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Making possible the irrational: strategies and aesthetics in the music of Stockhausen, Cage, Ligeti, Xenakis, Ferneyhough, Barrett

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[Large sections from this paper and its companion 'Complexity as Imaginative Stimulant' formed part of my 'Notation, Time and the Performer's Relationship to the Score in Contemporary Music', in *Collected Writings of the Orpheus Institute: Unfolding Time: Studies in Temporality in Twentieth-Century Music*, edited Darla Crispin (Leuven: Leuven University Press, 2009), pp. 151-192. Most of the appropriate musical examples can be found there, though this paper contains extra material on Ligeti and Barrett in particular]

In my earlier lecture, I talked in some detail about the many performance issues that remain urgent questions even in a score with a high degree of notational detail, and what the wider implications might be of one's choices in this respect. Today I want to broaden this issue further and look not just at the aesthetics of performance, especially with respect to duration, meter and rhythm, but also at what might be entailed in one's approach to the very learning process itself. To put it another way, I want to consider not just what one *does* in performance, but also how one arrives at the situation which makes such things possible. The two things are linked and have deeper implications than might be realised, as I hope to demonstrate.

Much relatively 'complex' modern music (or indeed music of earlier eras as well) contains a large degree of information, in terms of what range of possibilities are implied by the score, but also of all the other knowledge and perspectives one brings to bear upon it, to do with performance practice and conventions, perceptions regarding the nature of a piece, its relationships both to other music (including that which may accompany it in a programme) and a wider cultural sphere, the degree of familiarity it enjoys with audiences (and that of course depends on the audiences in question) and the real-time interaction between the performer and the audience at the very moment of performance. The totality of all this information is surely more than any performer could possibly maintain conscious control of at all levels during a live performance. On the most basic level, one learns pitches, rhythms, dynamics, phrasing, articulation, tempo, tempo modifications, and so on, but can one ever devote equal attention to all of these when actually performing. I believe not, and for this reason suggest that the performer engages in a process of *prioritisation*, both when learning the work and when performing it.

Let me try and explain more about this. In a work with highly intricate notated information with respect to these parameters, one often learns it by concentrating upon different aspects of the music at different stages in the learning experience. This becomes an issue from the very first moment one takes a piece to the instrument. One might begin by loosely playing through the piece, paying less attention at first to the fine details whilst one tries to gain some conception of the whole. In the process of

learning, one then tries to focus in on the details and refine these, without losing sight of one's initial overall conception, though being prepared to modify this in light of what is learned during the very process of more small-scale focus. Alternatively, one might begin by working on small details, refining these as best as one can before moving onto other passages, gradually building up speed, and so on.

These are the two extremes, and their very possibility are to some extent conditioned by such factors as the performer's ability to sight-read, for example (though, conversely, one's ability to sight read might be heightened by awareness of the possibility of the former approach). They parallel what I have elsewhere described as 'top down' and 'bottom up' approaches to composition: in the former case, the composer begins by working out the architectural and global aspects of a composition, then hones in on the details; in the latter case, they start with small cells or gestures and develop these into a piece, deriving the architecture from a perception of their own immanent properties and implications. Both of these positions are of course vast simplifications; most composers employ some degree of both simultaneously and the potentially antagonistic consequences of their co-existence in the compositional process can play a part in energising and keeping alive the whole work. There are few more disappointing works than those which seem to consist of a reasonably well-judged overall structure, but in which the small-scale material is little other than 'filling', or conversely those works that pedantically develop their material aimlessly, never standing back to consider the macroscopic properties of the work, its architecture or drama.

The same is true of performance. Many performers, I believe (or at least many of those whose work I value the most) employ a combination of the two approaches when learning a piece. Nonetheless, I am not intending to infer from this that simply a 'happy medium' is the optimum way to learn any work; rather the degree of emphasis, as manifested on various levels, is crucial in enabling one to learn the works, and should in my view be continually re-evaluated for each work. And furthermore, the very sequence of learning, and the priorities applied during the different stages, both affect and reflect both one's own perception of the work (itself sometimes in a state of relative flux) and how it is likely to be perceived by listeners.

