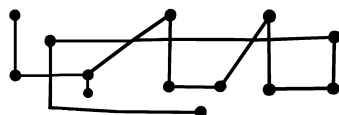


CONCEIVING MUSICAL PHOTOREALISM: AN INTERVIEW WITH RICHARD BEAUDOIN



DANICK TROTTIER

IN LATE JULY 2009, while spending a summer living in Montréal, Richard Beaudoin was absorbed in the process of using microtiming data as material for composition. Though we had been colleagues since our simultaneous arrival at Harvard University in September 2008, I had never seen him so excited; something seemed to be changing his way of composing. The composition of his *Études d'un prélude* was reaching its first *jalons*, each piece opening out into the next one. The point of origin was a lecture that Dr. Olivier Senn gave at Harvard in February 2009. Senn was presenting the Lucerne Audio Recording Analyzer [LARA], developed with his colleagues from the Institut Forschung & Entwicklung at the Hochschule Luzern in Switzerland.

Senn had made micromasurements of an iconic recording, offering a dissection of how a performance is built via the rhythm and sound energy of every attack.¹ The recording that they measured was Martha Argerich's performance of Chopin's *Prélude* in E minor, Op. 28 no. 4, recorded in Munich on October 22–25, 1975, and released by Deutsche Grammophon as DG 415 836-2. Beginning in April 2009, Beaudoin translated these micromasurements back into standard notation, and began using this material as the basis for a series of works for diverse instrumentations, called *Études d'un prélude* [Studies of a prelude]; twelve works in this series were completed in 2009–10.²

From our encounter in Montréal sprang the idea to hold interviews about the compositional project and the issues surrounding it. Two sessions took place at Harvard: the first was in January 2010, covering the new works with Beaudoin at the piano; the second was in April 2010, covering the aesthetic issues implied by this new way of working. A final exchange took place in June 2011, just after Beaudoin returned from a stay in London supervising recordings of eleven works based on microtimings of Argerich playing Chopin, Pollini playing Webern, and Cortot playing Debussy. The resulting interview records the earliest stages of the so-called 'photorealism' process—an application of micromasurements as compositional material.

The interview is organized into five parts: (1) Beaudoin's trajectory, (2) LARA and the foundations of microtiming, (3) the *Études d'un prélude* series, (4) links to the *cantus firmus* tradition, and (5) science, aesthetics, and the future of 'photorealism.'

TOWARDS THE *ÉTUDES D'UN PRÉLUDE* (2009)

TROTTIER: What I want to establish at the beginning of this interview is a sense of your trajectory (borrowing Boulez's concept). For example, on the recent CD, *Backwards Glance* by the pianist Constantine Finehouse, we find two pieces by Brahms alongside two of yours: *Qui Tollis* (2004) and *Les signes de ma faiblesse* (2006). Your pieces work as a mirror of the past using numerous allusions and quotations. In fact, regarding what you have done since then, *Qui Tollis* seems somehow prophetic. As I understand it, it's a reflection on the way you can ask questions of the musical past. Am I right to say that?

BEAUDOIN: I think the issue of 'questions' has always been with me. I was inspired in *Qui Tollis* by a little question-filled poem by Neruda, which included lines like: "Dónde está el niño que yo fui, sigue adentro de mí o se fue? . . . Por qué anduvimos tanto tiempo creciendo

para separarnos?” [Where was the child I once was—inside me still—or gone? . . . Why did we spend so much time growing up, only to grow apart?] (Neruda 1994). My composition does include some borrowed material, but it’s not acknowledged. In both of those works the borrowing is structural, in the sense of being underground. The reason I don’t talk about the sources in those pieces is simply because I want each piece to articulate itself on its own terms.

TROTTIER: Since we opened the door on your relationship to the past, I’ll bring up the fact that the past seems to nurture your language and your expression. This shadowy presence of the tradition through borrowed sources interests me in my own research³, and so I wonder: how you perceive the musical canon?

BEAUDOIN: For me the best composers are always the ones whose philosophy about the world is found in their scores, in the music itself. I mean in the case of Bach, in the case of Wagner. Those are composers where their sense of the world is *inscribed* in the notation. And composers don’t have to quote to achieve that; take for example, Boulez. My pieces essentially reflect how I feel about society, about my own sense of my existence. In the case of the borrowing in *Les signes de ma faiblesse*, certain composers are part of my life: I teach their music, I think about them, I have questions about them, about music, and I answer these questions not by writing, but by composing.

