Part Three

Chapter Ten

Discussions and conclusions

10.1 Introduction: The main characteristics of new complexity scores

Defining new complexity is problematic. It was shown in Chapters Two and Three that the composers, musicologists and performers who first wrote about ‘new’ complexity had very different ideas about the motivations, let alone the aesthetics, of the putative genre. It cannot be defined as a compositional technique in the way that, for example, serialism can be and complexity is easily confused with its near synonyms: complication, difficulty and intricacy.

The dominance of Ferneyhough, his writings and his scores, skews any discussion of the subject, but if new complexity is a definable genre then it must incorporate his work in a wider context. Since its inception in the 1980s the idea of new complexity as a distinct genre seems to have diminished, the main figures associated with it having had time to establish their independent compositional styles – possibly as a reaction to being shoehorned by Toop into a commonality in the first place. Toop has continued to write about new complexity from time to time and by 2000 (when he wrote his paper) had arrived at the point where he thought ‘musical complexity is, perhaps, resistant to meaningful theoretical formulation, at least in terms of a theory of musical materials’ (Toop 2010, 95). Despite this, the term ‘new complexity’ as a journalistic convenience seems to be enduring and research has continued under that rubric.

A review of the main issues is necessary so that some conclusions might be drawn.

It might be helpful to do this through the filter of some recent work by other
researchers in the area. There is, however, the danger of arriving at some fixed view of how new complexity scores should be perceived and dismissing or denigrating those who hold alternative views. The first conclusion should be, therefore, that a plurality of approaches, from Cox’s privileging of complete accuracy at one end of the spectrum, to the more esoteric, possibly indefinable, ‘fidelity’ at the other.

Among the areas that need exploring are (in no particular order): the purpose of notation and the concept of the score, performative difficulty and the aesthetic value (if any) to be associated with it, the perception of musical structure and the analysis of performance. The seemingly impossible demands made on the performer are closely related to the learning and performability issues, and the possibility (and relevance) of accuracy. Discussion of one aspect usually involves all the others so there is necessarily some overlapping of argument.

10.2 Notation and perception: Taruskin and Stuart Paul Duncan

A possible definition of new complexity was given at the beginning of Chapter Two. On one level it still holds and prompts the question: does the composer want to hear the music the way they have written it? This prompts a further question: does the composer have intention and if so what significance or weight should be ascribed to it? No performance of any piece of music will ever be an exact encapsulation of every detail of a score and (pace Marsh) no score can ever be an exact encapsulation of any particular performance but it seems reasonable to expect some correspondence between the features of the score and what might be heard in a performance. This correspondence is recognisable in common practice composition even though it is unlikely that every detail is ever appreciated in any but the simplest scores.

Duncan quotes Taruskin:
To speak of the appearance of the music is in this case not trivial, because composers associated with the New Complexity put much effort into finding notations for virtually impalpable microtones, ever changing rhythmic divisions and tiny gradations of timbre and loudness in an effort to realize their ideal of infinite musical evolution under infinitely fine control and presented with infinite precision ... The notational detail was significant, even if the music was not; for its intricacy set a benchmark that is never likely to be equaled [sic], let alone surpassed. (Taruskin 2010, 475-6 in Duncan 2010b, 143)

Duncan castigates this rather mean-spirited description but the impression is of the demolition of straw men. Duncan takes Taruskin’s use of musical evolution literally:

Taruskin’s teleological narrative implies the Second String Quartet is yet another step towards Ferneyhough’s “ideal of infinite musical evolution”. However, Time and Motion Study Number II demonstrates an even higher level of notational density, even though it was completed four years prior. (Duncan 2010b, 145)

It is doubtful that Taruskin meant to imply such a uniform chronological vector towards ever-greater notational complexity. Both Duncan and Taruskin use Ferneyhough as the prime example of the extreme parametric complexity; they could not so easily point to similar examples from the other composers mentioned by Toop. It seems that Ferneyhough has to bear the responsibility for all the criticism of new complexity.

Taruskin seems to be prejudiced against the music when he remarks on the significance of the notational detail against the (presumed) quality of the music. It is an opinion not widely held by other informed musicologists. He surmises the composers are ‘putting much effort’ into searching for such ‘impalpable’
parametric qualities so as to achieve their ‘ideal of infinite musical evolution’. He assumes their ‘ideal’ is the total control over the performance. All of this is quite debatable. Every composer mentioned (except perhaps James Dillon – see Chapter Three, section 3.6), when interviewed, has denied their desire for such control and stressed the importance of the performer in mediating the transmission between score and listener. The scores often have sections notated with some appropriate form of tablature that is inherently non-descriptive of the resulting music as it denotes (prescribes) what action the performer should take. None of these composers is known for writing electronic music where they might have exercised complete control if this had been their main preoccupation.

Taruskin has decided that microtones can be ‘impalpable’ but this is hardly the case. The evolution of tuning systems towards modern equal temperament occurred because the microtones were all too palpable. The use of microtones in Western art music has a well documented history and many 20th century composers, from Haba, Ives, Partch, and even Boulez in his first version of Le visage nuptual (1946), have utilised them.

Taruskin seems to be wrong when he refers to the notation for ‘tiny gradations of timbre and loudness’. The composers rely largely on the standard notation for dynamics and timbre (except when they use various idiomatic methods for the notation of specific effects), so again it is the rhythmic complexity that is highlighted as most problematic, especially in Ferneyhough’s music.

The superficial view of complexity as absurdly dense, black scores is easily dismissed. Many composers from the 19th century onwards have written scores of extreme density, or blackness. This is not necessarily an indication of the complexity of the musical argument or performative difficulty. An apparently simple score might turn out to be excruciatingly difficult to perform.
Duncan spends some time arguing against the view (which he attributes to Taruskin) that the complexity of Ferneyhough’s scores is constant, non-development; he is implying that Taruskin thinks every page is as complex as every other. Referring to Taruskin’s comment that the scores represented a ‘determination to diversify at whatever cost’ and that the music is presented with ‘absolutely no concession to cognitive constraints’ (Taruskin 2010, 476 in Duncan 2010b, 143), he takes Taruskin’s example, a particularly dense page from the Second String Quartet, and shows how it is, theoretically and audibly, the culmination of a gradual process, over about eighty bars, of parametric variation and development from a much simpler idea. Whilst this is true it is also true that the starting point (bar 15) is rhythmically quite complex as well, containing several nested ‘irrationals’ (Example 10.1) (Duncan 2010b, 143-6).

Example 10.1 Ferneyhough, String Quartet № 2, bars 14-16

It would therefore seem to be an example of the complexity of the music proliferating and thus supporting Taruskin’s first comment. This is assuming that this is what Taruskin meant by the scores being ‘determined to diversify’. In fact, at this point Taruskin was specifically referring to Ferneyhough’s scores, not necessarily to all new complexity composers (Taruskin 2010, 476). Taruskin is simply stating the fact that Ferneyhough’s scores exhibit, to an extraordinary degree, nested rhythms, extended playing techniques, numerous qualifications to each note etc. Taruskin describes this as a ‘determination to diversify’ but it
doesn't seem quite the right expression as it implies motivation based on the notation, not on how the notational potentials can be of service to his (Ferneyhough's) compositional needs. He quotes Ferneyhough's 'imperative' that the:


ideology of the holistic gesture be dethroned in favor of a type of patterning which takes greater account of the transformatory and energetic potential of the sub-components of which the gesture is composed. (Taruskin 2010, 476)

But this is also a quote taken out of context. Before the above quote Ferneyhough stated ‘The re-integration of some form of depth perspective depends on re-establishing contact between the surface features of a work and its inner, subcutaneous drives.’ (Ferneyhough 1995, 25) Thus the gesture and its components are equally significant for Ferneyhough: focus on one level must not be at the expense of awareness of the other, though one's awareness will be doubtless be jumping between the levels at any one time.

