

Ferneyhough—Cox—Thomalla
An Analysis, Two Outlooks, and the Question of a "New Complexity"
School

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Introduction

In the nineteenth century there lived in Gießen, a small university town roughly in the middle of present-day Germany, an...inventor. Contemporary terminology would style him as a researcher, but also as a manager, a passionate teacher, but in any case as a cosmopolitan, for his publications were presented even within his own lifetime in German, English, and French, and students arrived from all of Europe, as well as from overseas, to study with him in this small university town. Justus Freiherr von Liebig (1803–1873) is called "The Father of Organic Chemistry," but his range of interests extended far beyond theoretical research to include, among other subjects, fundamental ideas regarding the food chain and larger ecosystems (at the time a novel subject matter) and effective methods of eliminating the persistent specter of famine. These efforts led to practical and astoundingly durable discoveries: his process for the production of synthetic manure remains common, as does the use of "Liebig's Meat Extract," a preservative powder for nutritional meat sauce, as well as an artificially-produced infant formula. Apart from this, his significance for the scientific world is something else entirely: his consistent advocacy for minimum standards of subject knowledge and analytical competence not only greatly improved the field of chemistry, but also raised the neighboring disciplines of internal medicine and pharmacology to an objective and exact scientific status.¹

The current field of research into scientific school-formation regards such striking academic personalities as Justus von Liebig as central examples of the paradigmatic organizing figure; his "Gießener School" may remain an exemplar for research groups in the "scientific community."² As to whether Liebig himself would have imagined that his example might one day serve as the model for an artistic "school" formation, one can

¹ A more detailed study of this interesting, timely, and extensive biography may be found in: William H. Brook, *Justus von Liebig. The Chemical Gatekeeper*, Cambridge University Press 1997. German translation in: G. E. Siebeneicher, *Justus von Liebig: eine Biographie des großen Wissenschaftlers und Europäers*, Braunschweig, Wiesbaden 1999. The term "gatekeeper" in the subtitle refers to this particular quality of Liebig's regarding scientific standards: "Liebig was a gatekeeper along the border between chemistry and its extended domains of application. He constantly promoted the practical application of his research...likewise he developed a strictly professional basis for chemists regarding their analytical competence and their knowledge of recent organic chemistry," p. XI

² "Schulenburg in der Wissenschaft: historisches Phänomen und theoretisches Problem," in: *Wissenschaft und Schulung. Alma mater Jenensis. Hochschul- und Wissenschaftsgeschichte* Volume 7, Jena 1991, pp. 9-25, see p. 14ff. Stolz distinguishes four types of "schools": Schools with and without central teacher-figures, as well as in both cases schools with and without direct communication. The "Liebig School" is an example of a school *with* a central figure and also *with* direct contact between students. Hence it is of the type most similar to an alleged "New Complexity" school, with Brian Ferneyhough as a central figure.

refer to the following citation: "The thoughts of the chemist or the physicist might well lend themselves to comparison with those unique abilities of the composer, who thinks in terms of sounds."³

Rüdiger Stolz identifies five characteristics⁴ for scientific school-formation, and they are astonishingly well-suited—though presently still open-endedly—to the formation of a "New Complexity School" under the leadership of Brian Ferneyhough. The criteria are as follows:

1. the charismatic "personality" of the "school leader";
2. the common purpose, or the demanding research program;
3. the common qualities of the "students" regarding theory and methods;
4. the characteristic working methods of the school; and finally
5. the international significance of the school and the concomitant influence of the school on the development of the discipline.

The goal of this small study will thus be in the pursuit of the following line of questioning: To what degree is Brian Ferneyhough to be regarded as a leading figure of a "school," and of what type?⁵

What first appears to be the research plan—a thesis⁶ is formulated, supported with convincing case studies, and followed up with a clear definition—crystallizes in the follow-through into an unexpectedly difficult venture. The very description or even the definition of a "New Complexity" style is supported by very few tangible, and many untenable generalizations; in my opinion there remains (as yet) no sustainable result to present.⁷ Moreover—and this is even more problematic for the concept of a "Meisterschule"—although Brian Ferneyhough is doubtless a charismatic academic figure, any meaningful attempt to surround him with a unitary and unequivocal circle of students fails at the outset.

Two things, however, may, at least as examples, be demonstrable: seeds and fruits. That is to say: on the basis of selected examples, certain aspects of the typical (for Ferneyhough) process of composition, or rather thinking, on the one hand; and their effects on the following generation of composers, on the other, can be revealed.

In the present article we shall thus be treading the following path: I shall first outline a few of Ferneyhough's typical compositional principles based on a small, but

³ Justus von Liebig is here emphasizing the "creative imagination in the sciences," quoted in Brook, p. 246.

⁴ See Rüdiger Stolz in the Forward to *Wissenschaft und Schulbildung*, op. cit., pp. 8 and 13; he refers as well to further literature on these five criteria.

⁵ I was asked by Prof. Dr. Hartmut Krones of the University of Performing Arts in Vienna, Austria to prepare a presentation for the scientific symposium "Meisterschulen der Neuen Musik" as part of the *wien modern 2011* festival, with the following subject(s): Brian Ferneyhough, "New Complexity," and the idea of a (British) "Meisterschule" in New Music. I am very grateful to him for the encouragement towards a more rigorous study of this topic; this essay represents the extended version of that presentation.

⁶ By "thesis" is meant here the—at least diffusely—current wide acceptance of the existence of a "New Complexity School."

⁷ We might here regard two articles—both of which deal extensively with the possible definitions of "New Complexity"—as representative: Richard Toop, "Against a Theory of Musical (New) Complexity," in *Contemporary Music: Theoretical and Philosophical Perspectives*, edited by Max Paddison & Irène Deliège, (Fenham, England and Burlington, Vermont, USA: Ashgate 2010), pp. 89-97; Claus-Steffen Mahnkopf, "Complex Music: An Attempt at a Definition", in: *Polyphony & Complexity*, edited by Claus-Steffen Mahnkopf, Frank Cox, and Wolfram Schurig (Hofheim: Wolke Verlag, 2002), pp. 54-64.

exemplary, work: the *Etude Transcendentale No. 5*. Included in this examination of a specific work are biographical snapshots of the American composer, theorist, and cellist Frank Cox, who studied with Ferneyhough in San Diego from 1987 to 1992. I have known him for over fifteen years, and he has been, in equal measure, both willing and comprehensive in providing me with overview of his own compositional development, and of the influence of his most important teacher. Subsequently we bring another specific example under examination: an (at least outwardly) similar composition from one of Ferneyhough's younger students: *Moments musicaux* from Hans Thomalla. Through direct comparison with *Etude Transcendentale No. 5* it becomes clear which analogies lie beyond a too-confining concept of style, and where the differences lie.

Finally we should generally reexamine the phenomenon of a "school": whether such a phenomenon exists in this case, or something similar—and this seems to be the case, as the concept of a "New Complexity School" persistently flares up—we may at least abstract and formulate, to a certain degree, the qualities of a scientific, or rather artistic, "school" formation. Then perhaps we might find some more suitable concept for the phenomenon: something beyond the tradition-freighted concept of the "Meisterschule."

First Digression: The Term "New Complexity" and its Definitions

"New Complexity" has been applied as a general descriptor for the music of, among other composers, Brian Ferneyhough, for nearly 25 years. A definition of the term—one that is capable of clearly demarcating, that is unequivocal, and yet nevertheless applicable to more than a single composer—has remained until now difficult to formulate. Two aspects seem particularly important for a definition of (musical) "New Complexity": the expressive impulse underlying the composition, and the sheer technical skill in the generation and use of the musical material. Further aspects, such as an overflow of information, and special challenges in the practical instrumental-vocal performance, among others, are supplementary. What the various definitions have in common is the idea of multidimensionality, and the concomitant struggle for perspective through the use of multiple, simultaneous, layers.

The British composer and musicologist Christopher Fox summarizes the phenomenon of "New Complexity," in which—after a reference to the basic concepts of the richness of detail in the notated score, as well as the problems of exacting feasibility—continues:

[The composers] sought to achieve in their work a complex, multi-layered interplay of evolutionary processes occurring simultaneously within every dimension of the musical material. (...) their scores necessarily pushed the prescriptive capacity of traditional staff notation to its limits, with a hitherto unprecedented detailing of articulation. Microtonal pitch differentiation, ametric rhythmic divisions and the minutiae of timbral and dynamic inflection were all painstakingly notated; the technical and intellectual difficulties which such notations present for performers were regarded as a significant aesthetic feature of the music.⁸

⁸ Christopher Fox, Entry: "New Complexity" in *The New Grove Dictionary of Music and Musicians*, 2nd ed. (London: Oxford University Press, 2001).