TROTTIER: So if we take up the Paul Valéry quote that begins your essay in the *Backwards Glance* CD: “On ne peut s’éloigner consciemment de quelque objet sans retourner la tête pour s’assurer que l’on s’éloigne” [Nobody can deliberately walk away from any object without casting a backwards glance to make sure he is walking from it] (Valéry 1947). In a certain sense, that’s true for all composers in the history of Western music. However, it’s not all composers that create relationships with pre-existing objects. And yet with you it looks like an impulsive gesture: you have a strong view of the particular objects that strike you in the scores of others. What interests me is the way these objects are invoked in the aftermath.

BEAUDOIN: Yes, we can talk about the work that immediately preceded the *Études d’un prélude*, the 30-minute song-cycle *Nach-Fragen* [The Inquiries], commissioned by the Konzerthaus Dortmund for the German soprano Annette Dasch in 2009. The text is drawn from Christa Wolf’s 1968 novel *Nachdenken über Christa T.* The majority of *Nach-Fragen* contains no borrowing, but three of the

songs involved sources: Bach, Schubert, and Janacek. In the case of the Bach, it's in the eleventh song of the cycle, called "Vertrautes Blau: nach Bach BWV 858." What one finds in this piece is the right hand playing a kind of paraphrase of Bach's prelude in F# major from Book I of *The Well-Tempered Clavier*. And the text imagines someone in the future looking at the blue of the sky, and comparing it to the blue one sees today. The narrator is imagining the present *as the past*. And so the Bach material becomes a way of placing ourselves in that mind-set.

TROTTIER: I see a strong influence of literature from the nineteenth and early twentieth centuries: Heine, Valéry, Melville. Just as the musical tradition nurtures your reflexive thought as a composer, so too with the other arts: not just literature but also visual arts, as we will see in the *Études d'un prélude*.

BEAUDOIN: Let me say one thing about texts. As a composer we encounter very often the fact that we cannot set the text of certain authors due to copyright. In the case of Christa Wolf and *Nach-Fragen*, it was a long process securing the rights, which was finally accomplished by some tireless work by Florian Wiegand of the Konzerthaus Dortmund. Many of my other works involve nineteenth-century texts, especially Heine. In fact, those texts are public domain, and can be used more freely. The fact that I use texts that are older sometimes is a practical decision. At the same time, many nineteenth-century texts are still very fresh and full of contemporary preoccupations.

TROTTIER: Concerning influences and connections with tradition, we can see in your language that canonic writing is important. It's a way to structure your texture, the layers of voices. Can you talk about canon?

BEAUDOIN: Actually the thing that interests me the most about canon is the fact that there's duplication. In a canonic texture, you have a *doppelgänger*: you have a voice and its double. It's not the technique of canon that interests me so much, it's the fact that there is a split, some kind of 'two-ness' in a 'one-ness': just like in my opera *Pierre* when you have the brother and sister who have fallen in love, you have this 'two-ness' in 'one-ness.'⁴ Just like in the *Études d'un prélude* you have, if not canon, you still have the presence of Chopin from 1839, Argerich from 1975, and then the new work: you have a multiplicity.

TROTTIER: Another aspect of your language is that you include silences very often. There's a kind of fragmentary gesture, a way to delimit time and create a kind of breathing. Through your compositions

we can feel your sensibility towards the purity of notes and the balance between silences and gestures.

BEAUDOIN: You're right, and it makes me return to the idea of 'questions.' Ultimately, those gestures with silences are like musical questions for me. And composers who use notes without rests are like people who talk without ever asking a question.

TROTTIER: So how do you describe your language before 2009, before the 'photorealism' process?