The perception of development is subjective but Toop has argued that many of the complexities are more easily heard in performance than experienced through analytic score reading. After discussing the formal aspects of Barrett's Vanity, he writes:

So how much of this can one hear without recourse to the score? Just about all of it, I would suggest (with the proviso that one doesn't "hear" a duration of 280 seconds in the same way as one hears an F sharp!), and as the work becomes more familiar, a great more besides [...] In some respects (as with Xenakis), one hears them better [author's italics] without the score. (Toop 2004, 245).
He does qualify this:

My contention is that a surprising degree of aural transparency is possible in such works, but is not universally present (for example, I would not make comparable claims for Ferneyhough’s La terre est un homme – nor, I think, would the composer). (Toop 2004, 246).

Taruskin’s view that the music makes impossible cognitive demands on the listener is too simplistic a proposition. The first point is that all listeners are different. Even Adorno’s hierarchic classification of listeners, the top two being ‘expert’ and ‘good’, is too simplistic to describe the various ways music can be experienced. Listening is active but too contingent to be classified. The young ear can hear pitches the elderly (possibly those who consider themselves most expert) cannot. Attention and knowledge must play a part but the real time performance can never be fully appreciated no matter how immersed the listener might feel they are in the performance.

10.3 The score

Duncan’s next target is the simplistic idea of a one-to-one relationship between the score and performance. Assuming this could ever be the case, it is easy to accuse composers of making impossible demands on the performers. For some composers the score is an infallible recipe for a successful performance. For example, Babbitt requires absolute precision if a performance of one of his pieces is to be considered successful. Not only that, if the listener fails to perceive every aspect or nuance in any parameter, they cannot be said to have appreciated his music. In an essay entitled The Composer as Specialist, written in 1958, he wrote:

Inability to perceive and remember precisely the values of any of these components results in a dislocation of the event in the work’s musical
space, an alternation of its relation to all other events in the work, and – thus a falsification of the composition’s total structure. For example, an incorrectly performed or perceived dynamic value results in a destruction of the work’s dynamic pattern, but, also in false identification of other components of this event (of which this dynamic value is a part) with corresponding components of other events so creating incorrect pitch, registral, timbral, and durational associations. (Babbitt 2003, 49-50)

Duncan refers to this (Duncan 2010a, 5) as prescient of the high modernist approach to new complexity as exemplified by Cox – that the successful performance of a score must exhibit a transparent one-to-one relationship. But Babbitt’s is such an extreme view it is very difficult to take it seriously. Electronic music will be performed in acoustic space that will prejudice appreciation and the reproduction of piano rolls will be determined by the particular player piano used⁵. The basic premise is reasonable but all the parameters in the score are non-absolute variables. If Babbitt really means what he says then he should use scientifically unambiguous notation to notate musical phenomena with precision, the contravention of which would constitute performativity failure. And all this needs to be reciprocated by the listener. Babbitt is proposing a reification of the Platonic form! He must mean that the performer needs to be aware of the place of each component of the score. At that point the performer needs to weigh this against the performance situation, where adjustments might be necessary, and take responsibility for their interpretation.

A score is always one-to-many, i.e. the range space will be set-valued. Even if it were possible, an exact one-to-one mapping would be a dull experience as there would literally be no scope for the performer.
Duncan argues that, whilst this might have been the aspiration for modernist composers, it is simply not the case for new complexity composers. He maintains that the:

complexity these composers seek, in fact, resides in the interstices between the composer and the score, score and performance, and performance and reception. Therefore, the resulting notation encapsulates these interstices, ‘complexifying’ the relationships between composer, score, performer and listener. (Duncan 2010b, 137)

The problem with this is that the various interstices he mentions can be found in all score based music from the earliest notational systems onwards, and is exhibited in all common practice music where the performer assumes the role of mediator between the composer, the score, and the listener. The relationship between the performer (and performance) and the listener is inherently mysterious, the opportunities for self-deception by either being only too present. Perception can be studied scientifically up to a point but perception of art, and in particular the musical work, is subjective and cannot be prescribed.

Duncan is right about the complexity residing in the interstices between the score and the performer. The other interstices, between composer and score and performance and reception are more dubious. It is not clear what Duncan means by ‘interstices between composer and score’. Composers might be pleasantly surprised by interpretations they had not foreseen. This is a commonplace. Composers might feel they haven’t quite captured their intentions and it is unlikely that they will find their work unimprovable. This is not the same as the complexity of the music residing there.

The interstices between score and performance seem to be related to the gap between accuracy and fidelity. The problem now is: how is the performer to assess fidelity? Assuming that accuracy can be measured (in retrospect), how is the
performer to know if the performance has exhibited fidelity? One dictionary definition of fidelity is ‘adherence to truth; accuracy in reporting detail’\(^6\), so accuracy might still be the measure.

Lastly, Duncan refers to the notation ‘complexifying’ the relationships between composer, performer and listener. It is simply the case that all these relationships are well known to be complex and need no added complexity to illuminate them. If the notation is not to signify some action on the part of the performer its only function can be to confuse and obfuscate. As mentioned earlier, notation generally points to a range of actions the performer might make. Where complex notation has plausibility and the potential for clear transmission by the performer, then seeking accuracy (to the degree any performer would usually expect to achieve) is a valid approach. The question for the performer is then: how much effort should be made to achieve such accuracy? All performers will weigh the demands of the score against the time needed to learn it. Arditti rejected a score for the quartet on the basis that it would take too long to learn – over a week – and that the time could not be justified on musical reasons\(^7\). Duncan’s point is well made: the performance is not an encapsulation of the score, but it is a purely philosophical point that is already accepted and in no need of ‘complexifying’.

Duncan sums up his argument (regarding Ferneyhough’s scores):

> The complexity of Ferneyhough’s music derives not from the informational density of the score, as Smalley believes – it is not the litany of performative instructions, upon successful completion, transparently transmits the composer’s prebuilt compositional system to the listener – but rather from a coalescence of the dialogues between composer and score, score and performance, and performance and reception. (Duncan 2010b, 138)

This might not be clear to the performer who first meets a score by Ferneyhough in ignorance of these philosophical positions. Few of the scores, if any, contain any
preface to the effect that fidelity rather than exactitude is the goal. The use of the word ‘dialogue’ is metaphorical and implies an evaluation of each contribution in the light of the other. Duncan is being ambiguous: can he mean a dialogue between composer and score? Or does he mean the composer and score as a single entity? If this is the case it is certainly not so with the other pairs. The notion of the ‘coalescence’ of these dialogues is also spurious. Any coalescence is surely an instantiation of the score in performance – simply that.

For Ross Feller, Ferneyhough ‘sought to reinject vitality back into the idea of closed-form composition through the integration of excessive, unstable, and chaotic structures’ and ‘for Ferneyhough, a compositional system is not a means to mechanically produce music. Instead it creates a meaningful context in which compositional decisions are made’ (Feller, no date). This may be true for the composer; the compositional system is the domain of the composer who makes ‘compositional decisions’ before giving the score to the performer. The performer might be quite unaware of the compositional strategies (as, for example, is usually the case with serial compositions). The performer will often have some idea of the composer’s aesthetic but the score should surely contain enough information for the performer to make a reasonable inference of the composer’s intention.

