and the legs of yet another. Accordingly, Queneau states that it is possible to replace each line from any other of the 10 poems in his book, though one condition exists - thus complete freedom is not permitted. Line one must remain line one no matter from what poem it originates. The next line could be the second line – and only the second line - from any other poem, and so on until the new poem is complete. Consequently, while the lines can be chosen from any of the poems, their position in the final poem must correspond to the original positions in the sonnet from which they have been taken (just as in the children’s book the strips on which the heads are printed, for example, will always retain their positions at the top of the page). The work’s ‘openness’, therefore, resides in the fact that the book contains so many ‘potential’ poems even if they are not, and could never be exhaustively realized. The book thus transcends its physical size and format. When we hold it we are aware (or we should be) that we possess not simply ten sonnets but literally *Cent Mille Millions de Poèmes*. In each of these examples we see the different relationship between author and reader as freedom and constraint assume different positions in the configuration of new poems.

The 'Open Form' and Music

When we turn to music the situation is somewhat different. The teleological direction of tonal music, for example, would seem to prohibit any notion of 'openness' derived from changing the position of sections. It is hardly surprising, therefore, that 'open' works proliferated in the post-war period amongst composers for whom tonality in the traditional sense was not a principal preoccupation. There is, in addition, doubtless a link with serial thought which is an all-pervading post-war development. Indeed, Eco goes so far as to write: 'This hypothesis of an oriented production of open possibilities, of an incitement to experience choice, of a constant questioning of any established grammar, is the basis of any theory of the "open work" in music as well as in every other artistic genre. The theory of the open work is none other than a poetics of serial thought.' (Eco, 1989: 218).

Naturally, Eco detects 'serial' thought in art forms other than music, though music is the most obvious application of serialism.

There is, of course, more than one type of 'open' form in music. On the one hand, it is possible for sections to remain fixed in the global sense, whilst internal, local events can be rearranged. On the other hand, events within sections might remain unchanged but the exact location of these sections within the composition as a whole is subject to modification (hybrid situations are also possible). Both are important, of course, though in reference to *Scambi* it is the latter which is of greatest significance. The existence of open-forms simultaneously challenges and elaborates traditional notions of the musical work. If structures at either local or global levels can be chosen and arranged to produce one of many versions of a work, how is it possible to declare that it remains one, identifiable work other than on the basis of common material? Moreover, has the performer (or arranger) now been promoted to the rank of co-composer? It could be argued that musicians are better acquainted with the concept of 'openness' than practitioners in other art forms. As we are familiar with the demands of a time-based performance art it is not so much a question of whether a composition is 'open' or 'closed' as much as the level at which 'openness' can be located. Following Eco's reasoning, a Beethoven piano sonata is closed as far as the pitches and rhythms are concerned. Even though the dynamic levels and indications of tempo are given there is some flexibility as to how much the pianist slows down or speeds up and what dynamic level the pianist reaches during the crescendi or diminuendi. In this sense there remains a degree of 'openness' that is immediately recognizable (and desirable) to any musician.

With the widespread use of the digital computer there is increasing use of 'open' forms resulting from the use of technology by composers. But it is the apparent resistance of the analogue tape medium with 'open' forms which is of interest to me. To what extent can we identify a form of technological determinism operating on the basic level of musical composition? How 'open' can an electroacoustic work be?

Even enthusiastic advocates of electroacoustic music (such as myself) must accept the validity of criticisms concerning the 'fixed' nature of musical material's presentation in the formal structures of acousmatic works (works played solely over loudspeaker without 'live' performers). The absence of 'performer' participation imposes inescapable inflexibility in the flow of musical events. The real-time modification of expressive timing is often cited as constitutive of the music performance. But only some aspects of electroacoustic 'performance' (the use of inverted commas is inevitable in such discussions!) attempt to minimize these effects. For example, following the tradition of sound diffusion, an element of performance practice has been reintroduced. The sound projectionist thereby assumes an analogous role to that of a performer – though the comparison is still problematic. S/he must ensure that the structural features of the work are emphasised according to a diffusion 'score' that is either provided by the composer or determined by the sound projectionist. In addition, sensitivity to the particular acoustic properties of the auditorium and the diffusion system are absolutely essential. Thus, within constraints familiar to most musicians some freedom and even spontaneity is possible.