In case this all becomes too abstract, let me turn to my first example, which is Stockhausen's *Klavierstück X*. This is a work of a little over 20 minutes duration which has become notorious as a result of various of its attributes. One is the use of glissandi in clusters, necessitating the pianist's wearing of fingerless gloves to diminish friction with the keys in the process of so doing (though alternative approaches have been tried using talcum powder on the keys and so on). Another is the highly virtuosic and volatile continuous passage at the very beginning of the work, which is then set into relief for the remainder by virtue of the separation of passages with silences. Stockhausen composed it using a sophisticated system (detailed amply in Herbert Henck's book on the work), involving post-serial forms of permutation on various parametric level so as to achieve a particular form of distribution of a range of fragments, which themselves enter into multi-layered correspondences as a result of other highly developed compositional techniques. On the most basic level, I hear the work as beginning with a highly characterised form of 'cosmic explosion' (itself with a high degree of inner variegation) which recedes a little so as to allow greater apprehension of various categories of fragments that emerge out of such an explosion.

These themselves, through their particular orderings and juxtapositions, create a new form of drama deriving from interactions and correspondences, that operates on various levels.

At least that is my overall perception, derived in part at first from hearing the work played by others, then modified and nuanced on the basis of my own experiences of learning it and performing it on repeated occasions. Others might find different aspects of the work of more primary interest, and this will affect the way they approach both learning and performing it. But let me focus in on some more specific levels of the piece. Stockhausen's use of pitch (including the pitches at which cluster glissandi both begin and end) is carefully controlled, generally entailing a type of serially-informed distributions that for the most part eschew anything with too obvious tonal implications or other forms of directional harmony (there are a few passages which are exceptions to this), including in those short sections that limit themselves to a restricted gamut of pitches. This necessitates care that one does not inadvertently play such wrong notes as might produce unwanted harmonic implications, but perhaps does not require such a high degree of attention to every pitch as would be required in a tonally or post-tonally organised work. Dynamics, on the other hand, are extremely carefully gauged, variable (but not to such an extent as produce a totally decentered experience of dynamics as might be said of a total serial work in which every note has a different dynamic), and are intrinsic to articulating the drama of the work. In many passages, one encounters lines of pitches which form linear sub-strata of wider textures, indicated and manifested through the use of dynamics. One of these would be the passage on the second system of page 13. In this case such an effect is also produced by the contrast between grace notes and more sustained durations. If one looks at the succeeding fragment on the top system of page 14, you will see that it grows out of the pitches made to sustain at the end of the preceding passage, with the addition of a low B. [Play] To me it is as if something approaching a more conventionally lyrical line emerges out of a more diffuse and aperiodic texture.

But Stockhausen's scheme for notating duration (and thus, by implication, meter and rhythm) demands the closest attention in the context of this lecture, as well as in my opinion in the conception of the work as a whole. The score is divided piecemeal into consecutive short segments, notated continuously, each of which is assigned a duration relative to a basic unit. This is written by the use of standard durational units, quavers, crotchets, minims, etc. Every passage demarcated by such units is to be fitted into such a duration, relative to a basic pulse which is 'as fast as possible'. This takes some work on the part of the performer to execute satisfactorily, not least because the spatial distribution of the score by no means necessarily corresponds to the intended durations. If one looks, for example, at page 2, from the notated minim underneath the instruction about cluster glissandi, one sees one group of units (beginning with a cluster glissandi starting at G-C) to be played within the duration of a minim, then another group within the duration of a semibreve tied to a quaver i.e. a total duration of nine quavers. However, the amount of horizontal space assigned to this latter group is somewhat less than two-and-a-quarter times that of the previous group (two-and-a-quarter being the ratio between the two durations). The sloping beams in the second group indicate free accelerandi and ritardandi (for upwards and downwards slopes respectively). The first group contains six equal units, which I thus conceive loosely as quaver triplets; the second group contains fifteen unequal units. The mean duration

of these would thus be a unit of $9/15$ quavers, so $3/5$ of a quaver, very marginally less than $2/3$, which is the duration of a triplet quaver. The first units in the group need to start at a slower pace than this mean unit, however, yet are notated considerably closer together than those in the preceding group. If one also looks at the second group as a whole, one will see that the downward slope of the beam incorporates a few more chords than the upward one, suggesting a slightly longer duration to be employed on this downward slope, which can if one chooses be used to effect a certain rhetorical effect as the group approaches its conclusion (this effect is also produced by the dynamics and pitches employed). [Demonstrate]