10.4 Accuracy – the demands on the performer

Duncan looks at Marsh’s transcription of Ferneyhough’s INTERMEDIO alla Ciaccona and the Second String Quartet and remarks that through these transcriptions ‘we gain a greater understanding of both Smalley’s desire that notation reflect aural result and Heaton’s view that complex notation results in improvisation’ (Duncan 2010b, 159). He does not reference Smalley’s apparent desire and it seems unlikely that Smalley meant this, though he might have meant that the aural result should reflect the notation, a not unreasonable expectation⁸. Heaton did not say that complex notation results in improvisation; he actually said, ‘we are thrown into an area of approximation and even improvisation on a text
whose very nature is to notate in detail every aspect of performance’ (Heaton 1990, 26). Duncan quotes this passage earlier but changes Heaton’s meaning by this omission. He then asserts, in reference to Marsh’s transcription of several bars of the Second String Quartet, that, ‘As things stand, his transcriptions merely attempt to show the inaccuracy of the Arditti’s performance’ (Duncan 2010b, 159). This is moot; it seems more likely that Marsh’s intention (rightly or wrongly) is to question the validity of ostensibly descriptive notation that has developed to the point of being unplayable while signifying such subtle musical discrimination that is beyond immediate perception in performance. Duncan refers to his computer analysis of the same passage without giving any of the methodology necessary to interpret the results, as detailed earlier in Chapter Five. He merely refers in a footnote:

The analysis examines the recording through an audio-editing program in order to offer a precise reading of the Arditti Quartet’s performance. (Duncan 2010b, 169)

This program could not have interpreted phrasing and the normal interpretive felicities that distinguish a performance exhibiting ‘fidelity’ from one that is simply perfunctory (or compliant if one is following Nelson Goodman’s approach (Goehr 2007, 37)).

Duncan goes on to note the ‘lack of equivalence between his (Marsh’s) own transcription and the recording’ (Duncan 2010b, 160), claiming that Marsh has compounded the dissonance between score and perception. He later claims, ‘Marsh’s conclusion is invalidated by his assumption that the listening process is a passive one … rather than an active one.’ (Duncan 2010b, 162) Nowhere in Marsh’s paper does he state that listening is a passive process. It is highly unlikely that Marsh has any such view; it is well known that listening is constructive – an active process. The fact that Marsh attempted a notation of Arditti’s performance at all is evidence that he knew he was interpreting what he perceived.
Duncan then asserts, ‘he (Marsh) assumes that this is how everybody receives this passage’ (Duncan 2010b, 162). Duncan is assuming that is what Marsh thinks but Marsh does not say that anywhere in his paper. On the other hand, most musicians go through an extensive training in aural dictation – the ability to recognise and discriminate rhythms, pitches etc. We can assume that Marsh has some competence here. But the ability to notate from performance does not normally need to encompass interpretive gestures and Marsh’s transcription is a transcription of an artistic interpretation – a rationalisation as Duncan points out. It is possible that others, similarly qualified, could come to other rationalisations. That isn’t the point. If it were the case, then the performance could be an interpretation of any of the possible rationalisations. The question is how does this performance relate to Ferneyhough’s score – which then prompts the further question: what interpretative scope can the performer have in mediating the apparently descriptive score in performance?

Duncan infers that ‘Marsh expects a performance to match the notation’ (Duncan 2010b, 160). He then goes further by considering, hypothetically, the potential result of a performance of Marsh’s transcription and comes to the obvious conclusion that it is unlikely to match the Arditti Quartet’s performance (Duncan 2010b, 162). The term ‘match’ here is too vague a term. A complete identity of one with the other would be unrealistic. On the other hand, such a hypothetical performance could possibly be heard as a plausible interpretation of Ferneyhough’s original notation. This idea could be extrapolated further, should Marsh be inclined to notate this performance, but the ‘Chinese Whispers’ argument puts a limit on such absurdities.

Thomas’s refers to Marsh’s work in Interpretation and performance in Bryn Harrison’s être-temps (Clarke, Cook, Harrison and Thomas 2005). A common criticism of Marsh’s approach is that, had Ferneyhough written his piece with simpler rhythms the overall resulting sound-world would be lacking in energy and that something would be lost. Thomas is referring to this when he states that this
would be quite ridiculous and if this transcription were to be played it would ‘sound entirely different to what Ferneyhough had written’ (Clarke, Cook, Harrison and Thomas 2005, 45). Cook echoes this saying the result would be a quite different performance event and that ‘the sound would be the trace of a quite different human activity’ (Clarke, Cook, Harrison and Thomas 2005, 45). This is not convincing. Both are impossible to prove. We cannot do the experiment where one performer plays the same extract both in the simplified rhythm and the complex, as each performance would be informed by the other. Similarly, giving the two versions to two different, competent, sympathetic performers would inevitably result in two different performances. Coming to any conclusions as to the reasons for the differences between the two would be speculative. Whilst the premise is superficially true, Cook’s conclusion is trivial; any performance is the unique result of a complex of human activities. The question is: do the imperceptible differences between immensely subtle complex rhythmic relationships in the score translate to subtle differences in perception by knowledgeable (let alone the unknowledgeable) listeners? If so, then the aesthetics of complexity will, at least partially, reside in the accurate performance of such subtleties.

Duncan returns to Ferneyhough’s uncontroversial point of the score not being an exact encapsulation of the audible event (or vice versa apparently) and the convenient escape clause that it is not a question of 20% or 99% of the notes. Duncan opines ‘The notation does not present a single path but rather a labyrinth with multiple entrances and exits’ (Duncan 2010b, 163).

This is a romantic and attractive idea but it can hardly be the case. It is a metaphor that applies to all score based music to some extent. There are scores that literally do allow for multiple entrances and exits but Duncan doesn’t mean that. He is allowing a multiplicity of interpretations of the score, which is exactly as it should be, and which is generally the case in common practice classical music. He then uses this as an argument against the high modernist view of Cox. The high modernist model of performance can be parodied; it is easy to ridicule it by
pointing out the absurdity of a transparent one-to-one identity of score and audible result: the privileging of accuracy. A degree of inaccuracy is inevitable in any performance but it is the degree of inaccuracy that is in question. There must be some accuracy if a performance is to be in some sense a realisation of the score. Duncan quotes Spartanay's two performances of *Time and Motion Study Number 1*, the première and his later recording where he felt he was much more accurate. According to Spartanay, Ferneyhough preferred the original as it reflected the struggle of performance. (Spartanay 1990, 37). Ferneyhough is allowed his opinion but is it to be the benchmark against which all other performances are judged? The idea of the performer's struggle being part of the music is diminishing, which is inevitable as the music becomes more familiar and techniques develop. This is closely connected to the concept of failure – and indeed the inevitability of failure. According to Toop 'The 'praise of failure' which was such a prominent feature of early exegeses may have receded somewhat during the 1990s, but it remains implicit' (Toop 2010, 92).

Feller also asserts 'Performance difficulty is an inherent component of Ferneyhough's aesthetic, as it was for many late nineteenth century composers' (Feller, no date). If the concept of failure is an integral part of the aesthetic of new complexity then it is possible that the importance of new complexity as a genre that enables the communication of transcendental qualia will diminish with improved performance 'standards' (a controversial word in this context but it is likely that a performance practice will evolve with this music as with most other genres).

As mentioned in Chapter Four, section 4.11, early in his career, Arditti noticed the inaccuracies in the performances of *La terre est un homme*. By 1990 he had come to the opinion that the composer has the right to accept inaccuracies thus forming a criterion for the validity of the performance (Arditti 1990, 9). Duncan quotes this (Duncan 2010b, 164) but omits the rest of Arditti's paragraph (which follows immediately on from the above):
Performers should not tolerate inaccuracy and should always try to get as close to perfection as possible; perfection not only in the accuracy of pitches and rhythms but also in the quality of sound production, just as they would in a more classical work. (Arditti 1990, 9)

The public validation of a performance by the composer is of great value professionally to the performer. While Arditti strives for perfection it seems that he also accepts the composer may not see this as an indication of a valid performance. If this is the case, it might be more realistic to see this as an indication of the irrelevance to the artist of the composer’s opinion. If this is too harsh, then it is an indication that the composer’s opinion is not of paramount importance.