Nevertheless, even for those musicians who relish the aesthetic challenges posed by acousmatic music the introduction of anything resembling the aforementioned 'expressive' timing still seems remote – and expressive timing at some stage of the musical realization is essential for many musicians. *Gesang der Jünglinge* by Karlheinz Stockhausen will, therefore, always have a duration of 13'14" despite the various spatial locations exploited in a diffused performance. I would argue, of course, that such expressivity in timing still exists; it simply remains at the level of poesis. What was formerly the task of the sensitive performer, now remains resolutely fixed in the domain of the composer in the studio. The roles of composer and performer in this sense have now been conflated. Despite these extensions of traditional concepts one problem remains -

composers of acousmatic music seem to have been largely indifferent to any variation in the formal presentation of sections within a work - in other words to the possibilities of 'open' forms. The reason is self-evident: the nature of the technical means by which electroacoustic music is composed inhibits such experiments in form. In the nineteen-fifties through to the nineteen-seventies electroacoustic music was composed for magnetic tape and the fixed nature of such works hindered explorations of variable, open-forms¹. Consciously or not, composers conformed to one rigid view of the musical 'work': the production of a fixed composition which, by its technological means of public reception, displayed precisely the composer's intentions regarding tempo fluctuations, dynamic levels etc. Tape is a fixed, deterministic medium allowing little scope for easy rearrangement. The practical difficulties involved in the technical procedure of splicing might lead one to conclude that open-forms and acousmatic music in the analogue era were incompatible. It is clear that there were exceptions, but very few exceptions, to this view.

Historical Examples: *Kontakte* and *Scambi*

One early example of applying the concept of open-forms to electroacoustic works can be cited, though it was regrettably never realised. In addition, it was not intended to be acousmatic but was conceived for tape and instrumentalists. Karlheinz Stockhausen's experiments during the initial stages of the composition of *Kontakte für elektronische Klänge, Klavier und Schlagzeug* (composed in 1959-60) involved musicians improvising to sections of taped sounds. The work in its present forms (both for electronic sounds alone and with a percussionist and pianist) is in my view one of the great post-war compositions, and to quote Richard Toop: 'At an early stage Stockhausen's ideas were a great deal more experimental (...)' (Toop, 1981: 183-4). By 'more experimental' Toop explains that one of Stockhausen's original plans involved three percussionists and a pianist playing largely indeterminate structures. They were, therefore, required to improvise within strict limits. In addition, it is significant for the present discussion that Stockhausen even considered the possibility of changing the order of certain sections of

¹ Some composers still stubbornly work with tape, of course! In my view, such practices are rarely willfully obscurantist. The medium of tape can give access to techniques which are difficult, if not impossible, to reproduce using digital technology. How long this resistance to the digital can continue is open to question: replacing worn parts of tape recorder is becoming prohibitively expensive.

the pre-recorded tape at each performance.

Given the problems stemming from the tension between the physical nature of the medium itself and the aesthetic desire for ‘openness’, Henri Pousseur’s astonishing prescience in the composition of *Scambi* is all the more remarkable. It stemmed, of course, from his combination of refined sensibility and a musical intelligence located beyond the electronic studio. Furthermore, it demonstrates that during the late nineteen-fifties and early nineteen-sixties there was occasionally a convergence of thought regarding electroacoustic music and important, general developments in contemporary music theory regarding ‘open’ forms.

Pousseur describes the techniques by which he produced his material: white noise was filtered to produce various densities. The thirty-two sections were characterised by different forms of development of this material and he writes in the booklet accompanying the compact disc: ‘Several sequences (which begin with a same character) can even be superposed and thus lead to a polyphony of divergent situations - until they come together again on a common point.’ Consequently, we can identify all the hallmarks of one type of open-form: the interchange of sections within certain constraints and the possibility of combining sections. The version on the ‘Acousmatrix 4’ compact disc is, according to Henri Pousseur: ‘(...) one of my own. It is the one which has been played most frequently.’ Several versions have been realised. There is a shorter version by Pousseur, one by Marc Wilkinson² and another by Luciano Berio. It is also significant that Pousseur specified that only certain sequences ‘which begin with a same character’ could be rearranged. The choice, therefore, was limited to compositional intelligence and engagement with the materials. Pousseur did not simply suggest the random reorganisation of all the sections (though it appears that Berio ‘disregarded the connecting rules’). A further, more detailed, quotation by Pousseur illustrates his intention regarding new realizations of *Scambi*:

‘(...) I can easily imagine that in the not too distant future the possibility of doing such work will become generally available. All one needs at home is some splicing tape and

² See: Wilkinson, M. (1958) Two Months in the ‘Studio di Fonologia’ in *The Score* 22/Feb, 41-48

leader tape and a simple tape recorder, or preferably two or three (and with several amateurs this should not be too difficult), which need not be perfectly synchronized, the small errors here leading to constantly new figures; else, the whole material could be made available to amateurs in some kind of “music bar”. The joy of turning the volume control – maybe in company – or even of a little spatial distribution, requiring no expensive apparatus, would help to give the now *active* listener the experience of how the course of an event can be influenced and raised to the form of a vital, creative freedom.’ (Pousseur, 1959: 54)

This quotation demonstrates the foresight of Pousseur. He anticipates certain aspects of contemporary commercial developments where consumers today can, for example, construct their own albums (often by downloading individual tracks) rather than passively accepting the products marketed by large corporations. Moreover, his vision of amateurs possessing tape recorders for the realization of new versions of *Scambi* is now commonplace in that personal computers with the appropriate software can be used for this purpose – though I should stress that while the technical difficulties have been alleviated the aesthetic problems remain.