This particular approach to notating duration has various consequences. Perhaps the most significant of these is that which differentiates it from, say, Stockhausen's earlier *Klavierstück VI*, discussed briefly earlier this week, in which Stockhausen notates a sliding scale of pulse throughout (though, as we were reminded by Pascal, this was a later addition to the score for publication). That notational scheme, as with most of the other earlier *Klavierstücke*, derives duration, meter and rhythm in terms of a continually shifting *pulse*, even where this is not directly played (in the sense of there being periodic notes). In those pieces, the performer is presumably intended to think through the work, both when practising and performing it, relative to these shifting pulses which are indicated through metronome marks. *Klavierstück X* is quite different; here there is a singular pulse from which one conceives time units, *within* which groups are to be accommodated. A somewhat crude way of describing the distinction would be to say simply that the earlier pieces are predicated upon meter, and this is predicated upon duration. If I say that in *Klavierstück X* pulse is for the most part merely a highly localised affair, compared to the earlier works, I do not simply mean that they contain more explicitly articulated pulses compared to this (actually in some ways the reverse may be true), but that in terms of the psychological consequences of the notation, pulse may become less central to the performer's experience when playing it. Of course I must add the caveat that this depends on the particular strategies employed for learning and performing it; nonetheless to a reasonable extent I believe this distinction to hold true.

That is my view, maybe reflecting certain ideologies I bring to bear upon the work, which bring their own consequences, one of which I will try and demonstrate now. The passage on the top system of page 3 is demanding from a pianistic point of view: In the group below the minim tied to a semiquaver, one finds rapid shifting chords in quick succession, a similar situation applying in the groups that succeed it. By virtue of the notated durations, several of the groups of individual chords come to have a duration of approximately a triplet semiquaver. This I conceive not so much in terms of a pulse as just to give me a rough idea of the duration to start each group with, allowing for some degree of flexibility for practical or other reasons. However, at the basic overall pulse that I choose for the work, these passages are likely to sound somewhat frantic, hurried, and maybe lose some clarity in the process. By virtue of the particular set of priorities I bring to bear upon the piece (in full awareness of the fact that there may be other sets of priorities that could be equally successful), I decided that this effect, including the slight loss of clarity, is one I am happy with when it enables me to maintain the sense of drama that results from the high tempo. This decision itself results from my other convictions concerning the relative importance of pitch, articulation, clarity of gesture, and so on. In the process of practising or re-practising this, I play these things slowly and with a certain

fastidiousness to pitch accuracy at some points, to evenness of duration at others, or to clear distinctions between articulations or dynamics at others. At other times, my attention is directed more to the totality of the groups or their interrelationships, to maintaining the speed, and because of my own individual prioritisation, these things are more at the forefront of my mind when performing it. For other parameters, to some extent the practice hopefully ‘does its work’. My choice of prioritisation of *psychological focus* when performing in concert has further implications: it enables a degree of spontaneous interaction with respect to these aspects of music at that very moment of performance, which is less the case with other aspects. And for that reason, that spontaneous focus almost certainly manifests itself in a hierarchy of *projection* at that time.

Let me play you the passage, from the first marked duration, in several ways. First, I am concentrating primarily on the durations and dynamics. [Demonstrate] Now more on the pitches [Demonstrate]. Now more on the groups as gestures. [Demonstrate] Some of these come more fluently to me right now because of the particular set of priorities I have employed in the very act of learning, which create their own hierarchies of immediacy.

Herbert Henck, in his book on the work, advocates that the performer should create their own click track with sounds delineating each group. The performer can then practise the piece with this click track to ensure the durations are accurate. I considered doing this, but ultimately decided against it after finding that it was possible (with a reasonable amount of experience of learning very complex rhythmic patterns in other music) to attain the durations simply by counting; by this strategy I felt that, psychologically, the possibility of being able to maintain some intelligent sense of flexibility was more immediate, rather than feeling a little oppressed by the ominous sound of the clicktrack haunting me even when it is not actually present. A clicktrack is inorganic or at least inhuman in the sense that it derives from the process of exact and simple calculations, wholly avoiding the minute intricacies or even personal vulnerabilities that would in some sense inform a human attempt to produce or think such durations oneself, whether from a conductor, following another player, or simply counting to oneself. It is for this reason I prefer the latter option, which leaves open the option of some degree of interaction between the counting and one’s response to the actual material being played.