BEAUDOIN: The most important thing to me is form. I'm not interested to have a flashlight and look at just little parts of an object; I like to see things as a bird sees the landscape: it sees the whole form, and does so while everything is moving. In terms of texture, no matter what instrument I am writing for, all my music is essentially vocal, which is to say a kind of singing. It's not a fractured music, and it's not an overtly percussive music (though it can be). In terms of harmony, there are certain sonorities whose origins can be found interestingly in *Memoriale* (. . . *explosante-fixe* . . . *Originel*) of Boulez, a piece that I learned when I was eighteen and took up again as my PhD dissertation in 2008. This work had a strong influence on my music, which is to say the texture of singing, the harmonies that owe some debt to the French tradition.

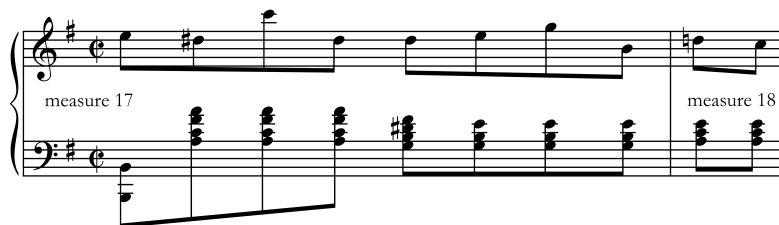
MICROMEASUREMENTS AS COMPOSITION MATERIAL

TROTTIER: I suggest that you introduce us to LARA [The Luzern Audio Recording Analyzer] and to the scientific process of micro-measurements, which is the starting point of the *Études d'un prélude*.

BEAUDOIN: This history of this process began with Dr. Olivier Senn at the Hochschule Luzern in Switzerland. In 2008, he and his colleagues took detailed rhythmic and dynamic measurements of Martha Argerich's 1975 recording of Chopin's Prelude in E minor, Op. 28 no. 4. Specifically, they charted the interonset intervals (IOI) between all sound events in the recording; IOIs can be defined as "the time between the beginnings or attack-points of successive events or notes, the interval between onsets, not including the duration of the events" (see London 2004). These measurements were taken at the level of the millisecond. Here, for example, are the rhythmic measurements of Chopin's measure 17, as played by Argerich in 1975 (Example 1). For each attack, we

RIGHT HAND MICRO-MEASUREMENTS

Onset time (s):	69.600	70.053	70.497	70.953	71.259	71.556	71.868	72.166	72.514
Duration (ms):	452	444	456	306	297	312	298	349	
Volume (dB):	-22	-19	-19	-21	-19	-20	-23	-23	



Volume (dB):	-23	-21	-26	-22	-22	-22	-24	-27	
Duration (ms):	440	462	399	352	288	360	277	324	
Onset time (s):	69.609	70.048	70.510	70.910	71.261	71.549	71.909	72.1687	72.510

LEFT HAND MICRO-MEASUREMENTS**EXAMPLE 1**

know the chronological time of the onset, the IOI in milliseconds, and the volume in decibels. So if we look at the first note, E, in the right hand of Chopin's measure 17, we see that the IOI between it and the following note, D \sharp , is 452 milliseconds, and that Argerich attacked it at -22 dB. It creates a kind of 'data-photograph' of Argerich's performance, from the perspective of rhythm and volume.

TROTTIER: And this is accomplished with a computer program?

BEAUDOIN: Yes, this is done using a software called LARA, developed by Senn and his colleagues. But this software is not automated (meaning you don't simply insert a CD and receive the data); rather it is a *process*. LARA is a part of the process, but measuring all the attack points in Argerich's 1'51" recording took two men nearly one month. LARA allows us to take a spectrograph of the recording and zoom in very closely to see the onset timing of every event; we can see literally when the hammer hits the string. We can see that impact, with measurements to the millisecond. And their margin of error is quite small; I think it is plus or minus seven milliseconds for

each attack. They use the same device to measure sound energy or volume, in decibels.

TROTTIER: So we are beyond human perception?

BEAUDOIN: Well, in a way we are capturing what we perceive aurally. But tallying the location of events so precisely is beyond conscious measurement. For example, when a pianist plays a chord as a ‘simultaneity,’ with LARA we see each of the notes come down separately. Of course, when we listen to music our ears and our brains are hearing an extraordinary amount of detail that we can’t consciously parse in time. But what this rhythmic microscopy allows us to see, and this is important to say, is what is *actually happening* when we hear a piece of music.