Duncan quotes Cox ‘too often such performers treat the music as a glorified form of spatial notation, or as a ‘cue-sheet’ for their musical habits’ (Cox in Duncan 2010b, 165). Cox accuses these performers as refusing ‘on principle’ to do the detailed work involved in learning the scores in order to ‘realise their freedom through the music’ (Cox in Duncan 2010b, 165). This accusation is impossible to verify. Cox makes the assertion but without evidence it is merely anecdotal. Of those performers who have written about learning the music, only a few have given any details of their methods but they all stress their desire for accuracy. They are unlikely to do otherwise as it could be prejudicial against their artistic integrity. Analysis of the recorded results shows (sometimes gross) inaccuracies from a strict point of view, but which may be justifiable on artistic, interpretative grounds. Cox’s assertion would be more plausible if it were expressed as his suspicion, one reason in support of which would be the sometimes very short time between receipt of the score and performance.

The high modernist approach cannot be easily dismissed. It hinges on the degree to which it is possible to realise the score in such a way that there is a close correlation between what is seen on the page and what is heard in performance.
Feller paraphrases Henry Cowell: ‘any three-level nested tuplet could be accurately produced if a performer would simply devote fifteen minutes a day, for five months to such matters’ (Feller, no date). The inference is that any rhythmic subtlety can be remembered and accurately reproduced should the performer be prepared to do the requisite amount of work. Feller accepts that completely accurate reproduction will be impossible, ‘every performance will differ, that is entirely the point. No form of notation, from the most complex to the simplest, will ever exactly represent the sonic result’ (Feller, no date.). It is odd that Feller, along with Duncan, sees the score as representing the sonic result and not the sonic result representing the notation.

Cowell’s actual words are rather different to Feller’s paraphrase. In New Musical Resources he wrote:

By experiment we have observed that such rhythms as five against six against eight or nine, and other combinations of three rhythms together, can be quite accurately performed by the devotion of about fifteen minutes a day for about six months. Some of the rhythms developed through the present acoustical investigation could not be played by any living performer; but these highly engrossing rhythmical complexes could easily be cut on a player-piano roll. (Cowell 1930, 64-5)

Cowell gives no reference for the ‘experiment’ so the assertion is not quite convincing. He gives examples of several rhythms that could be learned and states that they can be quite accurately performed but does not indicate how this accuracy was assessed. Cowell compares the time to learn the rhythms with the time students practise scales but the motivation to learn scales is different to that for learning arcane rhythms. The practice of scales is fundamental for the acquisition of a technique that will enable the performance of almost all the common practice repertoire. The study of obscure rhythmic combinations will
doubtless be useful for solution of specific problems but will most likely remain unused, as the potential rhythmic combinations are virtually endless. Cowell then admits that some (probably almost all potential rhythms of this complexity) are impossible and invokes the use of technical means for the accurate reproduction. This hypothesises the current technological tools now available to musicians. We might therefore infer that Cowell would have been of the opinion that most of the highly complex rhythms in new complexity compositions are unplayable by any living performer.

Feller again points out the obvious: the score and performance are not, and can never be, isomorphic. This is trivial. A high modernist approach to learning the score is more likely to result in a performance that correlates (to some degree) with the score but if this does not result in a performance that meets the composer’s approval then it is moot where the problem lies: it may not be with the performer. Meeting the composer’s approval may seem to be the main object but it is rarely so in reality – the première may be a particular case. Subsequent performances will only need to satisfy those present.

As stated above, Cowell’s argument has become irrelevant with the technological developments that enable the reproduction of complex rhythms by computer. It should therefore be possible for any competent musician to familiarise themselves with the ‘mechanical’ version so as to base their ‘interpretation’ on some firm footing. It is odd that Schick decided not to do this; he was happy to use recordings as tools and his reasoning, ‘human ears would judge the performance, so human ears should guide the learning process’ (Schick 2006, 105) is not particularly persuasive. Christopher Redgate found the programmable metronome particularly useful (see Chapter Four, section 4.12). The work of learning the score (as opposed to the work required to acquire the technique to solve the practical problems of actually playing the notes) need not be so much of a factor. The supposed aesthetic quality of the music being due to the forced learning strategies may be illusory.
10.5 Intention

The idea of the composer as an isolated genius creating fully worked scores ready for performance is a romantic myth. Composers are now seen to be more experimental; they try ideas out and modify their works, finding solutions to practical problems and adapting them for particular performers and performance situations\textsuperscript{10}. No matter how vague the concept at inception, the composer will, at the very least, develop intention during the compositional process. If this were not the case then there would be no context for the work to be appreciated. Intention may be emergent and while a composer might change their intention over time, it is reasonable for performers to try to inform themselves of the composer’s intentions when charged with performing the works. The performer who has close interaction with the composer (perhaps in some collaborative relationship) will be in a position to elicit details that are significant for future performers who will not have had the benefit of direct communication with the composer. This is not to suggest that the first performer should have too dominating an effect over future interpretations, but ignorance of performative information obtained directly from the composer by later generations of performers might result in performances that directly contradict the composer’s sense of the integrity of the work. First performances of a work are often made in the presence of the composer, often after lengthy consultation. The approval of the composer is therefore often inferred. The case is even stronger when a recording is made under the composer’s supervision, as in the case of Irvine Arditti’s recording of \textit{INTERMEDIO alla ciaccona}.

There is also the possibility that composers might, over time, forget the details of their scores\textsuperscript{11}. Whilst it is reasonable to assume that the composer is familiar with their own scores, this can diminish over time, especially when minor details are in question. The conclusion must be that, whilst one should expect composers to be reliable guides to their own music, their experience of it will vary depending on
their involvement with it and the performers wishing to play it. The probability is that they will express a considered view even if some aspects have been forgotten. It therefore follows that collaborative work between the composer and performer yields important information as to how the composer's intention develops during the compositional process and leading up to, and possibly after, the first performance. In particular it may indicate the way in which rhythmic accuracy, the prime focus of this study, is valorised.

This does not absolve the composer from ensuring that their scores are sufficient to convey their intentions for, in the end, the score, and performance tradition (conveyed by whatever means) will be all that connects composer and performer. This point is echoed by Ferneyhough: 'it is they (the composers) who, in the final analysis, are directly charged with providing binding compositional contexts to be interpreted' (Brian Ferneyhough in Conversation with Joshua Cody, no date).

There has been a lot of research into the collaborative process between composer and performer. The following two examples throw some light on how both composer and performer view the performance of rhythmic complexity.

The interaction between composer Fabrice Fitch and the cellist Neil Heyde in the compositional process of Fitch's *Per Serafino Calbarsi II: Le Songe de Panurge* is documented in their paper 'Ricercar’ – *The Collaborative Process as Invention* (Fitch and Heyde 2007).

Heyde refers to several comments about specific details of the piece that Fitch made during the early rehearsals, which do not appear in the score. Heyde seems to imply that he thinks they should have appeared, as they would be useful for subsequent performers wishing to give a faithful account (Fitch and Heyde 2007, 91). Fitch is ambiguous about these details, unsure whether they are simply the composer's idea of how the piece should go and therefore partial, or whether their absence from the score is an acknowledgement of the inadequacy of notation.
(however complex) to convey the richness of the possibilities inherent in the score (Fitch and Heyde 2007, 92).

Looking at one aspect of the score, the episode *il cucco* consists of twelve repeats of two harmonics sounding A quarter tone sharp and G natural – see Example 10.2 – separated by bars of silence.

**Example 10.2** Fitch, *Per Serafino Calbarsi II: Le Songe de Panurge: il cucco*

The durations of the bars have, as Fitch readily admits, imperceptible differences. Time signatures, such as 2/12, 4/20, 4/12, alternate with 3/8, 5/16 and so on. Describing this as ‘wilfully perverse’ (Fitch and Heyde 2007, 76), Fitch expects (or intends) this to help the performer to maintain tension throughout the section.
This is a candid acceptance of the use of notation as a psychological tool rather than descriptive of the desired music. But once the performer is aware of this manipulation, is the effect sustainable? Can it only be used once and should the performer feel an obligation to accuracy?