It may seem as if I am endlessly resurveying the same sort of argument here, but I simply wish to nuance it as best as possible. What I have just suggested about an ongoing interrelationship between counting and responding to the demands of the material could easily be misinterpreted: some could take it to mean that simply one should play ‘what the material demands in and of itself’ and adapt the mental counting around that. That perspective assumes an organic relationship between the durations and the material which I do not believe to be appropriate in this case; rather the durations sometimes constitute an external, inorganic imposition upon the material. To give another example of this: if one looks at the second system on page 29, there is a series of chords grouped by beamings, to be accommodated within a duration of a semibreve tied to a quaver i.e. a total duration of nine quavers. At a basic quaver pulse of somewhere between 96 and 120, which I tend to employ (and this range incorporates the basic pulse of most others I have heard play it), these chords are relatively slow, indeed much slower than I have otherwise heard. [Demonstrate]

Now, some might feel that the chords, especially in terms of their resemblance to other passages or general material in the piece, imply a somewhat quicker duration, akin to this [Demonstrate]. Within such a context, such a reading might seem more 'natural' or familiar, regardless of the actual duration Stockhausen writes, and the slower tempo sounds contrived. But I do believe that a performer should at least consider the possibilities either that a more contrived result could have been desired, intended, or at least allowed, or that there may be other way of creating musical sense out of such defamiliarised material.

The response of some to the raising of such questions might be to invoke the old cliché of the 'spirit' versus the 'letter' of the text. But this is a false dichotomy that demands sublation: how one conceives the 'spirit' affects how one interprets the 'letter', and conversely how one interprets the 'letter' affects how the 'spirit' is perceived, either by oneself or by a listener. The process of learning and performance – and here I would like to believe many intelligent performers of new or old music would agree – entails a continuous two-way interaction between these poles, each one frequently modifying the other. In the case of the passage I have just played, one's perception of the 'spirit', entailing a certain set of priorities, might suggest a particular tempo, possibly a quicker one. But conversely, one should be equally open to the possibility that close investigation of the letter of the text, specifically in this case the notated duration, might modify one's perception of the spirit of this particular passage and its relationship to the rest of the work. The text is not simply something to accommodate within one's *a priori* conception of 'what type of piece this is' (or even more broadly 'what type of composer Stockhausen is' or even 'what music should be in general'), though some degree of this is both inevitable and by no means necessarily undesirable; but it is surely fruitful to allow such a conception to be informed and nuanced, even perhaps significantly altered, both by one's close study of the details of the text, and other wider self-reflexive considerations concerning one's reasons for arriving at such *a priori* conceptions in the first place. And this parallels the processes that I am sure are experienced by many composers who begin work on a piece with a certain generalised conception of what they intend, but as they work in more detail upon both micro- and macroscopic elements, discover these to have immanent implications that exceed the boundaries of such an initial conception, which can become enriched as a result. Would many of the composers here say that that such a description concurs with their own experience? Or, indeed, amongst the writers and musicologists, do they not find that in the process of developing 'pure' arguments (in the sense of those developed by reasoning, not just by the use of empirical data), that their own initial perspectives are often modified in the process? At best, the process of learning for performance is more similar to such things than might sometimes be imagined.

One of the most rewarding things for me about learning and performing a wide range of contemporary and older repertoire (and forever learning new things) is the way that through the very experience of encountering and engaging with a new piece, I am able to develop and widen my own previous musical and other ideas and conceptions. The very works themselves can entail a degree of self-development for one who is open-minded, rather as Brian Ferneyhough once wrote about how he 'constructs himself' through the act of composition. With this in mind, I'd now like to turn to the very opening of Ferneyhough's piano piece *Opus Contra Naturam*, which was written for

me and which I premiered here in Belgium. Mark spoke about this earlier in the week – alas I wasn't able to hear all of his talk as I was busy photocopying materials for my own lecture, so I hope I do not reiterate too much that he has already said. If I can add a small disclaimer concerning the recording you heard, which is of the first performance, unedited: this first section of the piece only arrived in the post a few days before the concert (indeed much of the piece arrived as the premiere drew ominously close, a situation with which many performers of new music will be well familiar!). So the execution of the initial, very complicated, rhythms was by force of circumstances somewhat more approximate than might otherwise have been the case. I'm not saying this to ask for any special pleading; just to point out that the points I am about to make about this rhythms might not best be considered specifically in the case of that recording.