Frank Cox uses—with a certain apprehension—the obvious features of construction and notation in his definition of the term, and additionally refers to the origins of these techniques within the serialist mindset:

I am using the term „New Complexity" as a primarily descriptive term, covering composers who have consistently employed the above resources (...complexly organized iterative rhythms, 24 ET microtonality, and a multilayered treatment and transformation of textures...) and a range of serially derived processes, in general handled with great fluency and individuality. It hardly needs to be said that there is a wide range of compositional approaches and styles among New Complexity composers, as well as varying degrees of æsthetic accomplishment among their works.⁹

His own intentions are described in this regard as "radical complexity," a further development that focuses on the consistent organization of specific aspects of instrumental sound-production,¹⁰ and which was, at the time, his primary compositional interest.

The musicologist Ulrich Mosch (of the Paul Sacher Stiftung in Basel, Switzerland) describes, in a general sense, the æsthetic experience of complexity: he speaks, as a general theme, of the "experience of multiplicity in unity":

The power and dynamism of this musical complexity may find its basis in the contrast of two opposing sides—ideally a state of equilibrium, though a precarious one: always at risk under countervailing threats of disintegration into a loose or even incoherent diversity without unity on the one hand, and a partial or even total vanishing of the many into an all-encompassing whole of some other nature on the other.¹¹

The concepts of unity and multiplicity act, in this eerily beautiful image of menacing decay, as a weirdly static image: here, ideally perceptible forces are acting within the musical structure; formal, harmonic, metric, and other relationships appear, effectively suspending the work on the edge between pabulum and incoherence. Ideally.

Hans Thomalla, in response to my question concerning his understanding of the meaning of "New Complexity," explained that he sees it more as an æsthetic attitude, less as a narrow definition of technical details such as (for example) rhythmic organization. To copy such techniques would be of little help, and the musical results would be modest. Thomalla's own interests lie more in the realm of examination of materials.

⁹ Frank Cox, "Recoil, for Solo Cello: Background and Analysis," in *Facets of the Second Modernity*, edited by Claus-Steffen Mahnkopf, Frank Cox, and Wolfram Schurig (Hofheim: Wolke Verlag, 2008), pp. 57-98; see p. 57.

¹⁰ "This approach focuses on the potentials of decoupling, and independently and quasi-polyphonically composing-out, with highly rationalized means, individual components of sound production for any instrument," *ibid.*, p. 57.

¹¹ Ulrich Mosch in "Musikalische Komplexität," *Darmstädter Beiträge zur Neuen Musik*, Vol. XX (Mainz: Schott Music, 1994), pp. 120-129; see p. 126. Mosch examines the meaning of the concept of "complexity" in comparison with other musical styles, and refers to their handling in wholly different disciplines of the natural sciences and philosophy: "Und die Kraft und Dynamik musikalischer Komplexität dürfte im Widerspiel der beiden Seiten begründet sein, im Idealfalle ein Gleichgewicht, ein prekäres allerdings, das immer gefährdet ist und unter der doppelten Bedrohung des Zerfalls steht in eine nur lose oder gar unzusammenhängende Vielheit ohne Einheit einerseits und eines teilweisen oder gar vollständigen Verschwindens des Vielen in einem umfassenden Ganzen mit einer neuen Qualität andererseits."

Not a definition, but a clear statement of personal intentions and of the demands placed upon an artwork, comes from Brian Ferneyhough himself: in response to the question of what he understands "complexity" to entail in music, he replies (as part of a longer discussion):

The principal defining features might be seen as: discrepancy, incommensurability, and the consequent reliance upon ambiguity as mobile mediator between perceptual categorie. (...) Closely related to the above is my constant concern with the 'perspectival' quality of the art work i.e. the placement of its components both in various forms of time-space and in flexible webs of mutual interaction, common vocables for enunciating the formative power of energy.¹²

I. Brian Ferneyhough (*1943)—Etude Transcendentale No. 5 (1984/5)—Analysis

In the nine *Etudes Transcendentales*, completed between 1982 and 1985, Brian Ferneyhough deals each time with the most limited spaces—that is, each piece is less than about 3 minutes duration, and is written for between two and five instruments—and remains focused on fundamental ideas of his musical discourse.¹³ The title *Etudes Transcendentales* is derived from one of the texts used;¹⁴ however, the musical miniatures may also be understood as small studies, in which various situations are played out in miniature:

In a way, it was like a widely spaced-out diary for me, but a diary perversely boiled down and concentrated until only the absolute, most concentrated, densest essence of typical diary reflections remained.¹⁵

Two diametrically opposed approaches—"automatized" and "informal"—collide with one another in *Etude Transcendentale No. 5*. That is, in the course of the 28 measures of the piece they are contrasted with each other (in the form of the ensemble versus the harpsichord) or combined with one another (through the pitch and rhythmic organization within the harpsichord part). The instrumentation of voice, flute, English horn, cello, and harpsichord furthermore is treated in a chamber-music manner, as is the

¹² Brian Ferneyhough, "Responses to a Questionnaire on 'Complexity'," in Joel Bons, *Complexity? An Inquiry into its Nature, Motivation and Performability* (Amsterdam: Foundation Gaudeamus, 1990), p. 17 and in Brian Ferneyhough, *Collected Writings*, James Boros and Richard Toop, eds., (Amsterdam: Harwood Academic Publishers, 1995), pp. 66-71, see pp. 66, 67.

¹³ More thorough descriptions of the *Etudes Transcendentales* may be found in (among others) Toop, Paetzold, Cavalotti, Redgate, Chapman, and of course in multiple articles of Ferneyhough's *Collected Writings* (op. cit.). See Richard Toop, "Brian Ferneyhough's *Etudes Transcendentales*: A Composer's Diary (Part 1)." *Eonta* 1 (1) 1991, pp. 55-89; Cordula Paetzold, *Carceri d'Invenzione von Brian Ferneyhough. Analyse der Kompositionstechnik* (Hofheim: Wolke Verlag, 2010); Pietro Cavalotti, *Differenzen. Poststrukturalistische Aspekte in der Musik der 1980er Jahre am Beispiel von Helmut Lachenmann, Brian Ferneyhough und Gerard Grisey* (Schliengen: Edition Argus, 2006), pp. 128-183; Roger Redgate, "Brian Ferneyhough's *Etudes Transcendentales*," *Contemporary Music Review* 20 (1) 2001, pp. 79-100. A CD recording of the *Etudes Transcendentales* was released in 1989 by the Nieuw Ensemble on the (Etcetera KTC 1070, 1989).

¹⁴ The texts of the first and sixth etude come from the cycle of poems by the same name from Ernst Meister.

¹⁵ Brian Ferneyhough, "Carceri d'Invenzione: in Conversation with Richard Toop", in: *Collected Writings*, pp. 293-294.

voice part itself (or more precisely, the text) within the scope of an overall multilayered and multi-perspectival conception.

A close examination of the compositional technique clearly shows how deeply woven into the overall texture the voice part is; it does not in any sense occupy the dominant position in relation to the "accompanying" instruments that one might expect. Moreover, the voice is assimilated into the other instruments within a context of uniform pulsation, and the comprehensibility of the text is reduced to the perception of individual, drawn-out syllables.¹⁶ Finally, the last word of the text—"Bernstein-Insekteneinschluss"—opens a further avenue to understanding, in that the distension of syllables, and even of individual letters, takes on the viscosity of amber. I am referring here to the content of the text: for within a circling ostinato, the image of inextricable being-stuck in amber finds a musical analogy.

Song Five provides a good example of total equivalence, in terms of generative procedure, of vocal line and instrumental material. (...) The basic 'idea' of the song was this fading in and out of focus on the underlying precompositional scheme and in this respect the text itself was not of primary significance. The only word-painting encountered resides in the image of a bee captured immobile in amber, this being reflected in the vocal part by the consistent isolation of single syllables between variable length rests. At the very end of the movement this tendency is taken even further in that the phonetic contour of the poem is subdivided still further, so that the frequent 'n'-sounds of 'Insekteneinschluss' are allotted separate impulses, like distant echoes.¹⁷

After these general considerations, we now come to the pure material treatment: we consider first the route from the rough form of the piece to the details of the rhythmic structure; subsequently we undertake an examination of the (independent) harpsichord part.

¹⁶ The text of the etude, written by Alrun Moll, reads:

| | |
|-----------------------------|---------------------------------|
| im Aufwind | in updraft |
| leuchten | the fetters |
| die Fesseln | glow |
| lichtgestrandet | the wings, |
| treiben | light-stranded, |
| die Flügel | drive on |
| Fadenkreuze | cross-hairs |
| fanden | found |
| Gewissheit | certainty |
| jenseits | beyond |
| der Blendung | the glare |
| Duftschwere noch | difficult fragrance |
| in seligen Gefilden | in blessed realm |
| Bernsteininsekteneinschluss | insects embedded in black amber |

Translation: Franklin Cox and Larson Powell

¹⁷ Brian Ferneyhough, "Speaking with Tongues: Correspondence with Paul Driver", in: *Collected Writings*, op. cit., p. 363.