Thomas used exactly the same argument in the paper *Interpretation and performance in Bryn Harrison's être-temps* (Clarke, Cook, Harrison and Thomas 2005). This paper documents the progress of Harrison's piece *être-temps* from first rehearsal to performance.

Page 5 of this piece (see Example 10.3) consists of a three-note chord repeated 28 times with slightly different durations and dynamics, and irregular intervals between them.
Example 10.3 Harrison, *être-temps* p.5

Thomas writes:

the complexity of the counting needed to measure accurately the lengths of the intervening rests is unheard by the listener, but the
impact of that counting upon the articulation of the cluster across time is such that each sound has its own energy. If Bryn had notated this using either a simpler rhythmic strategy, or space-time notation, that energy would be noticeably lacking. (Clarke, Cook, Harrison and Thomas 2005, 39-40)

At this point it might be worth re-stating that while the human ear might be able to distinguish time intervals of milliseconds duration, this is not the same thing as being able to perceive such intervals in the context of a musical performance where there are many other attributes of the flow of sound to appreciate. The idea of the energy being ‘noticeably lacking’ is ambiguous. Thomas presumably means the energy in performance but is this for the benefit of the performer or the audience (who are unlikely to be in possession of the score)? Unless the piece enters the repertoire and becomes so well known that only punctilious performances are acceptable, errors in execution are unlikely to be perceived as lack of energy.

Later in the paper Eric Clarke discusses the rehearsals and the final performance collected from the Disklavier – which was used for all the performances - and analysed via several statistics and graphics programs. Discussing this page he remarks on the high correlation between the idealised score values and the data from the recordings – between 0.96 and 0.98 (Clarke, Cook, Harrison and Thomas 2005, 55). Clarke does not go into detail about how these coefficients were calculated but suffice it to say that values that are close to 1 show a high degree of correlation, the implication being that this indicated a high degree of rhythmic precision.

Clarke acknowledges his calculations are based on the given metronome mark of 8\textsuperscript{th} note = 104. The data that Clarke uses does not appear in the paper but Table 10.1 shows the theoretical timings calculated from the score of the first five chords
of this page based on the same metronome mark and starting at time zero for the first chord.

**Table 10.1** Harrison, *être-temps*, p.5 – theoretical timings for the first five chords

<table>
<thead>
<tr>
<th>Chord Number</th>
<th>Score Time – Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2.076923768</td>
</tr>
<tr>
<td>3</td>
<td>3.317307693</td>
</tr>
<tr>
<td>4</td>
<td>5.068681318</td>
</tr>
<tr>
<td>5</td>
<td>7.980769231</td>
</tr>
</tbody>
</table>

Example 10.4 shows the same chords with a very much simpler rhythmic notation.

**Example 10.4** Harrison, *être-temps* – simplification of the first five chords of *être-temps* p.5

Chords 1 and 3 are unchanged as they do not involve complex notation and one can expect a performer to count 8\textsuperscript{th}, 16\textsuperscript{th} and 32\textsuperscript{nd} notes and rests reasonably accurately. Had Thomas played this exactly – that is with a correlation of 1, the time values for the same chords would be as shown in the third column of Table 10.2.
Table 10.2 Harrison, *être-temps* – original compared to simplified score times of the first five chords p.5

<table>
<thead>
<tr>
<th>Chord Number</th>
<th>Original Score Time - Seconds</th>
<th>Simplified Score Time - Seconds</th>
<th>Difference - Seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>2.076923768</td>
<td>2.163461539</td>
<td>0.086538</td>
</tr>
<tr>
<td>3</td>
<td>3.317307693</td>
<td>3.317307693</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>5.068681318</td>
<td>5.048076923</td>
<td>-0.0206</td>
</tr>
<tr>
<td>5</td>
<td>7.980769231</td>
<td>7.932692308</td>
<td>-0.0480769</td>
</tr>
</tbody>
</table>

It seems reasonable to conclude that similar values would have been found should the rest of this page be analysed in a similar fashion. The timing difference for the other chords (2, 4 and 5) is a matter of a few hundredths of a second and one may suspect that if Clarke had calculated the correlation coefficients with these figures (that is correlating his figures against those in column 3) he would have got similarly impressive high correlation values. This is another example of the difficulties in trying to assess rhythmic accuracy.

This also illustrates a contradiction in the manner in which composers and performers view notation. At the beginning of the paper Harrison says that he is interested in exploring the subtle differences in rhythms such as the above. Inspired by Feldman and Ferneyhough he says:

> What I was doing, in effect, was to write what I wanted to hear whilst, at the same time, stepping back from the material by allowing certain self-regulated systems to determine the specific rhythmic details of the piece. (Clarke, Cook, Harrison and Thomas 2005, 35)

This is ambiguous: is he saying he wanted to hear what he had written as he was uncertain of how it would sound, or that he knew how it should sound and wanted
to hear it the way he imagined it, and how he had quite accurately written it? Later, in a reported conversation between Harrison and Thomas about a passage of the score, Thomas says ‘Do you think it is accurate? I think I am pretty accurate’ to which Harrison replies ‘As far as I can tell, I’m struggling to tell’ (Clarke, Cook, Harrison and Thomas 2005, 45). Cook refers to this in his contribution to the paper when he reports Harrison saying ‘am I writing to hear it, as much as hearing it to write it’ (Clarke, Cook, Harrison and Thomas 2005, 43).

Cook thinks that Harrison is not trying to transcribe ‘something heard in his inner ear – something to be transmitted as directly as possible from the composer to listener’ (Clarke, Cook, Harrison and Thomas 2005, 43) and explains or justifies this as Harrison’s attempt to find out ‘what there is to compose in the first place’ (Clarke, Cook, Harrison and Thomas 2005, 43).

All this would seem to nudge Harrison’s piece into the experimental music category where the composer might start off a process with some idea of its general form and structure, with an interest equal to the other participants in the process in the result. But when the composer stands up to acknowledge his share of the applause what is he or she acknowledging? Is it the concept and choice of systematic procedure? Harrison is quoted as saying he wants the player to bring something to the piece and to that end there is flexibility in his notation. The question remains: what is the extent or range of that flexibility? The performer looks to the composer for advice, which is not always forthcoming. The performer will however, inevitably be seen as an authority (by future performers) by virtue of having given the first performance after collaboration (or intensive consultation) with the composer, especially if a recording becomes available. Cook later comments that:

It is not a question of reproducing the score or reproducing the sound the score specifies. It is a question of taking the music apart each time you play it, interpreting it as it were from first principles each time
[and] realising the score in a theatrical sense. (Clarke, Cook, Harrison and Thomas 2005, 46)

This is not altogether convincing. Composers profess interest in the micro-variations in rhythm that standard notation provides and then expect the performer to play with expression and bring something extra to the piece. Whilst rhythm isn't the only expressive dimension, it cannot be excluded. Expressiveness in this rhythmic content could easily be accommodated in the few hundredths of a second differences referred to earlier. With common practice notation we can comment on the way different performers play the same passages and take a critical view if a performer breaks well established norms, unless that performer can persuade us of the validity of their alternative view. Composers don't compose so that their pieces can be criticised but they usually want to have their pieces performed as widely and as often as possible; comparisons between performances, particularly recordings, may be inevitable. On what basis can one comment on a performance of this piece?