The first bar of the piece contains startling complex rhythms, with three or even four levels of nested tuplets. One might look at them and ask 'can these possibly be played accurately?'. I would venture to suggest that this is the wrong question; rather we should ask 'why has Ferneyhough notated them in this manner?'. It would be disingenuous of me to deny that there is any redundancy whatsoever in Ferneyhough's notation from a performer's point of view. Indeed he has made clear that the score for him represents something of an ideal rather than simply a specific set of instructions; some of these may be the result of particular compositional procedures that could be notated differently or more simply with little perceptible difference in terms of the audible result, though I think this situation is very much the exception rather than the rule. With the 'structuralist' model of notation that I mentioned in my earlier lecture in mind, I think we should look at this first bar as a means of channelling the performer away from what might be more habitual or familiar modes of interpretation. Take for example the first group. Relative to the basic metronome mark of quaver = 54, we have first an 11:7 tuplet. An 11:7 quaver at this tempo would be at a rate of approximately 84.9. A further 5:3 modification produces 141.4, or a semiquaver within such a group of c. 283. Thus a group of three semiquavers has a total duration of a single pulse at about 94.3. That provides me with a duration for this group, and a 3:2 relationship with the group that follows. Now, within this first group, we have a further 5:3, modified by yet another around the second to sixth semiquavers. At this point, now that I have such a duration, I can execute a group of notes which in their total duration end a little before the duration is over, thus providing the rest, and at which the second to sixth notes are at an accelerated pace. This pace is not quite as fast as a doubling of the pulse would be, however (that would be a 6:3 relationship). Whether I would play this rhythm exactly 'accurately' is perhaps not the point; I may not know if it is exactly 'right' in the sense of how a computer would play it, but I can know if it is wrong. It would be wrong if I played the group entirely evenly, if the second to sixth notes existed in a 2:1 metrical ratio to the first, or if the group took so long that the rest was imperceptible. And the durational relationships between the different groups can be gauged in a similar manner. As you should be able to tell from what I have said above, I am employing a combination of both a positivistic and structuralist approach to interpreting the notation, which in this case I find the most fruitful one. Positivistic in the sense of calculating the metronomic durations down to the second level of nested tuplet, structuralist after then. Some of Ferneyhough's markings may be the result of strict application of compositional procedures, some more intuitively applied. Whichever, my approach is the result of a conviction, based in part on what

Ferneyhough has written about his conception of notation, that the detailed markings are a way of negating habit, a way of creating figures that exceed the boundaries of the 'already heard', quite simply a 'cultural' rather than 'natural' approach to compositional production. All composers, except for the wholly derivative, do this to some extent, Ferneyhough simply more radically than most, perhaps in light of the fact that he does indeed employ a gestural vocabulary that has clear late romantic or expressionist connotations, and thus which he maybe feels more deeply the need to individuate.

Now, of course I couldn't think about all these things when I actually play the bar, which is over in an instant. But in the process of learning it, I try to pay attention to these aspects, especially the need to avoid slipping into habit, until the results become what Adorno would have called 'second nature', when I can confidently execute them when relaxing a bit more, and thus pay more attention to other aspects of the music. It is from *that* perspective that it is then possible to introduce some other freedoms in the execution without hopefully reverting back to habit, though this latter possibility always needs to be borne in mind.

In this way the most clear predecessor of what Ferneyhough is doing might be not so much other composers from the European traditions as the work of John Cage. In the examples you have the first page of Book One of Cage's *Music of Changes*. In light of the fact that Cage suggested that music might do worse than imitate nature in its mode of operation, it might seem paradoxical that his notation in this piece is so radically inorganic. If one believes Cage's own proclamations (and I do believe that is a very big 'if'), then he sought through various strategies to eliminate the role of human subjective intention in both composition and performance (the latter is important to note; for this reason Cage was relatively uninterested in improvisation, contrary to certain misconceptions). Cage does seem to separate out the human from nature, rather than considering the former simply as part of the latter; this is however not the place to delve into the implications or possible contradictions of such a view. For me, part of the interest in Cage's work comes from the impossibility of totally realising his intentions and the musical tension thus engendered in the works. In the composition of the *Music of Changes*, Cage devised a gamut of musical fragments, which I believe were created essentially intuitively (and so subjective intention is manifested at this level), to which he applied a set of procedures concerning when and in what manner these appeared or were removed from the gamut and replaced by others. These procedures involved the use of tossing coins in the manner dictated by the *I-Ching*; however the particular 'rules' involved were themselves subjectively decided upon, thus manifesting human intention at another level of the compositional process. Anyhow, dynamics, tempo, rhythm, pedalling, and so on, were derived in a manner essentially independent of the nature of the fragments themselves, so there is no organic relationship in this respect. Thus all of these parameters serve a defamiliarising function upon the elements in the gamut, which presents a big challenge to the performer, even more so than those in the works of Stockhausen and Ferneyhough. For there is really little question of playing the fragments in an idiomatic manner, or at least to do so would seem diametrically at cross-purposes with Cage's intentions. For what he creates is a type of musical 'super-nature', sedimented with the traces of human subjectivity, but filtered through a high degree of systemisation and randomisation. These latter qualities are perhaps a way of 'transcending the self', and should in my opinion be reflected in one's approach to