Aspect 1: Overall Plan—Double metric plan on one level (bar-length subdivision schemes)—System of stability and variation in metric patterns.¹⁸

Of fundamental significance to the piece are both the combination of two different meters with each other and the concomitant conflicts between these two competing sources of pulse. In order first to establish the "playing field," the twenty-eight measures planned for the piece were grouped in different ways; and this grouping was formally marked by the alternation of constant and variable values of both bar-length and density.¹⁹

Example 1 shows the twenty-eight measures at both levels and their various groupings. For the first level, simple calculations are used: thus, the total number of measures can be simply divided into seven groups of four bars, or four groups of seven, or $7+6+5+4+3+2+1$ bars. In the second level, punctuated alternations of even and odd numbers are foregrounded: $28 = 6+4+2+1+3+5+7 = 8+6+4+2+3+5 = 2+3+4+5+5+4+3+2$.

Upon this basic schema, the individual bar-lengths are set according to sequences of fractions built from the first two parameters (numerator and denominator). In the first level, the values of both parameters remain at first constant, so that an accented sequence of four $5/8$ -bars results; subsequently, the values alternate more drastically, as if the number sequence were being procedurally altered. It is notable in the first level, as it is in the second, that when the values between 2 and 7 are used, the numerator is restricted to subdivisions of eighths, sixteenths, and twelfths (as triplet eighths). According to the sketches, other values were originally considered in addition to these, but in the final stages, the only arithmetically practicable possibility for a sensible merging of the two levels into a common barring pattern was the restriction to binary and ternary values. Otherwise, common accents would be rare, and an uncontrolled and (in this regard) senseless juxtaposition of the two levels would be the result.

A third parameter within the scheme of juxtaposed constant and variable elements manifests itself within the overall form: each bar is assigned a specific number of impulses, and thereby a specific density.

There now remains only the merging of the two levels within a common notation. The various bar-lengths are normalized, making manifest the representation of the rhythmic level. Firstly, the rhythmic values are represented within the constant $5/8$ -bars of the first level, so that the bar-lengths of the second level no longer appear, but rather may be only indirectly inferred from the sequences of impulses and their uniform pitch-durations. The ultimate partitioning of the measures within the etude is not, however, oriented solely according to the first level. After m. 7, it is more sensible, in considering the exigencies of readability of the score, to resort to the metrical divisions of the second level.²⁰

Example 2 shows the rhythmical impulses for measures 1-11 in the preparation of the final score; in the systems above and below, the sources for the values within the

¹⁸ Remarks found in Brian Ferneyhough's sketches (Basel: Paul Sacher Stiftung, Sammlung Brian Ferneyhough).

¹⁹ The bar-lengths are defined through the numerator ("upper numeral") and the denominator ("meter").

²⁰ This explains why the representation of the length of m. 7 as " $7/24 + 3/12$ " functions a logical internal classification, based on the change in perspective from the first to the second level as the notationally "leading" level.

overall plan are sketched out. These impulses can be found almost wholly intact in the score.²¹ They are carried by the voice, flute, English horn, and cello, wherein the distribution does not follow any particular schema, but rather supports the intention, that in the interplay between the two levels, "examples of various degrees of clarity of these ideas" should become explicit (as may be inferred from a brief remark in the sketches). Similarly, the precise configuration of the texture is substantiated: the impulses themselves provide only a bare skeleton. The artful assignment of dynamic levels, trills, glissandi, double-stops, and so forth, creates the *mise-en-scène*.

Although the voice is unique in expressing its contribution to the underlying patterns in pared-down form (the instruments frequently expand and elaborate their attacks into highly differentiated microphases) it nevertheless forms an irreducible part of generative operation: certainly it is not intended to predominate the overall texture at any time.²²

Although the voice does not dominate the setting, it nevertheless exercises a considerable influence on it: how exactly the instruments are played, which microtones and playing techniques are used, is directly related to the sound of the voice, its vowels and consonants, which are carried over into the instruments. The decision, how exactly the rhythmical frame is to be further processed, is thus not strictly oriented towards automation: to the contrary, it is more subjective, or say: creative. Example 3—an original sketch from Ferneyhough²³—shows an intermediate state of the score. It consists of the final version of the harpsichord and voice parts, and—based on this—the hand-written conception of the other instrumental parts.

²¹ Measure 6 is an exception: it appears with only two, instead of six, impulses.

²² Brian Ferneyhough, "Speaking with tongues. Correspondence with Paul Driver", in: *Collected Writings*, p. 363.

²³ Paul Sacher Stiftung Basel, Switzerland, Sammlung Brian Ferneyhough. Reproduction with kind permission.

Aspect 2: Gesture & Figure

The construction of the harpsichord part²⁴ is completely different from that of the other instruments of the *Etude*. A sum total of twelve figures appear repeatedly, but in different manifestations: their particular manifestations depend in each case on the arrangement of different proportions relative to one another. From this we conclude, that there is no "fundamental form" of a figure, which might then be gradually altered. Rather, each figure is roughly defined based on certain qualities,²⁵ and then adjusted to fit within the metrical frame of the "playing field."²⁶ The sequence of the twelve figures is roughly sketched in Example 4. Gestures 1-3 appear the most frequently, and are the most frequently modeled (see Example 5).

A multilevel process determines the path from the numerical arrangement of the *gestures* to the specific establishment of their manifestation as concrete *figures*. The score example on the right margin of Example 4 shows the first three manifestations of the first gesture. It appears—as a *gesture*—as three short values, followed by a single longer value. Depending on what relationship the short values have to the longer, and within which "playing field" this occurs, the various different *figures* emerge.

²⁴ Noteworthy of the part is that only the left hand is used in playing; the part is correspondingly linear compared to the other instruments in the piece. The reason for this reduction of the harpsichord part is however something else entirely: the more pitches the instrument plays simultaneously, the fewer are recognizable. The harpsichord would otherwise immediately be transformed into a purely percussive instrument. Further, and interesting, information on the treatment of the harpsichord within Ferneyhough's works may be found in Jane Chapman, "An Interview with Brian Ferneyhough: Thoughts on the Harpsichord in *Etudes Transcendentales*," *Contemporary Music Review* 20 (1) 2001, pp. 101-106.

²⁵ These qualities seem to be given for the first figure as "three equally short tones and one longer one," for the second as "three pitches, the second of which is longer than the first," and for the third as "four equally-long pitches, the last of which may be longer," and so forth.

²⁶ The oft-used image of the "wave" as a carrier of energy, which first manifests in the crashing or dispersal of the wave, obtrudes upon this context: such as in a (virtual) experiment, whereby the same wave might be set in motion in different situations in order to deduce its (energetic) effects.

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|------------|---|---|---|--|---|---|---|--|---|---|--|---|----|
| bar no. 2 | 1 | 2 | 3 | | | | | | | | | | |
| bar no. 3 | 1 | 3 | 2 | | | | | | | | | | |
| bar no. 6 | 3 | 1 | 2 | | 4 | 5 | 6 | | | | | | |
| bar no. 12 | 3 | 2 | 1 | | 4 | 5 | 6 | | 7 | 8 | | | |
| bar no. 18 | 2 | 3 | 1 | | 5 | 4 | 6 | | 7 | 8 | | 9 | 10 |
| bar no. 25 | 2 | 1 | 3 | | | | 6 | | | | | | 12 |

Example 4: Brian Ferneyhough,
Etude Transcendentale No. 5,
harpsichord gestures

Example 5: Brian Ferneyhough,
Etude Transcendentale No. 5,
rhythmic construction of
gestures 1-3 in bar 2.²⁷

²⁷ *Etude Transcendentale* by Brian Ferneyhough. Copyright © 1987 (this edition) by Hinrichsen Edition, Peters Edition Ltd., London. Used by kind permission. All rights reserved.

In order to document this multi-step process, the various stages of the transformation of Gestures 1-3 are shown in their first version (m. 2) in Example 5. First, the relationships of the figures to one another, as well as their detailed expansion, are set through the application of numerical triples (that is, groups of three sequential rhythmic values). The upper values of the individual notes in Example 5 are eighth—quarter—quarter, expressed numerically as 1—2—2. These individual note values are first equidistantly spaced through subdivision into quintuplets, triplets, or septuplets (in parentheses under each note-value). These patterns appear subsequently in other sequences, and help to generate a variety of forms for each gesture. The middle row of Example 5 shows how each pair of values is fit into this numerical pattern: 1+4 for the quintuplet, 2+1 for the triplet, and 3+4 for the septuplet.²⁸ The three figures are then assigned to the resultant irregular pattern (lower row of Example 5).²⁹

It is worth noting that the gestures do not directly correspond to the original triple groups of note-values (the upper row), but rather that there are certain overlaps: thus the first figure consists of the first three values, but the second only of two, and the third (initially) only of one.

Further on in m. 3, the process is at first the same, but by the third appearance of the three prototypical forms in mm. 6ff., these are read partially in retrograde. Example 6 provides an overview of how, in a three-stage process, the figures are realized: first, the "playing field" is defined; the values are each subdivided into two smaller values: quintuplets, triplets, or septuplets. The resultant six smaller values then form the rhythmic basis for the organization of the prototypical forms, by which the first form obtains over the first three values, the second over the subsequent two, and the third over the final, single, rhythmic value. (The parentheses underneath mark the resulting figures). In the right-hand column is the result in the score, in order to compare the strict process with its increasingly deviating realization.