There is a suggestion that notation is developing and evolving in the way that perhaps language does. Thomas quotes Roger Redgate as saying:

It might be argued that the degree to which composers accept inherited notions of the function and possible limits of the notational system is inversely proportional to their critical awareness of the expressive discourse. (Clarke, Cook, Harrison and Thomas 2005, 39)

Thomas adds that for Harrison notation is an intrinsic part of the music's character to be transformed by the performer, and refers to his well-known dictum that all notation is a prescription, or prompt, for action – rather than a description of sound. Whilst the first part of this is undoubtedly true, there is no reason why the generally accepted notion of the score as an abstract description of musical sound (within a reasonable tolerance) should not equally be the case. The score can
certainly be decisive in deciding whether or not a performer has made an incorrect action thus producing a sound that was not intended by the composer. This seems to be the reason why Berio revised *Sequenza 1* for flute:

I adopted a notation that was very precise, but allowed a margin of flexibility in order that the player might have the freedom – psychological rather than musical – to adapt the piece here and there to his technical stature. But instead, this notation has allowed many players – none of them by any means shining examples of professional integrity – to perpetrate adaptations that where little short of piratical. In fact, I hope to rewrite *Sequenza 1* in rhythmic notation: maybe it will be less ‘open’ and more authoritarian, but at least it will be reliable. (Osmond-Smith 1985 in Thomas 2007, 190-1)

It seems that Roger Redgate’s comment doesn’t take us very far. At one extreme a total mechanical adherence to the score will be lacking in expressive communication and, at the other, any composer who suggests that the performer “play it roughly right” would deserve the derision they would undoubtedly receive. The truth is in the middle and the score is the map and not the territory. Any idea of broadening the concept of the meaning of a score in the sense of accommodating contradictory views as to the meaning of, for example rhythmic notation, should be treated with caution.

Pamela Burnard focuses on the various aspects of musical creativity in her book *Musical Creativities in practice* (Burnard 2012). Her interviews with three composers, Donnacha Dennehy, Liza Lim and Robert Davidson, elicit information about their compositional practices that illuminate some contemporary ideas of intention. She allows that:

musical creativities can emerge from the individual expression of an internal world – a practice driven by the individual composer – and, at
the same time, can arise from the external social realm and the scripting of social action, as evidenced by the participatory and improvisational modalities utilized [sic] in innovatory performance practices in relation to the technology used by specialist contemporary music ensembles. (Burnard 2012, 122)

For the Irish composer Donnacha Dennehy, ‘Each piece is compelled by some sort of problem or opening up to something new’ and ‘Because you spend hours and hours every day doing the details, you can’t afford to lose sight of what you’re really trying to do’ (Burnard 2012, 132). At the same time, Dennehy has a visceral approach to the experimental period. Referring to ‘the ‘sound’ of the piece’ he says:

I work directly with it. It actually inspires what I do on many levels, even structurally. I want to feel the impact of the sound, even when it’s gentle – it has to make an almost bodily impression on me. (Burnard 2012, 130)

Burnard explains, ‘Performed sound becomes the raw material for new dynamic structures of composition’ (Burnard 2012, 130). Dennehy does finally admit that, ‘The wonderful thing about a score is that you have something there in a document that allows it to be performed so many times, by different people’ (Burnard 2012, 134).

Burnard states, ‘The composition is worked into the performance. The composition does not grow beyond the intent of the composer’ (Burnard 2012, 133), but for Dennehy intention is not the same thing as prescription of reception. He is amazed by the fact he will hear things in performances of his compositions that he never imagined (Burnard 2012, 134).

Burnard’s next composer is the Australian Liza Lim. Her compositional influences are often social, cultural and historical. These are often expressed in collaborative,
exploratory work with individual musicians and ensembles such as ELISION. For example, Lim says:

Working with ELISION offers me all types of opportunities for just plunging in and trialing ideas... that’s why I said that the contact with performers was absolutely critical, because for me the creative laboratory is crucial for finding out what works and what doesn’t work. (Burnard 2012, 138)

Burnard explains:

The dualism of individual and inward and socially constituted and outward practices is shown in the discourse of individual creativity, which is defined by the intent of composing, but situated within the community of which the artist is a member. (Burnard 2012, 138)

And later:

Here, compositional creativity is a dialectic involving an act ... of individual expression ... in relation to a complex set of musical-structural-cultural properties. Whilst it potentially involves a complex set of intentions, these are supplemented by actual performances and the development of performance traditions. (Burnard 2012, 140)

Finally, Burnard’s last interviewee is the Australian composer Robert Davidson, the director of the group Topology. Burnard finds that for Davidson:

The ‘musical score’ or ‘masterwork’ is really just a set of instructions to performers, to make certain sounds at certain times. The score, or any notated representation, is no substitute for performance creativity, or the interaction between musicians, or between musicians and audience, or any other aspects of being ‘live’. (Burnard 2012, 143)
But Davidson still believes in ‘creating work in isolation and ... you please yourself first’ (Burnard 2012, 144). Burnard states Davidson’s ‘practice is located at the junction between the individual appropriation of the ‘self’, as defined by his own compositional intentions and by larger social relations’ (Burnard 2012, 144).

If the notion of a composer having specific intention is illusory, performers will still have to decide what they consider their own role to be. This might be to realise the score from the information available, to try to realise the intentions of the composer (when they are clear), to mediate between the score and the audience, to re-create the music as an admixture of their own expressive abilities and the composer’s ‘instructions’, or maybe all of these in some proportion. The performer can hardly do other than interpret the score, but it is less clear to what degree they should feel obliged to understand the motivations of the composer, or the compositional techniques the composer has utilised. It may also be the case that the composer's intentions are not clear to themselves – they are writing to explore ideas. This would seem to push the composer into the experimental category in which case the performer's work will also be experimental.

As mentioned earlier (Chapter Four, section 4.11), Arditti admitted he never read musical analyses. Dench found the analysis of tone rows not much more interesting than the inside of his toaster. The intention of the composer might be quite transparent; the music might be programmatic in some way providing the performer with a base from which to develop an interpretation. Should the composer's thoughts be more elliptical, performers might consider themselves free to ignore them for the purposes of practical transmission of notes on paper to audience.

An example of this might be Ferneyhough's preoccupations with time, and recently the concept of ‘successful’ and ‘failed’ time (Fitch and Hails 2010, in Paddison 2010, 320). Ferneyhough had become ‘fascinated by the historical development of
Angelology, the theological exegesis of God’s supreme mediators’ (Fitch and Hails 2010, 322). Noting that angels are ‘essentially deaf to time’ he:

conceived it as [his] task to imagine a music in which the role of time would be considerably pared down, being reduced, as it were, to the timeless moment of reversal in the incomprehensible beating of the angel's vast pinions. (Fitch and Hails 2010, 322)

The resulting movement in his opera Shadowtime is the ‘guitar concerto’ Les Froissements d’Ailes de Gabriel. Fernyhough explains:

But how to approach this (literally impossible) goal? In the end, I adopted a dual strategy: on the one hand, I chose to work with only extremely brief time frames of a few seconds each; on the other, I combined them with musical forms and materials necessitating (demanding) objective time spaces quite different from those actually assigned for their effective apprehension, thus linking up with some of my long-term ideas on the current nature of Subjectivity as a dynamic self-distancing performance act within the constraints of a given discursive frame or frames. One's variously configured failures to adequately apprehend both frame and content imply, as it were, the complicit presence of the observer in a series of judgemental acts. (Fitch and Hails 2010, 322)

The guitarist tasked with performing this work will probably not derive any useful information about how to perform the score from reading this. The preoccupations of the composer need not be those of the performer. Both performer and listener on the other hand, might benefit from hearing the music in the knowledge of the composer’s motivations and such intentions might well be communicated beforehand in programme notes and the like. Toop comments:
The audibility of compositional process is not necessarily an index of aesthetic quality; but where a few words can suddenly make something audible, it seems perverse (to this author) to withhold them. (Toop 2004, 247)

10.6 Conclusions – the research questions

One issue can perhaps be put to rest; the idea that the composers prioritise the compositional system over an artistic determination of the work structure. There is usually a constructive substrate to the compositions but each composer reserves the right to make changes for pragmatic, artistic reasons. The cynical argument, neatly expressed by Roger Scruton, is simply not the case. He writes:

The triumph of the construct over the abstract is one part of the routinization of modernism, and its conversion into the official style of an ‘avant-garde establishment’. The construct has art and not life as its model; it is built according to a system, and its very originality is contained in the rules for its production. It triggers the quick response of the establishment critic, who knows that he will make no mistake by praising it, for the very reason that no-one, not even the artist, will understand why he does so, and therefore no-one will be in a position to doubt his taste. (Scruton 1998, 82)

The composers mentioned in this thesis have, almost unanimously, been clear that their compositional motivation is (if only partially) the complexity of life – nature in fact. Scruton refers to the:

desiccated perfectionism of Boulez, whose Marteau sans maître survives in the archive, the last pressed flower in the book of modernism, a memento mori which we study from time to time and then wistfully return to its grave. (Scruton 1998, 77)
None of the compositions studied here can be said to fit this description of arid modernism.