performance. In terms of duration and time, the notation should thus be the starting point and considerations of the immanent demands of the fragments viewed as essentially secondary (as they constitute the most obviously subjective aspect of the music). Though once again questions of prioritisation of pitch, rhythm, dynamics, tempo, etc., inform the processes of learning and performance, in the manner described in the Stockhausen and Ferneyhough pieces. Cage presents a good example of an extreme situation with respect to these questions, apprehension of which can fruitfully inform one's approach to other music where they might be somewhat more ambiguous.

Now, more briefly, I'd like to consider approaches to two very different types of music, in both of which pulse is a much more obviously foregrounded aspect of the musical experience, though its manifestation, and how thus one might approach it, raise their own issues. The first examples come from the second book of Ligeti's *Études*. The first of these comes from 'Galamb Borong', in which both hands occupy antagonistic whole-tone scales and in which Ligeti introduces the type of rhythmic interplay produced by accents and tenutos that can be found regularly throughout the three books (and arguably becomes a little manneristic by the time of the later pieces). The difficulties arise from the fact that each hand seems to be following its own independent course, thus potentially confusing or frustrating what one is attempting to articulate in the other. One could assign a psychological hierarchy to the lines so as to 'play one off the other', one set of accents or tenutos thus occupying a secondary mental place to the other, but I believe this would tend to produce an unwanted imbalance between the hands. You will see that in the copy from my score I derive a composite rhythmic 'line' from the combination of the accents and tenutos in each hand. I do not generally look at this line nowadays when performing the work (I concentrate on other things), but found this to be useful when practising it, so as to obtain a sense of the synergetic combination of the lines. Of course this approach might imply a degree of integration rather than stratification of the lines; whilst I do not necessarily believe this to be an undesirable result in all senses, nonetheless after learning the piece in this manner and thus being able to play both hands simultaneously, I did also attempt some degree of re-establishment of their independence, just by focusing exclusively on either one or the other when practising. Others might do this the other way round, which would likely produce equally satisfactory but distinct results. [Demonstrate]

You will also see that I divide the semiquavers into crotchets. Ligeti says in his notes for the score that 'the time signature of 12/16 only acts as a guideline; the piece has no proper metre and the bar lines do not indicate any structure' (he makes similar comments about many of the other *Études*). Nonetheless, he had to indicate *some* time signature, and arguably 12/16 connotes four groups of three semiquavers in a bar rather than three groups of four as I have indicated. Because of the need to conceive some sort of pulse in order to be able to learn the work and get the rhythms relatively tight, I found the division into crotchets to make matters somewhat easier. However, I am sure that this will have affected the result, notwithstanding the fact of trying after using this as a learning aid to somehow 'forget' the pulse in concert (and at later stages of learning). A later etude in the same book, *Entrelacs*, which bears some similarity to *Galamb Borong*, as you will see, was learned strictly in groups of three (the time signature is the same, 12/16; in this piece Ligeti's instruction is slightly less emphatic, so it could just possibly be argued that such considerations are a little more

important in this case). In the etude *Fém*, Ligeti wishes for the performer to 'play very rhythmically and springy (with swing) so that the polyrhythmic diversity comes to the fore' whilst again saying 'there is no real metre here'. Yet 'swing', a rhythmic property which is inevitably conceived relative to a pulse, is itself going to be affected depending upon whether one conceives of the bars as in four or six.