It is also apparent how the same pitch sequence from m. 2 reappears in the middle of m. 6, and—as one might suspect—will do so again further along, in m. 13.

Aspect 3: Filtering Technique

The pitch resources of the harpsichord are comprised of five cycles of the same basic material, consisting of multiple combinations of fundamental chord types: for example, in the opening measures, chords I_{As} and II_{As} appear in their primary form.³⁰ The pitch sequence is approached by approximation, as the chords are alternately read from the extreme outer pitches towards the middle of the chord (see Example 7).

²⁸ The values here may be represented equally well as note-values or numerical values.

²⁹ Some appearances of Gesture 1 have already been shown above. Gesture 2 derives from two short values framing a longer one; Gesture 3 derives from four equally-long values. The last value of each Gesture may be slightly lengthened independently of the model.

³⁰ Eight so-called "fundamental chords" form the basis of the *Etudes Transcendentales*, for symmetrical and four asymmetrical. Two of the asymmetrical chords are used here. A more thorough treatment of the fundamental chords and their use may be found in Cordula Paetzold, *Carceri d'Invenzione von Brian Ferneyhough*, op. cit., pp. 83-92.

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Example 6: Brian Ferneyhough, *Etude Transcendentale No. 5*, all rhythmic constructions of Gestures 1-3

Example 7: Brian Ferneyhough, *Etude Transcendentale No. 5*, harpsichord, pitch construction, opening of piece



Example 8: Brian Ferneyhough, *Etude Transcendentale No. 5*, harpsichord, pitch construction—filtered cycles

The image displays a musical score for Brian Ferneyhough's *Etude Transcendentale No. 5*, measures 1 through 6. The score is written for five instruments: Alto Flute, Cor Anglais, Cello, Soprano, and Harpsichord. The notation is highly complex, featuring numerous accidentals, dynamic markings (pppp, pp, p, mp, f), and performance instructions such as *Con sord.*, *arco*, *pont*, *tasto*, *norm*, *vibr.*, *marc.*, *poco rall.*, *A Tpo.*, *poco ten.*, *piu marcato*, *rapido ross.*, *molto ten.*, *sfz.*, and *stra.*. The score is divided into three systems, each with a numbered bar (1, 2, 3) at the bottom.

Example 9: Brian Ferneyhough, *Etude Transcendentale No. 5*, mm. 1-6, with impulses and gestures highlighted

The start of a cycle may be easily identified in the score, thanks to nearly identical materials, in measures 2, 6, 12, 20, and 24 (final pitch). Example 8 shows the beginnings of each of the five cycles directly under one another to give a better view of the similarities: marked out in black is the basic material. Empty noteheads are variable pitches; they result from selectively placed substitutions, omissions, or additions of tones: in the second cycle, for example, every sixth pitch is swapped out; in the third, every fifth, and so forth.³¹

The filtering process is thus effectuated completely mechanically, so that one part of the material is transferred over, while another part is ignored, or used only in a modified form. Through repeated application of a particular filter, the pitch space, for example, can be successively more restricted, or the sound of a particular idea may be approximated, as we shall see later in a different context. In this case, the modulated repetition of the cycles serves to generate a pitch resource that repeats and thereby provides interrelationships, but is nevertheless subjected to specific alterations. Thus, the dramaturgy of the work avoids calcifying into a wholly static loop, but rather develops deliberately.

The complex score now stands complete, in the sense that the pitch organization of the voice and other instruments are all defined according to similar processes. The impulses of the two metrical levels are marked in the score (Example 9), along with the beams for the permuted harpsichord part. It is worth noting that the start of the harpsichord part is synchronous with an impulse of the primary barring schema, and thus—for all its independence otherwise—is directly dependent upon this organizational layer.

Second Digression: Emergence of the Term "New Complexity"

The *Etudes Transcendentales* originated in 1985; the term "New Complexity," in the sense of a clear definition of a compositional style, did not, at this point, yet exist. The term first appeared at the beginning of the 1980s, in describing the music of James Dillon and Chris Dench, and was shortly thereafter affiliated with the music of Brian Ferneyhough. A substantial treatment of the term finally appeared in 1988, in an article by the musicologist Richard Toop, in which he described the works of Richard Barrett, Chris Dench, James Dillon, and Michael Finnissy, highlighting their similarities as "facets" of a "new complexity."³² All four are British composers, all four are somewhat younger than Brian Ferneyhough, and none of the four is a student of his, but rather more or less autodidacts. At this point in time, it appeared as though the phenomenon of "New Complexity" were a wholly British phenomenon.

In 1988 Brian Ferneyhough had not lived in Great Britain for some time. After a few years of study he departed the island at the age of 25, and has never returned. For 13 years he gave lessons at the University of Music in the southern German city of Freiburg, but has lived and worked ever since in southern California (first for 13 years in San

³¹ A comparable process was applied in *Carceri d'Invenzione II* for a sequence that is periodic yet subjected to certain "interference" within the 48 flute modules. The filtering process occurs across multiple levels, which—thanks to extensive documentation in the sketches—may be reproduced step by step. See Paetzold, *Carceri d'Invenzione von Brian Ferneyhough*, op. cit., pp. 145-155.

³² Richard Toop, "Four Facets of 'The New Complexity'," in *Contact* 32 (1988), pp. 4-50.

Diego, from 2000 on at Stanford). To what extent, then, might we consider Ferneyhough to be a British composer? It would be more apt to describe him as an international composer. His fluency in both French and German is nearly equal to that in his native English. The participants in his master-courses may choose freely the language of their instruction, be it in Royaumont (near Paris), where he along with two colleagues and a professional ensemble has held a three-week course every September since 1990, or at the Darmstadt Ferienkurse, where he has served on the faculty since 1976, and where he coordinated the composers' forum from 1984 to 1996.

To return to "New Complexity": In the summer of 1990, the term was finally discussed under the auspices of the Darmstadt summer courses, a few months after a large festival in Rotterdam was held with the title and subject *Complexity?*. One notable feature of this festival was an extensive questionnaire presented to numerous international composers, consisting of detailed inquiries about the phenomenon of complexity. Among the participants in the Darmstadt Panel Discussion in 1990 were—alongside Brian Ferneyhough—the composers Richard Barrett and Roger Redgate from Great Britain, Rodney Sharman from Canada, Frank Cox and James Boros from the USA, as well as the performer Brenda Mitchell³³ and the musicologist Ulrich Mosch from the Paul Sacher Stiftung in Basel.

To summarize the results of both fora, "New Complexity" was no longer understood as a typically British phenomenon, but much more as representing a set of fundamental concerns about contemporary composition. Additionally, it was viewed as the embodiment of a movement that consciously distanced itself from tendencies, then in vogue, toward a new simplicity and romanticism in new music. Contrastingly, the term occasionally found itself targeted by criticism of its overt intellectualism: "complexity" sounded much more substantial and worthwhile than "simplicity" or "neoromanticism."

Had the aims of the two festivals in Rotterdam and Darmstadt been to present more than a basic inventory of the subject of "complexity in contemporary music," they would have failed. A uniform and universally acceptable concept of a "New Complexity" did not seem possible, and both festivals saw almost as many individual manifestations as there were participants. Nevertheless, a discussion was initiated that carries on to this day.

What is left of the idea of a "Meisterschule" of new music under the leadership of Brian Ferneyhough? "New Complexity" seemed 25 years ago a British phenomenon, but now numerous composers throughout the world have discovered, in multidimensional networks of relationships and seemingly "hyper-active" textures, solutions to their compositional needs. Further developments have also occurred in the direction of even greater virtuosity, such that in addition to the parametric levels already described, a single instrumental voice may be disassembled and notated in multiple staves.³⁴

To be described as a teacher of a style that has come to be called "New Complexity" is now a situation with which Brian Ferneyhough does not feel comfortable. That he should nevertheless persistently be regarded as the central figure of the

³³ She performed the soprano part of the *Etudes Transcendentales* at the premiere in 1985, as well as on the already-mentioned CD release (Etcetera KTC 1070).

³⁴ For example, a string instrument may have the actions of each individual hand separately organized, a wind instrument may have separate systems for the independent actions of the embouchure and breathing, and so forth.

movement is, at least since his receipt of the Siemens Prize in 2007, no longer to be dismissed out of hand, though he might himself be somewhat less enthusiastic about this assignation.

On the other hand: As a teacher of composition, Brian Ferneyhough has remained active for over forty years and is still much in demand, in particular owing to his extensive international network of connections. Many of his former students are now established composers, and only a few can be regarded as exponents of the "New Complexity."