TROTTIER: It opens a new field of research; we have a kind of genetics of time within a performance.

BEAUDOIN: Yes, but it is a field of research that has existed for quite some time. I think that microscopy in general is a twentieth-century revolution that we are still coping with, intellectually.

TROTTIER: Just to be sure, how do you obtain your notation of the performance when the time durations are initially given in milliseconds?

BEAUDOIN: At first, I thought it was impossible to usefully notate a piece using standard notation. Because you’d need notes with ten flags on them—extraordinarily refined rhythmic subdivisions. So we developed a simple process of ratios, something akin to the resolution of a camera. You can have a poor resolution, meaning that everything is fuzzy, or you can have a very clear resolution. If you have one millisecond equaling one eighth-note, you could make the perfect resolution of the Chopin, except the piece at a regular tempo will be perhaps ten days long, you know, something ridiculous. And so altering the ratio means that one can create any resolution, including ones that severely distort the original, as I did in *Étude d’un prélude VIII—Kertész Distortion* (2009). This piece follows on André Kertész’s portraits of nudes in curved mirrors, taken in Paris in 1933. In fact, the photographic analogy has proven to be very strong. Andrew Kania and I have written about this process in much more detail in a paper called “A Musical Photograph?” (Beaudoin and Kania 2012).

CONTINUITIES AND RUPTURES—*ÉTUDES D'UN PRÉLUDE* (2009)

TROTTIER: Did this encounter with microtiming cause a rupture regarding your own language? Or were there continuities with the music composed before April 2009?

BEAUDOIN: If I'd discovered this possibility of transcribed micro-measurements when I was twenty years old, I would have gone crazy, it would have damaged my identity, I think. Because it quite simply takes you like a wave.

TROTTIER: So you think your already having an identity allowed you to handle this new material?

BEAUDOIN: Well, I handle it in a way that has more structure and perspective. At first, I was simply coping with this new material. The first and second études, those two are different from anything else I've written because they are mostly Chopin in terms of the notes (Examples 2 and 3). These two are, effectively, rhythmic experiments. But from the third étude on, the language has not changed from my

The image displays two staves of musical notation for a piano piece. The first staff, labeled '139' at the beginning, spans measures 139 to 143. It features a treble clef with a key signature of one sharp (F#) and a bass clef with a key signature of two sharps (F# and C#). The music is characterized by complex microtiming, indicated by the 'measure 17' label with a downward arrow pointing to a specific note. Dynamic markings include *fff* (fortissimo) and *f* (forte). The second staff, labeled '144' at the beginning, spans measures 144 to 148. It also features a treble clef with a key signature of one sharp and a bass clef with a key signature of two sharps. Dynamic markings include *fff*, *ff*, *f*, and *mf* (mezzo-forte). The 'measure 18' label with a downward arrow points to a specific note in the second staff. The notation includes various note values, rests, and articulation marks, suggesting a highly rhythmic and textured composition.

EXAMPLE 2

The musical score is divided into two systems. The first system covers measures 141 to 144, with a downward arrow labeled 'measure 17' pointing to the first measure. The second system covers measures 145 to 148, with a downward arrow labeled 'measure 18' pointing to the first measure of the second system. The score is written for four staves. The first staff (treble clef) contains melodic lines with dynamic markings of *ff* and *fff*. The second staff (treble clef) contains complex rhythmic patterns with dynamic markings of *fff* and *f*. The third staff (treble clef) contains complex rhythmic patterns with dynamic markings of *ff* and *fff*. The fourth staff (bass clef) contains complex rhythmic patterns with dynamic markings of *ff* and *fff*. The score includes various musical notations such as slurs, ties, and dynamic markings.

EXAMPLE 3

earlier music; it's the rhythmic world that has changed. If one looks at the language prior to 2009, for example in *Nach Fragen*, *Qui Tollis*, or *Les signes de ma faiblesse*, you will hear certain chords (such as a sonority based on a tone with an upper neighbor a minor-third above and a lower neighbor a minor seventh below). This sonority became the basis for *Étude d'un prélude IV—Black Wires*. The rhythm is the new step, because the transcription of a performance creates a rhythmic landscape that is impossible to predict, and therefore I found myself

thinking about rhythm in a much more profound way: the relationship between phrase and elongation, the relationship between meter and the perception of meter, and how those are different.