*The research questions*

This thesis has been an opportunity to discuss the issues around the research questions rather than supply scientifically testable, definitive answers to them. Clarification of these issues, however, is of value. New complexity is now part of the history of twentieth century music. Many of the works that fall under its rubric have, to quote Marsh, ‘spectacular effect’. The work of the performer in realising that effect must necessarily touch on the philosophical issues discussed in the previous chapters. The absence of an unambiguous definition of its essential qualities leads to the conclusion that it is not an identifiable genre as such, a conclusion that is no reflection on the quality of work by these composers.

Research question 1: What is new complexity?

The key issue in identifying the aesthetics of the genre is that of *intent*. If a composer’s explicit aesthetic concerns, reflected by the specific informational content of their scores, is such that the performer’s task is unambiguously to realise an extremely high degree of compliance, then we might propose a genre, based on Taruskin’s definition, or the one given at the start of Chapter Two, and see which pieces might fall into the category. It is unlikely that any of the pieces discussed in this thesis (in particular, the case studies) would be so described.

Taruskin would probably accept the definition of new complexity given at the start of Chapter Two (section 2.1). It covers the superficial aspects of the score and some composers were indeed motivated by such notational possibilities – for example, Ferneyhough’s own rhythmic figures given in Examples 1.1 and 1.2. Several composers stated that their music should represent the complexity of the real world. Several composers indicated that some part of their aesthetic was the
psychological effect of the score on the performer over and above what might normally be expected in common practice music, and several performers agreed with this.

The definition fails on several points. The composers initially grouped by Toop rejected the notion that they were striving for complexity for its own sake. Their compositional methods were sometimes initially mathematically generated but the composers always reserved the right to make changes and deviate from the strict methodology, in order to craft their music. They are all pragmatic and intensely concerned with playability, they want performances and are not interested in writing something that can't be played. Ferneyhough has made it clear that he is interested in fidelity rather than accuracy and to that extent we can infer that the strict interpretation of his scores need not be mathematically correct. He is interested in the choices the performers make but the difficulty here is that the performer might not be aware that this is Ferneyhough's view. It does not appear in his scores where it could form an important part of the performers learning strategy. In fact, as in the example given earlier (the preface to his piece for flute Cassandra’s Dream Song) he gives the impression that he holds, or held, the opposite point of view – he does not want approximations or inaccuracies. Of course Ferneyhough may change his mind over the decades but the performer is at a disadvantage.

It is also the case that many new complexity scores contain passages that are prescriptive, that is they do not in themselves convey the resultant musical effect in a descriptive manner. There is flexibility in such notation that fails a definition of new complexity that focuses on the composer's need to notate subtleties and nuance.

As stated at the start of this chapter, Toop now thinks new complexity cannot be defined as a compositional process: it is more of an aesthetic position. The diversity of the composers’ music, even in 1988, was too great to allow for a
common compositional approach. New complexity seems to be an idea that has waxed and waned and any definition will now be an historical one. It will probably be just as much about the issues that were talked about at the time, as about the pieces that were written – or indeed the subsequent works by Toop's four composers.

Research question 2: What methods do performers use to achieve rhythmic accuracy?

This has largely been answered in Chapter Four, the summary being in section 4.18. In the end the performer has to make pragmatic decisions based on their understanding of the composer's aesthetic requirements and their own criteria; that is how much of their own resources (primarily time) they are prepared to commit to one project. Those involved with new complexity, as performers, composers or musicologists, often reach conclusions that imply a prescriptive approach to performance via their analyses of the scores and understanding of the composer's philosophical positions. This allows the possibility of a plurality of approaches, which also seems commensurate with the ambiguities present in the scores.

It ought to go without saying, but all musicians will aspire to perform any score with 'fidelity'. The paradoxical nature of the philosophical positions taken by some of the composers, make the achievement of fidelity next to impossible by any methodical means. The high modernist position is still a valid approach; not in the absurd parody as most commentators seem to describe it, but as an honest attempt to get to a performance with as much accuracy as possible. The various methods Schick detailed, together with newer technological aids, enable this approach to be more practical than it might have appeared in the 1980s. The presumption behind this is that the aesthetics of the music can only be revealed by allowing the listener to experience all the subtleties signified by the score. As the music becomes more familiar, with ever more accurate performances, so will the aesthetics of the music
be captured more completely. This is tenable but heroically difficult for the performer. Schick’s third method is a more pragmatic approach. The metrical scheme becomes primary; the placing of notes in this grid arrived at by a degree of approximation. This at least makes the metrical scheme primary and would seem to be a practical way to approach Ferneyhough’s music. Lastly, a more cavalier approach; to do little more than acknowledge the rhythmic scheme and work on a more intuitive way to realise the sonic qualities and potentials of the music, might also result in a performance that exhibits ‘fidelity’ to the score: the composer (and audience) need never know that the work wasn’t done.

This can be put less cynically: Composers are often unaware of the expressive possibilities inherent in their work. In a performance the listener will have no idea to what extent the performer has analysed the score and to what extent they have tried to calculate the rhythms. The committed performer will no doubt focus on fidelity and conveying the emotional intensity of the score, and it is empirically true that new complexity pieces are often performed to stunning effect, regardless of the accuracy of execution.

It is not clear that the question of whether or not other parameters have an effect on rhythmic accuracy is answerable other than by the individual performer. For those who privilege rhythmic accuracy then the answer is probably ‘no’. This seems to be the view of Schick and his performances demonstrate an impressive degree of rhythmic accuracy (as detailed in Chapter Five). Other performers profess to aspire to rhythmic accuracy but also argue that the other parameters might affect the degree of accuracy that is appropriate to expect in a particular musical passage.
Research question 3: How can the results of such methods be analysed and assessed?

If accuracy, and in particular rhythmic accuracy, contributes to an appreciation of the aesthetic of new complexity then it must be necessary to find ways of making objective assessments of such accuracy in performances by musicians who become lionised (if only in this restricted genre) for having the exceptional virtuosity and deep musicianship needed to play the pieces. This was addressed in Chapter Five and earlier in this chapter. Once again, it is important to remember that this question refers to the performance of specific, localised, rhythmic figuration and not whole sections of the piece as a whole. It is the interpretation of this rhythmic notation that causes performers anxiety that they are not fulfilling their part of the contract between composer and performer to convey the composer’s intentions to the audience.