Despite his 70-odd years of age, he remains well versed in the most recent computer and studio equipment, and his musico-historical and philosophic-aesthetic background is enormous; his texts and lectures require almost as much concentration as his music. Texts, lectures, music: thus can one learn his extrinsic compositional style and the mannerisms of "New Complexity," should one be so inclined. Composition lessons are something else, however: here a student—regardless of whether a student of many years, or a fleeting participant in a summer course—and his or her individual compositional aims and personality are in the foreground.

Is this then indeed the successful "school" of a charismatic master? The problem lies within the definition of "New Complexity." The typical, and perhaps spontaneously applied identification of this compositional style with surface manifestations of "hyper-active" textures is too narrow and superficial. It is not sufficiently robust to live up to the claims of a "Meisterschule." Another, more widely used description is that of a particular standpoint: "New Complexity" as "an ever further developing process of self-extension, self-definition, and self-surmounting."³⁵ This description unfortunately lacks sufficient traction, and is too broadly focused. Who would fall under this rubric, and who wouldn't?

II. Frank Cox (*1961): Snapshots of a Compositional Career

Frank Cox³⁶ and Brian Ferneyhough encountered one another somewhat circumstantially in 1987, upon the former's admission into the Ph.D. program in composition at UCSD, where the latter had just been hired as professor shortly after the death of Morton Feldman. Frank Cox, now Associate Professor of Theory, Cello, and Composition at Wright State University (Dayton, Ohio), had discovered a taste for microtonal music in his teenage years. His compositional exemplars included Elliot Carter (for his harmonic language and complex rhythms), Pierre Boulez, and the early Karlheinz Stockhausen, and the only piece of Ferneyhough's he knew at that time was his early piece *Transit*.

³⁵ Jeffrey Stadelman, "Brian Ferneyhough, 1976-94," in *Von Kranichstein zur Gegenwart. 50 Jahre Darmstädter Ferienkurse* (DACO Verlag, Stuttgart 1996), pp. 468-475; see p. 472.

³⁶ One occurrence that indirectly led to Frank Cox being included in this study is that by happenstance we concurrently conducted research into Ferneyhough's sketches at the Paul Sacher Stiftung in Basel in 2000. Wilhelm Schlüter, at that time serving as Co-Director of the Darmstadt Institute for New Music, had shortly before mentioned his name to me. We worked together on editing the discussions from the "Complexity" forum from the 1990 Darmstadt Ferienkurse, which have not yet been published.

Radicalism: viz. for Ensemble (1988-91)

A piece that at least initially resembles the *Etude Transcendentale* is viz, composed from 1988 to 1991 for large ensemble.³⁷ Six fundamental instrument types are used: flute, clarinet, strings, piano, percussion, and brass. These instruments appear in this respect to be multidimensional, as they each have timbral support within the ensemble: the solo flute has a double, the clarinet has a bass clarinet, the strings appear as a quartet, the piano is combined with a DX7 synthesizer, brass comprises two trumpets and two horns, and the percussion is a large agglomeration of sonic material. The instruments are arranged into six groups, which are—at least initially—easily recognized: after a minute of solo flute the oboe enters, with the supporting instruments gradually becoming more prominent; after another 45 seconds the strings, which also grow in prominence, then the percussion, then the keyboard instruments, leading to a short moment of bedlam (ca. 4'30") at the end of the "exposition" initiated by a barely-heard signal from the offstage brass instruments.³⁸ Out of the initially chamber music-like interaction of the various groups, based on the neo-Platonic model of an ideal order of creation, increasingly chaotic relationships develop as each group and each individual within each group becomes more individuated and no longer fits neatly within the pre-established order. The peak moments of "bedlam" at the end of the Development section (ca. 8'25") and in the Coda (ca. 12'57") are each initiated by an off-stage brass signal which seems to be the answer toward which the music was driving; however, each answer appears to increasingly be the wrong one, leading to ever-greater degrees of chaos. By the end of the fifteen-minute work the instruments speak as if with a single voice; this unity comes at the cost, however, of the loss of individuality.

The development process of upwards of three years is a good indicator of the demanding compositional process, which comes as no surprise: for—apart from the sophisticated large formal structure based on the sonata form and the aforementioned drama—each voice appears, rhythmically and melodically, to be worked out in a differentiated manner similar in nature to the harpsichord part of the *Etude Transcendentale*. The preparation of the instrumentalists and the conductor are no less sophisticated, however. The result may well have been—at that time and place—a wholly refreshing auditory experience (see Example 10).

For many years I had had to adjust my compositional aims to the practical strictures of most of my teachers. (...) Therefore, I experienced a sense of liberation when Ferneyhough not only did not issue the expected warning against exploring the forbidden fruit that had always fascinated me, but encouraged me to develop further in the directions in which I was interested. (...) This was the first time that I had studied with a teacher who was more "radical" than I was.³⁹

And what is this "forbidden fruit," of which his previous teachers had warned? Perhaps it is the combination and interaction of comparatively many solo voices, already complexly structured and virtuosic in themselves, the simultaneity of sonic/instrumental and motivic

³⁷ Timings are based on a 1991 recording by the SONOR Ensemble of UCSD (University of California, San Diego), conducted by John Fonville..

³⁸ The brass instruments are placed either backstage, or behind a curtain or screen.

³⁹ E-Mail communication with the author, November 15, 2011.

processes,⁴⁰ or the sheer number of ideas to be implemented, which may have been viewed as lying beyond the bounds of feasibility.

Mannerisms?—*Recoil* for Solo cello (1994)

A completely different piece, and perhaps the most well-known work by the composer, is *Recoil* for cello solo. Written in 1994, it marks the end of a long research process, stimulated to a great degree by his interactions with Klaus K. Hübler at the 1986 Darmstadt Ferienkurse, into the layering of multiple independently-organized sound-producing actions on an instrument into a meaningful whole.

In *Etude Transcendentale*, numerical sorting principles were applied to the parameters of time and pitch, while the criterion for the selection and use of timbral nuances of the instruments was solely the approximation of the sound of the voice. The status of timbre as a compositional parameter withdrew into the background. The considerations that culminated in *Recoil* were precisely centered on this; in order to render the subtle differentiations of timbre manageable within numerical ordering processes, traditionally primary parameters such as pitch and rhythm needed to be reduced in their degree of clarity, i.e., "blurred." How is this to function?

For the "blurring" of the rhythmic-metric ordering, complex rhythms are more than suitable; the decoupling of the bowing hand from the fingering hand, however, is an additional step. In order to "blur" the melodic components, microtonal structures prove an effective means. With regards to the timbral disposition, the greatest difficulty lies in finding a sensible means of scaling, one that allows for a graded mapping of sonic nuance to numerical values. The solution is the systematization—not, however, of the sonic result, but contrarily—of the sound-producing physical actions of the performer, which appear in a series from more "normal" to more "noisy."

Although the primary parameters are reduced in clarity, they nevertheless interact with each other in order to support and clarify the unfolding of the sound-producing actions. At the beginning of each new measure, the center-tone for that measure appears coordinated with the "lead" sound-producing action for that bar. For the majority of the piece, vertical bow motions (i.e., movement toward *sul ponticello* or *sul tasto*) only occur near the ends of measures. The rhythmic gestures and metric organization are also highly recursive, such that the similar rhythmic patterns, albeit constantly transformed, are heard at multiple levels.

The abundance of performance instructions for the cellist—the use of composite rhythms, twelfth-tones, and asynchronous actions of the two hands, and additionally detailed instructions for the implementation, i.e. of the expected sonic result—may invite the question, whether the piece is at all realizable: a reproach, which in connection with the compositional technique of "New Complexity" is not altogether rarely heard.

⁴⁰ According to the foreword to the score, the piece is based on a "formula," and each of the six parts (or rather, each of the six instrumental groups) has its own individual thematic material. This aspect of organization was derived from Cox's study of Stockhausen's music.

V. Adagio *Play all material in tempo up to and following fermati.* **65**

207 **56** **72**

Solo Flute

Flute

B♭ Clarinet

Solo Oboe

Bassoon

Violin

Viola

Cello

Bass

Percussion I

Percussion II

Piano

Crotales (or Temple, Gong patch DX-7)

ped. → 4 Ped. of Vibraphone used as drum.

Example 10: Frank Cox, *viz.*, score mm. 207-209, beginning of part 5 (recapitulation)⁴¹

⁴¹ Copyright Sonic Art Editions. Used by permission of Smith Publications, Sharon, Vermont, USA.

Used by kind permission of Sylvia Smith Publications

*Unless otherwise indicated, LH returns to "p" dynamic after accents.

Series of Primarily Left Hand (LH) gesture/texture types

- A. sustained note (with *cresc.*)
- B. turn (primarily slurred longer turn-like figures)
- C. *glissando*
- D. fast (accented) notes
- E. double-stops
- F. semi-*portato* notes
- G. trill-like figures

Series of Right Hand (RH) gesture/texture types

- a. "s." = normal bow (speed/dynamic relationship)
- b. "s.+1" = semi-*flautando* (faster bow speed than usual for given dynamic)
- c. "s.-3/4" = "scrunch" bowing (slower bow speed than usual for given dynamic)
- d. "s.+3/4" = (molto) *flautando*
- e. bow vibrato
- f. "jeté"/"batt." = *jeté* (*saltando*)/*battuto*
- g. CL = *col legno*

Series of Vertical /Other Bow Motions

Motion types occur one to a bar within a five-bar hypermeter.