[Demonstrate in four, then in six]

Xenakis's *Evryali* for piano has generated a range of articles concerning its performance (and performability) over a period of time. I do not wish to delve into the subject of how practical the score is, when and if one should omit some notes, rather just to look at it in terms of meter. Rather than simply offering my personal preferences, though those will become evident, I would suggest we think about how the approach to meter in this work might reflect one's wider view of Xenakis's compositional trajectory. His earlier pieces, including *Metastasis*, *Herma* and *Eonta*, are notable for, amongst many things, their statistical constellations of sounds which for the most part avoid any sense of periodic pulse (except for on occasion in the latter work). In the score for *Herma*, Xenakis's first mature piano work, he makes clear that the barlines are only there for notational convenience and should not be taken to indicate anything to be articulated when performing the work. Now in many of Xenakis's works from the 1970s and beyond, one does indeed find a large amount of periodic pulses or at least evenly spaced durational units. Does one consider these works to constitute a break with his earlier compositional mode, or more an extension of it by other means? One's answer to this question might affect the approach to meter in *Evryali*. There are no instructions in this score like those in *Herma*, but the piece is notated in 4/4 throughout, and entirely in note values that are multiples of a semiquaver. Is the 4/4 simply a convenient method of notation, as in *Herma*, or does it signify some sense of 'four in a bar'?

Let me play you page 6 roughly as I usually would [Demonstrate]. That way treats the 4/4 mostly as convenient, though I am sure my thinking and learning of it 'in 4' affects what is heard. But I could do it so as to make a sense of 4 in a bar clearer [demonstrate]. Or, and this option I personally could not handle (though I have heard it played in this manner), one could even introduce a certain form of rhythmic attitude so as to make it sound more jazzy [demonstrate].

Finally, I'd like to show you two passages from Richard Barrett's *Tract*, arguably the most demanding of all the pieces considered today. Almost all of the performance considerations that I have spoken about in both of these lectures come into the equation here. The first half of the piece consists in large measure of writhing four part writing in the lower half of the piano, obsessively detailed with respect to dynamics and articulation in particular and with multiple voices all 'out of phase' with respect to these and other parameters. Here the type of approach for executing combinations of accents and tenutos in both hands that appear in Ligeti would not be sufficient, as a clear stratification of parts is essential to Barrett's conception; they should hardly ever fuse into a singular whole. When playing the opening, my approach is that of a shifting prioritisation of different lines with respect to dynamics, so that I tend to zoom my attention in on each line when it reaches a dynamic high point [demonstrate]. Of course the many other aspects of the notation are equally a concern when practising. The lines can often become embroiled together in a

somewhat murky manner, as on page 5, each part struggling to be heard within the wall of sound produced by the pedal [demonstrate]. On the second system of page 12, the parts seem in a mutually antagonistic relationship to each other, each somewhat confounding the other before some degree of temporary integration is achieved on the third system. Here I do not mind allowing my own mind to remain in a 'grappling' mode, darting between the lines with a certain feeling of struggle, believing this to be not inappropriate to the musical result [demonstrate].

All of this music presents resounding challenges to the performer with respect to duration, meter and rhythm. Yet I not believe any of them to be insurmountable, though the Barrett in particular pushes the performer to the limits. A consideration of the very nature of the musical works themselves, their wider meanings, and in particular the relationship between the scores and the practices with which we are already familiar, not only heightens the possibilities for interpretive penetration, expression and so on, but can actually facilitate the very learning process. The structuralist view of notation that I have outlined is most valuable in this respect and can to some extent be expanded into a whole view of artistic creation. The musical score represents an opportunity for the performer's own pre-existing creative imagination to be able to be channelled in new, unforeseen directions; it does this in part through the very negation of what is merely habitual, known, ossified. This is a way in which music not only can exceed the limitations of the 'comfort cushion' mode described by Copland and mentioned by Bruce in his lecture yesterday, but actually both illuminate the possibility of, and constitute in itself, new forms of experience. To do so is, in my view, the essence of creativity, and the primary reason for the importance of creative work. As such it represents an attitude which is most productive when applied to learning and performance.

Examples.

Stockhausen p. 2, 3, 13, 14, 29.

Ferneyhough p. 1.

Cage p. 1.

Ligeti p. 6, 42, 12, 34.

Xenakis p. 6.

Barrett p. 1, 5, 12