Detailed analyses given were of pieces from different instrumental families (guitar, violin, percussion) so it is reasonable to assume that the conclusions of this research hold generally. Each analysis was of a number of bars from which data could be extracted. Each extract was selected on the basis that the performer’s interpretation of the composer’s rhythmic schema would be clearly perceptible. The Dillon extract was marked *Tempo giusto*, the first extract from *Bone Alphabet* was marked *rigoreso*, and, while the second had *comodo* appended, it is not clear that this should be construed as being an invitation to perform the triplet figures with more latitude. Marsh was of the view that the tempo of the extract from Ferneyhough’s *INTERMEDIO alla ciacona* should be constant throughout. The *rallentandos* in Williams’s performance of Bach were acknowledged but ignored for the sake of the analysis of rhythmic precision as it is clear that the performance of common practice scores should reflect the current understanding of performance practice of those scores. As there is no general understanding, or agreement, about the performance of complex scores the degree of flexibility allowed in the performance is a matter for research. This is the point of this thesis.
and the focus of these analyses – to determine the current state of performance practice and the practicability of strict adherence to what appear to be descriptive scores. The lengths of these extracts were sufficient to place particular figurations in a context. They were also short enough for it to be reasonable to expect the performer to maintain a reliable pulse that would indicate their overall strategy. It was acknowledged in the examples of the performances by Morris and Arditti that there was a gestural element to the score which might have influenced their interpretation of the rhythmic schema. Each analysis was followed by informed speculation as to instrumental, and other, reasons for any significant deviation from rhythmic accuracy.

The results show that the question of determination of rhythmic accuracy entails choices on how raw data is interpreted. This can be quite problematic; the determination of the start of a violin bow stroke can be quite ambiguous. This thesis has been focussing on the performance of meticulously notated subtleties – nuances. Composers (for example Harrison and Dillon) have often indicated that they are interested in the small differences the musical notation is indicating. But the estimation of the accuracy by any correlation coefficient (such as that given by Clarke) does not indicate the accuracy that might have been obtained if a simpler form of notation had been used. Also a high correlation coefficient does not necessarily represent the quality of perception and reception of acoustic phenomena. A performance with a lower correlation coefficient might be perceived by the composer as exhibiting more fidelity. Schick was correct when he said that ‘the ear should be the judge’.

It was also shown in Chapter Five that there were several ways of interpreting the time values obtained from the analyses. One way was to compare them to the values that would have been obtained by a perfect rendition of the score. Another way was to look at the relationships between the notes and to compare them with the idealised relationship values. The results were different. Arguably, these relationship values should be more indicative of the composer’s intentions, in
particular with regard to nuance. The analysis of Dillon’s *Shrouded Mirrors* showed that a degree of accuracy comparable to other performers could be achieved by merely prioritising the pulse and approximating – i.e. using Schick’s third method.

The main research question: What role does rhythmic accuracy play in the performance practice of new complexity music?

It is now clear that this begs the question; new complexity is not a distinct genre except in some hypothetical sense. It may be a useful term to identify some particular aesthetic potential but there are few pieces that fall under the definitions provided earlier. The composers associated with this label, notably Ferneyhough, have largely renounced the idea that strict adherence to all the notational specificities is required for the (still potential) appreciation of the composer’s intention by the auditor. Ferneyhough is now seen as a more expressive, romantic figure. According to Lucas Fels, cellist with the Arditti Quartet, he (Ferneyhough) is not bothered by the odd miscalculated irrational.

The examples given earlier in this thesis, and in particular the case studies, show that the prioritisation of rhythmic accuracy depends on the particular piece, that is, in the determination of the composer’s particular intention in that piece. This has to be signposted for the performer in the score and reinforced by whatever performance practice is available. The composer cannot expect the performer to follow every change in their aesthetic position over time.

The question can be replaced by a similar one: What role does rhythmic accuracy play as just one of the parameters in the performance of complex notation? Here complex does not imply a particular aesthetic stance of the composer further than the inference that they have chosen the particular notation as being the most effective way of signaling the response they desire from the performer. This might be dependent upon the other parameters. Instrumentally specific demands might entail that these features are privileged over rhythm. The conclusion then would be that everything in the score must be perceptible in the performance, but to an
appropriate degree. Thomas's 'nudging' of the rhythm will be appropriate in some pieces (for example in Finnissy's Nasiye) as will Schick's precise calculations in Ferneyhough's Bone Alphabet, each dependent on the context of the passage. Performers must also be aware that composers may use obscure rhythmic notation to provoke the performer to maintain tension and avoid the commonplace. This argument was made by Fitch and Thomas. The problem with this is that, as it is a psychological device to manipulate the performer, it is unlikely to be sustainable over time. The audience will probably not be in a position to appreciate the energy in early performances as they have nothing to compare them to. With familiarity, anticipation of rhythmic events will either be met or not met.

**Final thoughts**

If nothing else, new complexity has put a spotlight on the philosophical status of the score and the ontological status of the musical 'work'. It is perhaps paradoxical but it seems that the more precision 'demanded' by the composer, the less accurate the performance will be on any objective measure. The rhythms of common practice music are usually familiar to both performer and listener, and can be performed to great accuracy with very little effort. A familiarity with the composer's style and some knowledge of performance practice will enable the performer to give a persuasive account of the music. This isn't the case with new complexity. At this time in the early 21st century, it seems highly unlikely that the complex rhythms, the microtones and other stylistic features of new complexity will ever become so familiar that audiences will nod in appreciation of a particularly elegant performance of its felicities.

Nonetheless, it is still a cause for regret that so few of the pieces are performed by the leading performers of the day. Commercial considerations usually ensure most performers will play the trusted, well-known repertoire for their own career advancement and personal financial security. New complexity pieces could easily
become better appreciated if audiences had more opportunities to experience them played in concert rather than on (usually) obscure recordings.

Yet the fact of the matter is that some of the greatest music is great precisely because the composer has not feared to let his music tremble on the brink of chaos, thus inspiring the listener's awe, apprehension and anxiety and, at the same time, exciting his emotions and his intellect. (Meyer 1956, 161)

This is an apt description of the effect that new complexity, whatever its definition, has on audiences prepared to submit themselves to experiencing live performances of this repertoire.

Notes


2. For example, some bars of Sorabji’s *Opus Clavicembalisticum* (for piano) are written on numerous staves.

3. Referred to in (Toop 2004, 224-6).

4. See (Goehr 2007, 22) for a similar idea with respect to Nelson Goodman’s identification of the musical work via characters.
5. There is a controversy over which player-piano is most suitable for Nancarrow’s piano rolls.


8. Though bear in mind Goodman’s isomorphism relationship between score and performance – see note 4 above.

9. Compliance is the theoretical adjunct to Cox’s high modernist position (see Chapter Four).

10. For example Simon Holt revised *Syrensong*, his first orchestral piece, when he realised he had unrealistic expectations of the horns being able to produce very low notes, and re-orchestrated them, allocating the parts to tubas. Holt justified this as a consequence of his inexperience as a composer at the time and the necessary learning process, even though this was a proms commission. His view is that a piece is never finished until the composer is dead and that if something doesn’t appear to work then ‘solve’ it and make it better (Hear and Now, 2009). Composers might be reticent: Luciano Berio revised *Sequenza 4* for solo piano but seems to have been reluctant to explain what prompted this revision. Asked (by letter) by Philip Thomas for the reason for the changes, he received the simple reply – ‘play the new version’. (Thomas 2012)

11. The composer might simply forget details of pieces they wrote perhaps many years ago. For example Philip Thomas asked Christian Wolff about some specific notational details of a piece he had written in the 1950s. Unable to answer, Wolff explained he had not been asked the questions at the time by David Tudor, and had simply forgotten (Thomas 2012).
12. Not p. 141 as given in the index to this edition.

13. Recall Irvine Arditti’s comment given in this Chapter, section 10.3, about the time he would be prepared to commit for the quartet to learn a new piece.

14. A comment he made in conversation with Tom Service before their performance at the Arditti Quartet: 40 Years Young concert at Milton Hall, the Barbican on 26th April 2014.

15. Some would argue with this; a minimalist composer criticised virtuoso musicians who were able to play complex rhythms accurately but couldn’t play 4 in the time of 4!