Most bars start with N = normal bow position; the vertical motions tend to come toward the end of each bar.

- 1a. In beginning of piece:
- 1b. Toward end of piece:
- 2. \rightarrow SP
- 3. \rightarrow ST
- 4. \rightarrow 1/2ST \rightarrow 1/2SP \rightarrow ST
- 5. \rightarrow 1/2ST \rightarrow 1/2SP \rightarrow SP

- = bowing on side of instrument
- = circular bowing on string
- = motion toward SP (*sul ponticello*)
- = motion toward ST (*sul tasto*)
- = jagged motion, ending with ST
- = jagged motion, ending with SP

Example 11: Frank Cox, *Recoil*, score mm. 3—4 (including the legend as far as is relevant)⁴²

⁴² Copyright Sonic Art Editions. Used by permission of Smith Publications, Sharon, Vermont, USA.

Ferneyhough is an extremely charismatic personality, and this, combined with his intelligence and his reputation, can end up overwhelming a composer who hasn't yet developed an individual aesthetic world-view. I have seen quite a few composers go to study with Ferneyhough and end up copying one or the other aspects of his style and mannerisms.⁴³

The notation may very well imply "mannerisms," or emulation, possibly even to the extent of exaggerating the "complexistic" means of writing (see Example 11). With the recognition of the long route traversed to the ultimate manifestation of the piece it becomes, however, clear, that it isn't in any way about a (possibly too little considered) emulation. And Frank Cox himself has ably put to rest the reservations so often brought to the fore in connection with "New Complexity" with regards to a sensible feasibility of the piece, as he himself is a meticulous and outstanding cellist, and has prepared the work himself and performed it well over a hundred times in concert.

Self-consistency—*Spiegelgeschichte C* for 24 Singers (2009/10)

Twenty years after the end of his study with Ferneyhough, I had the surprising opportunity to hear how Frank Cox writes music at present. Under the auspices of the Eclat festival in Stuttgart, he presented a ten-minute piece for 24 vocal soloists: *Spiegelgeschichte C*.⁴⁴ From the initially pitchless sibilants and fricatives, a wave of swelling noises arises, that could not have better achieved a simultaneous multiplicity and homogeneity: the cresting of that wave—in the finale of the piece—comes suddenly, but in so sense unexpectedly, at a tangible culmination. Fireworks of syllables in *fff* clusters are flung outwards.

What I found most impressive about Ferneyhough's teaching was his ability to connect organically a powerful musical intuition with a fine intellect. Several teachers with whom I had studied—often the most conservative ones—had an uncanny ability to spot musically weak points in one of my works. Unfortunately, they usually had little interest in the adventurous forms and ideas I was attempting to realize, and the general tenor of their criticisms was prescriptive (...) something to this effect: "There is a problem with your piece, and I can tell you how to fix it." (...) Of all the teachers with whom I studied, Ferneyhough had by far the greatest ability to connect these two capacities. When he sensed a musically weak area in one of my pieces, I don't remember him ever offering prescriptive rules for "fixing" the problem; rather, he wanted to know what I was trying to do, and then he attempted to explain why, given the premises I had chosen, the music was not unfolding as I had intended, or how I had overlooked consequences of my initial choices.⁴⁵

Instead of a more detailed analysis, we may here briefly look into the aspect of the speech setting (in the broadest sense of the term): in the legend there is a whole page dedicated to the presentation and explanation of the various sibilants and fricatives, and a

⁴³ E-Mail communication with the author, November 15, 2011.

⁴⁴ At the time of this writing, the only available recording of the work remains the (sadly unpublished) recording of the concert by Südwest Rundfunk.

⁴⁵ E-Mail communication with the author, November 15, 2011.

sort of tutorial on the recognition and correct implementation of phonetic notation. The text phrases to be implemented in the finale are presented in a small frame underneath the "melody" with the additional instruction of how many syllables from this should actually be used. As multiple voices have the same phrase of text some communication is necessary to determine which voice performs which syllable (see Example 12).

My impression of the idea worked out in *Recoil* was the endeavor to render parameters additional to rhythm and pitch accessible to numerical ordering processes; with *Spiegelgeschichte C*, tone generation by the voice—or rather, groups of voices—is extended. Noteworthy—and new—is the process of distributing the text through the "text boxes," and further by means of the active involvement of the performers, i.e. through a free rein with respect both to the syllables as well as to their placement within the phrase to be sung.

Example 12: Frank Cox, *Spiegelgeschichte C*, score mm. 42—44, transition into final part

The musical score is presented in two systems, each beginning with a tempo marking of 36. The staves are labeled B6, S2, S3, S4, S5, A1, S6, A2, A3, A4, A5, and T1. The score includes various musical notations such as notes, rests, and dynamic markings. It also features German lyrics and English translations in brackets.

System 1 (mm. 42-44):

- B6:** DEM. 1/2 Nse. [x, x, x] 44 Töne. DEM. 1/2 Nse. [x, x, x]
- S2:** 18.9. Es laert im Vorhergeen, wie ein Löwe in der Hölle (6-10 syl.). 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- S3:** 18.1. Ich danke dir von ganzem Herzen. ca. 5-9 syl. 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- S4:** 18.1. Ich danke dir von ganzem Herzen. ca. 5-9 syl. 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- S5:** 1/2 Töne 44 Nse. 18.1. Ich danke dir von ganzem Herzen. ca. 5-9 syl. 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- A1:** 1/2 Töne 44 Nse. 18.1. Ich danke dir von ganzem Herzen. ca. 5-9 syl. 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.

System 2 (mm. 45-48):

- S6:** 18.1. Ich danke dir von ganzem Herzen. ca. 5-9 syl. 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- A2:** 18.2. Stünde mich nicht in diesem Zorn und züchtung mich nicht in diesem Grollen (7-11 syl.). 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- A3:** 18.2. Stünde mich nicht in diesem Zorn und züchtung mich nicht in diesem Grollen (7-11 syl.). 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- A4:** 18.2. Stünde mich nicht in diesem Zorn und züchtung mich nicht in diesem Grollen (7-11 syl.). 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- A5:** 1/2 Töne 44 Nse. 18.2. Stünde mich nicht in diesem Zorn und züchtung mich nicht in diesem Grollen (7-11 syl.). 18.7. Ich höre Sie, der mir grüßen hat. 5-7 syl.
- T1:** 29.4. Die Stimme gabelt mich klacke, sie gabelt klacke. (2-5 syl.). 29.4. Die Stimme gabelt mich klacke, sie gabelt klacke. (2-5 syl.).

III. Hans Thomalla (*1975)—*Momentsmusicaux* (2003/04)

Hans Thomalla, born in Bonn, studied with Brian Ferneyhough from 2002 until 2007 at Stanford, where he completed a Doctor of Musical Arts, and is presently working as Associate Professor for Composition and the Co-Director of the *Institute for New Music* at Northwestern University in Chicago. Since 2004 he has worked regularly as a guest lecturer at the Darmstadt Institute, as well as being featured at the New Music Days in Donaueschingen in 2011, where he presented a multimedia composition.⁴⁶ His opera *Fremd* ("strange / alien") was premiered in 2011 by the Stuttgart Opera. He was likewise in 2011 awarded an Ernst von Siemens Composer's Prize. As I am introducing him here (or rather, a work of his), it is also worth noting that Brian Ferneyhough himself recommended him as a contact on the topic of "Meisterschulen."

Hans Thomalla presented *Momentsmusicaux* at the Darmstadt Festival in 2004.⁴⁷ It seems to me particularly appropriate not only as an example of self-consistent composition and thought processes, but also as an apt point of comparison with the model work by Ferneyhough discussed at the beginning of this article, *Etude Transcendentale No. 5*. Thomalla's piece is a single-movement work of approximately 17 minutes, with a chamber setting surprisingly similar to Ferneyhough's, and is thus particularly appropriate for a direct but nevertheless sufficiently generalized comparison.

Momentsmusicaux is comprised of two parts: following the deconstruction of three types of musical material are six "musical snapshots," the character of each of which may be seen to represent a sort of "reconstruction" (in the sense of an examination of the materials introduced at the beginning). Starting with an already slightly distorted (through octave transposition and grace-notes) quotation of a flute etude from Theobald Boehm, the texture meanders towards a quotation of the Brahms clarinet quintet: first clearly prominent, then dissolving back into the texture. After this first third, the piece reaches its point zero: a freezing of the piece's momentum at the pitches G#4-A4. In this vacuum, the beating between the G#4 in the piano and the sympathetically-resonating overtones is clearly perceptible as a rhythmic impulse. This situation becomes the jumping-off point of the following six individual (re)constructive excerpts (see Example 13).