TROTTIER: Is it a tension or a dialectical process?

BEAUDOIN: I don't know. In conversations I've had recently had with musicians who have played the *Études d'un prélude* (such as Mark Knoop, Neil Heyde, and Peter Sheppard Skaerved), they remarked that these pieces are psychologically tense because one feels both the rhythm of the Argerich and the rhythm of the meter that one is reading, simultaneously.

TROTTIER: From this perspective, you can explore more complex relationships regarding the memory of Chopin, the memory of Argerich?

BEAUDOIN: Yes. For example, in *Étude d'un prélude IV—Black Wires*, I have translated one parameter of the source into another. The sound energy (or volume) of each of Argerich's left-hand chords is translated, in my work, into the length of an arpeggio. In this way, Argerich's volume is transformed into groups of discrete pitches, which vary in length according to the strength of her attack. This proves to be quite useful, since louder chords become longer arpeggios, and the climactic *stretto* in the Chopin original becomes very active music in *Black Wires* (Example 4).

TROTTIER: Regarding the connection with visual arts, you also discovered an English painter, Glenn Brown, who has influenced you for the first time: *Étude d'un prélude VI—The Real Thing*, has been written in the aftermath of this new influence.

BEAUDOIN: That work, *Étude d'un prélude VI—The Real Thing*, is a good example of the more mature ways of handling this material (Example 5). Glenn Brown's process involves taking a reproduction of an older painting, subjecting it to distortions in a digital environment, then projecting it onto a surface; he then repaints it in great detail while continuing to make significant alternations to the form, color and level of abstraction. In the end he produces oil paintings, even though digital renderings are involved at earlier stages.⁵ The painting I referenced was Brown's *The Real Thing*, based on a painting by Frank Auerbach. In the case of this portrait of a woman, Brown has replaced any 'realistic' details with his material—with paint.⁶ My piece, *The Real Thing*, proceeds from the same point, except that my 'original' is

The image displays three staves of musical notation for Chopin's Prelude Op. 28 no. 4, measures 17 through 18. The notation is in G major, 3/4 time. Above the first staff, a dashed line is labeled (S^{10}) and an arrow points to measure 17. The first staff (measures 17-18) includes the instruction *con tutta forza* and a fortissimo **ffff** dynamic marking. The second staff (measures 19-20) continues the piece. The third staff (measures 21-22) includes a fortissimo **ff** dynamic marking. Below each staff, a spectrogram is overlaid, showing the frequency spectrum of the piano's sound. The spectrograms are marked with asterisks and the letters 'Sca' at various points, likely indicating specific harmonic or timbral features. The notation includes various musical symbols such as notes, rests, and dynamic markings.

EXAMPLE 4

Martha Argerich's recording of Chopin's *Prelude* Op. 28 no. 4 from October 1975. I have a kind of visual image of her performance, which is to say, a spectrograph. Brown has a photograph of an older painting and I have a spectrograph of an older recording. And then I begin to replace many of the musical details with sounds, specifically with a single motive that permeates all the lines. This little motive is injected into the Chopin just like if I would take a drug and inject it into your body; it will go everywhere in your system. This motive is inside of the Chopin/Argerich transcription. Therefore, you can hear the Chopin, but at the same time it is altered. I have learned a great deal from Glenn Brown, not only through his paintings, but also more recently

measure 17

largo—ca. 6"
intenso, molto vibrato

measure 18

EXAMPLE 5

in conversations with him concerning the analogy between our works. I feel that I am ‘not done’ with him, musically, and I’d be interested to someday have him design the production of an opera based on these shared principles.

TROTTIER: I understand the similarities with Glenn Brown, although in music it’s quite different. In his painting, considering the photograph and the artistic transformation of it, you still have the unity of vision. In music, what you said is embodied in the music itself, beyond the fact you have injected the specific motive into the Chopin. How can we feel then that we have a realistic image of Chopin?

BEAUDOIN: I don’t ever have a ‘realistic’ image of the Chopin, or of my pieces, for that matter. I do feel that my abstractions are still based on the Chopin/Argerich material. I take a temporal object and abstract it as another temporal object.