Thus the resistance of the analogue medium to ‘open’ forms can be explained largely by the physical characteristics of the materials. The very act of composition entailed detailed listening to recorded sounds (either before or after transformation) and a method of cataloguing these tapes so that they could be retrieved as necessary (no mean feat in itself – one piece of tape looks much the same as any other apart from its length). Compositions were assembled from various segments of magnetic tape by laborious processes of mixing, editing and transforming sounds going from one tape recorder to another – there was no choice. There was, however, an undeniable aspect of ‘craft’ to this process and the physical nature of tape might suggest that this was in fact an ideal medium for changing positions of sections. All the composer need do is remove one section and replace it with another. Were *Scambi* simply a concatenation of monodic sequences then there would be some truth in this. However, let us remember Pousseur’s claim: ‘Several sequences (which begin with a same character) can even be superposed and thus lead to a polyphony of divergent situations - until they come together again on a common point.’ Polyphonic combinations need outboard devices such as mixers and several tape recorders. Another

essential difference is, of course, that with *Scambi* the material is not your own, the sounds are pre-given. In realizing a version, the problems common to all analogue tape composition would remain: the arranger must listen to the initial parts of the sections if Pousseur's principle of continuity is to be maintained, the dynamic levels must be adjusted according to the characteristics of the joined sections and if sections of different durations are to be played simultaneously the arranger must decide whether to start or end together, or even to insert a gap. All this requires time and many hours of patient listening. In addition, it is undeniable that without the appropriate equipment it would have been difficult if not impossible to realize a version at all. And, it must be said, that few private individuals had such equipment. If a composer had no access to a studio located at a university, a research institute or a radio station there was little opportunity to do serious work in the electroacoustic medium. It is, therefore, hardly surprising that few examples of 'open' form works were realized during the period of analogue tape composition (in fact I am often amazed that so many works were composed at all given the uncongenial surroundings and the constraints on time in many studio environment).

The gradual introduction of digital technology ensured that many of the aforementioned technical (if not aesthetic) problems disappeared. I would not claim that the analogue era was a 'golden age'. I have no desire to return to splicing tape with a razor blade, joining the spliced section to where it was to be inserted, placing the reel on the tape recorder, pressing playback, listening to ensure the effect was correct, if not undoing the splice, shaving an additional fraction of an inch from the tape, joining it yet again... and so on. However, the ear-training was invaluable – there is no 'undo' function with tape splicing; if you got it wrong, you had to start again. But would I return to it in preference to digital editing where I can zoom into the wave-form and perform microscopic edits with ease? This in itself raises another issue: the seductive nature of visually-based graphical interfaces. I see young composers using software to edit and transform sounds and I have to say that I am not always convinced that they use their ears in preference to their eyes – though I am willing to believe that such practices will simply produce a different kind of music. One enormous advantage is, of course, that many operations can be achieved with a laptop and the appropriate software. The dominance of the big studios has largely passed (though monitoring is still preferable in such environments, particularly if the composer is using a multi-channel format).

But still, for me at least, a nagging uncertainty remains. Is the electroacoustic community exploiting these digital resources for new experiments in form? I attend many electroacoustic concerts. But how frequently can an audience hear a work which can exist in several versions, where the sections are re-ordered either to a precise algorithm or even to chance. I'm willing to believe that these experiments are taking place (as I'm sure they are) in clubs and in galleries rather than the concert hall. With the increasing use of algorithmic procedures I believe we can look forward to a period in which composers begin to realize the potential of 'open' forms in the medium of electroacoustic music. And in order not to constantly re-invent the wheel, works such as *Scambi* remain as important now as they were nearly fifty years ago.

In an early communication with Professor Pousseur he modestly described *Scambi* to me as 'une petite chose'. This is the composer's privilege, of course. However, I am convinced it has surpassed its unassuming origins. *Scambi's* network of meanings results from Henri Pousseur's insights into the work's materials and the principles of its organization. The realization of new versions of *Scambi* nearly fifty years after its composition, demonstrates its potential as an 'open' work. It remains innovative, imaginative and relevant: a considerable achievement for 'une petite chose'!

References

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