At this point I may permit myself to indulge—in the place of a more thorough analysis—as directly as possible to demonstrate where *Momentsmusicaux* and the previously-introduced *Etude Transcendentale No. 5* imply similar approaches on the one hand, and where on the other hand individual approaches may be found.

⁴⁶ *The Brightest Form of Absence*: Multimedia Composition for Soprano, Ensemble, Live Electronics, and Video (Video by William Lamson).

⁴⁷ A thorough analysis, with score excerpts, may be found on Hans Thomalla's homepage. The analysis (under the title "Aspects of Analytical Composition" ["Aspekte analytischen Komponierens"]) is explicitly dedicated to his mentor Brian Ferneyhough. See <http://www.hans-thomalla.com>, retrieved March 22, 2013-22. A CD recording of *Momentsmusicaux* was released by *ensemble recherche* on the Wergo label (WER 7561 2).

Example 13: Hans Thomalla, *Moments musicaux*, score mm. 1—2 with piano gestalten and some flute filters highlighted (further flute filters are sffz, and slap tone)⁴⁸

⁴⁸ Score examples used by kind permission of the composer. Many thanks also to Hans Thomalla for rereading this section of the paper.

1. Working on Multiple Levels

For both pieces, multiple simultaneous and integrated levels are established, in the Thomalla work, the lively flute etude from Theobald Boehm, the peacefully flowing clarinet and strings based on the Brahms quotation, and—perhaps the most clearly recognizable—the formative piano part with its eleven distinct gestures.⁴⁹ The levels interact with one another; for example, the accents and playing techniques, both thoroughly audible, are interrelated.

Different from the *Etude Transcendentale*, however, is that the sequence of piano gestures is not subjected to an ordering structure, but rather—for the first third—itsself provides the form for the piece:

The piano in *Moments musicaux* has a key function, to the extent that its material does not refer back to a specific historical work, but rather is build out of an abstract series of proportions: a set of eleven intervals, which serve as parameters for the piano part in Sections A and B:⁵⁰ The "fundamental" of a chord, harmony, duration, dynamics, the number of pitches in a chord, and register. To the abstract organization of duration and pitch, however, I apply a sequence of gestures, *i.e.*, eleven types of gesture, which are organized...in a sort of pseudo-scale. This is a "pseudo" scale in the sense that I organize the eleven gesture types into a roughly linear scale: they have qualitative sound characteristics that are opposed to quantitative organization yet remain open to interrelationship...and their investigation forms an essential local form of this level of detail in *Moments musicaux*.⁵¹

The last sentence of this quotation brings to mind the considerations from Frank Cox in relation to *Recoil*, although in that case he dealt more with the difficulties attendant to organizing pitch and time as gestural parameters usable for musical forms.

Different from the *Etude Transcendentale* is also the notation: owing to the constructed linearity of the eleven piano gestures, the texture is subsequently less dense, the score less "drowned in ink," and thus lacks a typical (for "New Complexity") notational style.

2. Self-Consistency

With both pieces, the utmost consistency in the development, or rather implementation, is—in itself—a self-consistent idea. The fundamental idea behind the nine *Etude*

⁴⁹ Three of these gestures are marked in Example 10: "3" is a "narrow spectral chord," "1" is a "wild spectrum," and "11" is simply a "chord."

⁵⁰ "A and B" represent the two excerpts based on quotations, *i.e.*, the first third of the piece.

⁵¹ "Das Klavier in *Moments musicaux* hat eine Schlüsselfunktion, insofern es in seinem Material nicht auf ein konkretes historisches Originalstück rekurriert, sondern auf eine abstrakte Proportionsserie, eine 11-Intervallreihe, welche alle Parameter der Klavierstimme in den Teilen A und B bestimmt: 'Grundton' eines Akkords, Harmonik, Dauer, Dynamik, Anzahl der Akkordtöne, Register. Zu der abstrakten Dauern- und Tonhöhenorganisation kommt jedoch eine 'Gestaltreihe', d.h. elf Gestalttypen, die in einer Pseudo-Skala... organisiert sind. Die Skala ist eine 'Pseudo'-Skala, weil sich die elf Gestalttypen einer linearen Skalierung entziehen: sie haben qualitative Klangcharakteristika, die einer einzigen quantitativen Einteilung widersprechen, jedoch offen sind für Beziehungen...und ihre Erforschung ist ein wesentliches Formmoment [dieser] Detailebene von *Moments musicaux*," Hans Thomalla, "Aspekte analytischen Komponieren," *Darmstädter Diskurse*, Vol. 1, Darmstadt 2004, pp. 96-112; see p. 104.

Transcendentales is the establishment of new types of relationships between the voice and the instruments, beyond the traditional expectations of text-presentation with accompaniment. With *Moments musicaux* it is a question—as is already implicit in the title—of the length, or respectively brevity, of a musical blink of an eye. The culmination point of the piece is the working-out of a perceptible beating pattern within a single pitch. The idea is based on a fundamental aspect of tone production; with Ferneyhough this sort of sonic detail is secondary.

Composing 'meaningful' music for me is to embark on an active quest for what precisely sounds and what this sound exactly means, and not simply to settle for triggering elements from the repertoire of semantic clichés, like sounds from a sampler. (...) It examines the roots of musical language rather than simply "speaking" in it, questioning acoustic aspects of musical figures just as their aspects of accumulated history—layers of meaning that have been deposited by centuries of rhetoric music.⁵²

3. Filtering Processes as a System of Manipulation

The application of various filtering processes is likewise a common feature of both compositional methods. Thus, for example, the flute part distorts certain pitches of the Boehm quotation through the use of octave transpositions.⁵³ Along with the aspect of pitch—as already mentioned in the first point—that of timbre is of particular interest in the course of *Moments musicaux*. Thomalla talks about a "timbral filter,"⁵⁴ which in this case means that the piano gestures successively approach the sound of the eleventh gesture—the normally-played chord—until only this gesture remains (see Example 14).⁵⁵

4. Artisanal Work. Yet More: Love of Detail

The exact temporal coordination and the precise definition of sounds, bound with a clear idea of the sonic result, this artisanal work, or "fiddling around,"⁵⁶ as Thomalla describes it, is likely to be something for which Ferneyhough would have had a high regard in his teaching,⁵⁷ and is convincingly applied by both composers in their works. Beyond that, Thomalla has also considered very seriously which works (and which sections of them) he quotes and processes. This is clearly a fundamental difference between him and his

⁵² "Bedeutungsvolles Komponieren heißt für mich nicht bloß Bedienung im Repertoire der scheinbar verfügbaren rhetorischen Klischees, sondern eine aktive, d.h. kompositorische Befragung der Klänge und Klangfiguren, hinsichtlich dessen, was da klingt und was es bedeutet (...) Es benutzt nicht nur einfach die musikalische Sprache, sondern es untersucht vielmehr die Wurzeln der musikalischen Sprache, stellt die akustischen Aspekte von musikalischen Figuren infrage, genauso wie ihre Aspekte der versammelten Historie—Bedeutungsschichten, die hinterlegt sind in Jahrhunderten musikalischer Rhetorik." See "Commentary on the work 'Ausruß'" at <http://www.hans-thomalla.com/id30.html> (English version) or <http://www.hans-thomalla.com/id29.html> (German version, which is more complete), accessed March 31, 2013.

⁵³ In order better to identify these quotations, the relevant passages are marked in gray in Example 10.

⁵⁴ "Klangfarbenfilter" in the German original.

⁵⁵ It is no accident that Example 14 resembles Example 4. In the one case, the repertoire of the harpsichord gestures become successively more lengthened and varied (Example 4), in the other case the exact opposite occurs, in that the piano gestures become gradually more compressed (Example 14).

⁵⁶ "Pfriemeln" in the German original.

⁵⁷ Statement by Thomalla in a telephone interview, November 2011.

teacher: Thomalla works with available materials in the sense of an examination of them, while Ferneyhough places much more emphasis on the systematic production of his own musical material.

My music is analytical, and the concept Daniél Péter Biró and I developed of analytical composition, by which the meaning of a given material and the formal processes within a piece are themselves examined, differentiates itself fundamentally from constructivism (which banishes all material analysis to the precompositional process, and which pretends to know full well from the first note written what all compositional material signifies).⁵⁸

5. Precompositional Considerations

Despite this difference, both composers rely on precompositional planning, in the sense of asking, "when will which material be used, and how?" With Ferneyhough's piece, an overall formal plan exists; with Thomalla, a matrix for the first third of the piece was used. This sort of table provides information as to the arrangement of the eleven piano gestures, as well as the placement and type of oppositional influences on the instruments (in the sense of filtering processes, or modifications). However, this matrix in Thomalla's work provides only a rough orientation, and remains throughout the course of the compositional process starkly dependent on interpretation. Even more, in the further course of *Moments musicaux*, the texture arising from the single pitch, or rather from the beating resultant between its six different types does not appear as a result of previous planning, but rather as a reaction to the first part, or a commentary on the available events: a sort of meta-level in relation to the previous construction.

⁵⁸ "Meine Musik ist analytisch, und das von Daniél Péter Biró und mir entworfene Konzept analytischen Komponierens, welches die Bedeutungen seines Materials und seiner formalen Prozesse im Stück selbst untersucht, unterscheidet sich von einem Konstruktivismus, der alle Materialanalyse in vorkompositorische Prozesse verbannt, und ab der ersten Note im Stück vorgibt zu wissen, was das, womit komponiert wird, bedeutet." Hans Thomalla, "Aspekte analytischen Komponierens," op. cit. (see fn. 45), p. 97. (Translation: N. Andrew Walsh and Hans Thomalla).

| | | | | | | | | | | | |
|------------|----|----|----|----|---|---|----|---|----|---|---|
| bar no. 1 | 3 | 1 | 11 | 5 | 7 | 6 | 9 | 8 | 10 | 4 | 2 |
| bar no. 22 | 9 | 4 | 10 | 8 | 9 | 6 | 11 | | | | |
| bar no. 34 | 11 | 1 | 3 | 10 | | | | | | | |
| bar no. 40 | 11 | 9 | 10 | | | | | | | | |
| bar no. 44 | 11 | 8 | | | | | | | | | |
| bar no. 47 | 11 | 10 | | | | | | | | | |
| bar no. 51 | 11 | | | | | | | | | | |
| bar no. 55 | 11 | | | | | | | | | | |

Example 14: Hans Thomalla, *Moments musicaux*; compression of the piano figures in Gesture 11

C (♩=60)

Fermatendauern richten sich nach Klaviernachhall.
Die Taktdauern (3/4, 8/4 etc.) sind ungefähre Proportionen der
Binnenunterteilung dieser Fermatendauern.

Duration of fermatas depend on piano-decay.
The time-signatures (3/4 etc.) are approximate
proportions of internal subdivisions of the piano decay-time

(Klavier völlig ausklingen lassen - Gis erst anschlagen wenn
jeglicher Nachhall des vorhergehenden Klanges restlos verklungen ist!)
(let piano-sound decay completely - Gis is not to be struck before sound
has died out entirely!)

M.Ped.

The musical score consists of five systems of staves. The first system has a treble clef and a 3/4 time signature, with a fermata over a chord marked *pppp*. The second system has a treble clef and a 3/4 time signature, with a fermata over a chord marked *pppp* and a *pp* marking at the end. The third system has a treble clef and a 3/4 time signature, with a fermata over a chord marked *pppp*. The fourth system has a treble clef and a 3/4 time signature, with a fermata over a chord marked *pppp*. The fifth system has a treble and bass clef, with a fermata over a chord marked *ff* and a *p* marking at the end. The score includes various time signatures (3/4, 8/4, 12/4) and dynamic markings (*pppp*, *pp*, *ff*, *p*).

Example 15: Hans Thomalla, Moments musicaux, score mm. 56—59, "point zero"

Conclusion

The idea of the meta-level as a result of "directly composing" seems in particular to me to be a truly individual, further development of the previous approaches, as a "self-extension" (as this was formulated in the description of "New Complexity" as a standpoint) or, even more emphatically, as a "self-surmounting." Here lies, as I see it, the core of the "Ferneyhough School" in its truest sense, going beyond any stylistic similarities: as a teacher, Ferneyhough encourages and supports his students to follow without compromise their own path.

Those who encountered Arnold Schönberg in his capacity as a teacher surely learned the truth of the adage, "Schönberg teaches thinking." We are nevertheless not discussing the formation of a "school," as Ferneyhough has not been a proponent of closed systems, in the sense of a definable set of rules. Hence he supports and demands in his students the development and application of an individual artistic viewpoint. And this is exactly why, *per definitionem*, the feedback loop, the common aesthetic, the recognizability of a school as such, is not clearly in evidence.⁵⁹

In conclusion, let us return for a moment to the five criteria for a scientific "school" listed in the introduction.⁶⁰ After analysis, and especially after the two overviews it is worth considering, to what degree these criteria actually apply, and thence whether we may sensibly speak of a "Ferneyhough School" or a "New Complexity School." The charisma of the "leader" (1) is certainly not in dispute. A common purpose

⁵⁹ At this point it bears mentioning two small studies on the subject of school formation in the music of the twentieth century. Thomas Schäfer provides in his article "Die 'Wiener Schule' Arnold Schönbergs. Überlegungen zum Schulbegriff" (in Gottfried Krieger and Matthias Spindler, eds., *Musik als Lebensprogramm. Festschrift für Constantin Floros zum 70. Geburtstag* [Frankfurt/Main: Peter Lang Verlagsgruppe, 2000], pp. 183-192, esp. p. 190) the additional—and specific to music—criterion of a parallel establishment of a school of performance specialists. He thereby expunges from the history of the twentieth century, premised on the lack of such specialists, the existence of any school besides that of the Schönberg School. Hermann Danuser, in "Die 'Darmstädter Schule'—Faktizität und Mythos" (in Gianmario Borio and Hermann Danuser, eds., *Im Zenit der Moderne. Die internationalen Ferienkurse für Neue Musik in Darmstadt 1946-1966*, Bd. 2 [Freiburg: Rombach Buchverlag, 1997], pp. 333-380, esp. p. 337) presents for discussion a potential school, albeit one without a leader. Referring to other art movements, and to philosophy, he regards the concept of a school to be a transference "more likely in the reverse, from contexts lying outside the musical discourse onto music and its history."

⁶⁰ In order to obtain a better generalization between scientific and (in this case) compositional-aesthetic school-formation, we should provide as direct a translation as possible of the five criteria from Stolz (p. 8): "Characteristics for the formation of a school and its development which may be seen as relevant are most especially as follows: (1) the dominating personality of the 'school-leader,' as an administrative head, a 'spiritual leader' and founder of the school-constituting theoretical and methodological concepts, as well as his specific personality traits and his research and organizational capacities; (2) a school's characteristically original, far-reaching, ambitious (both theoretically and methodologically) research program as the basis for a common set of goals and/or (in the sciences) a new experimental/analytic, method of inquiry; (3) the members (students) of a school's community, in both the broad and narrow sense, as well as their theoretical, methodological, and sometimes also social commonality; (4) the characteristic working method of the school, the community atmosphere, the type and range of communicative relationships (including the relationship between 'teacher' and 'student'), internal standards of evaluating and recognizing what has been learned, including possible high-priority problems; (5) the influence of the school of research, or rather, of its 'leader,' of its students, or the quality of the achieved results, on the development of its associated discipline; and (6) the scientific and social recognition of the school, its national and international significance in a competitive field, or under the influence of societal conditions and scientific traditions."

(2) is somewhat more difficult to secure. The approach of the compositional processes shown in the *Etude Transcendentale* (and in the related excerpts from other works) is too narrowly construed, the typically "complex" notation in itself is far too weak a criterion. Here is where an unambiguous definition would be needed, which clearly defines what might be understood as "New Complexity," and what might not. The use of numerical ordering procedures and multi-layered, networked, processes (e.g., in *Recoil*) could be such a criterion, but that fails to fulfill the criterion of common (!) qualities of the "students" (3). The approach of Thomalla as "deconstructivist" stands in stark contrast to such a commonality regarding theory or method, and also (4) regarding a common working method of the school. The ambiguity of Criteria 2 through 4 thus renders the recognizability of a "Ferneyhough School" or "New Complexity School" null.

The last criterion stands, as the first, beyond dispute: the international significance of the school—or better: of the "leading figure" Brian Ferneyhough and his many (heterogeneous) "students." His own influence on the development of new music stands likewise beyond a doubt. Perhaps at this point one should make exactly the opposite argument: is not the diversity of the student generation, their individuality, itself a weighty mark (of quality) of an effective artistic school? Is the phenomenon of "New Complexity" to be understood as no better than a "focal point,"⁶¹ towards which the most varied of composers approach, each in their own manner—depending on how each of them individually might be given to understand the term—and to a greater or lesser proximity?⁶² As there were, in the "old Europe" of the nineteenth century, still scientific schools in the strict sense, so today are a sort of "modernist habitats,"⁶³ in which, from time to time, especially fertile ground is laid for individual development.

Translation: N. Andrew Walsh

⁶¹ For the term "Brennpunkt" and a productive discussion surrounding it I am grateful to my colleague at the Stuttgart University of Music and Performing Arts, Michael Flade.

⁶² Frank Cox described himself—as participant in the Darmstadt Panel Complexity Discussion in 1990 as a "complexity composer" through and through, while Hans Thomalla would not so style himself (as he responded to my question on the matter in a telephone conversation in November 2011).

⁶³ I borrow the term "Biotop der Moderne" from Hartmut Krones, who used it in repeatedly in the course of the Vienna Symposium "Meisterschulen der Neuen Musik" (Wien Modern/ Musikuniversität Wien) in November, 2011. This term also appears in the announcement text of the program flyer for the symposium.