TROTTIER: Are your ideas about silence still significant in the *Études d’un prélude*?

BEAUDOIN: I will say again that poor composers avoid silence, just like people who are insecure talk all the time. But you take Beethoven, the opening of the ‘Harp’ String Quartet, Op. 74: at some points, if you remove the pauses, it’s very conventional. But what you find is that he’s inserted these pauses and suddenly the entire thing becomes electric. It’s “defamiliarization,” as you have in Kafka or Daniil Kharmis. I find that, in my pieces involving a pre-existing object, the use of silences defamiliarizes that object. Silence is part of the questioning that I enact upon the music.

TROTTIER: What about notation and its relevance to your language?

BEAUDOIN: Notation is for me the music itself. What I produce is, essentially, pieces of paper covered with notation. I think one reason why I’ve been able to make these new pieces is because of my long-term interest in notation. I always thought about it with a kind of a love, with a kind of . . . almost an appetite: I always want to see how composers get what they get. Because I want to know *precisely* how it comes. And the precise transcriptive process that I devised to go from Senn’s data into the notation is really very important, because it *could* be designed to create confusion, to create distance. But I always try to make it as elegant as possible, so that I can write over it at any level of complexity I desire.

TROTTIER: I want you to react to this idea: I think you were just prepared for this project. I think this project corresponds to your own vision of what composition is about. It’s a question of timing certainly, but it’s also a question of continuities of what you have explored before.

BEAUDOIN: To be honest, I think you’re right. I think that the continuities are strong. In a sense, my discovery of this is as much an invention of mine, to serve my own developing purposes. I’m kind of smiling when I say that, but it’s almost that I have invented it ‘into being’ for myself, because my own interest wanted it so badly, in an unconscious way.

TROTTIER: And I think it’s important for composers to have a faith in their own trajectory.

BEAUDOIN: A musicologist can say that, but when you’re a composer of course it is all too real. What I can tell you is that these last few years have been very intense. Because the project is like many rivers coming into one.

TROTTIER: I want to hear you on the idea of realism. For me realism remains a concept that we can apply everywhere and in everything, and often it lacks signification. Why did you choose this word in particular and what is its relation to your work?

BEAUDOIN: It is really not a very good term at all. I smile when I think of it, because I first used the word actually after talking to you in Montréal in July 2009, as the title of the orchestral piece: *Étude d'un prélude V—Photorealism*. Nothing about that orchestral piece is photorealistic. In a way it's an enormous orchestration of the Chopin/Argerich material. Because it's an orchestration of a piano performance, there's nothing 'real' about it. 'Photorealism' as a term could describe the technique of transcribing micromasurements of a recorded performance into notation, and so it is perhaps useful to say that the 'cantus firmus' of some of my work is 'photorealistic.' You're right to question it, because even the term 'photo-real' implies a tension. And I actually think that tension describes the transcriptive part of the process very well.

THE *CANTUS FIRMUS* TRADITION

TROTTIER: You made a strong point about the *cantus firmus* tradition: it became a relevant argument in the early presentations of your *Études d'un prélude*. In a text that was part of the lecture you gave at the Centre for Music and Science at Cambridge University in March 2010, you wrote: "In my photorealistic process, the cantus firmus is a milli-second-faithful, often time-axis-manipulated, transcription of the precise timing and sound energy of all musical events in a recorded performance." You added: "It becomes clear that these new works, like the earlier cantus firmus practice, are able to harness a great deal of musical and cultural meaning." You are very optimistic about this connection.

BEAUDOIN: Part of Schoenberg's revolution was regarding pitch, and therefore he had to look into the past and find people like Gesualdo to link to, and he did just that. But with my work it's an important development on the side of rhythm, therefore the language can be anything in my pieces, while the rhythm is linked to the microtiming. But I, too, wanted to look to the past. And I was able to very quickly go all the way back to the beginning, because early notated music—l'École de Notre-Dame—after *organum*, was two-part writing: one part was a *cantus firmus* based on elongated chant, the other part was

freely composed. Clearly, what those composers (Pérotin, Léonin, Machaut) were doing was taking a musical object, elongating it and composing alongside and over it. There is fundamentally no difference between my work and that process. The only fundamental difference is this: what I'm borrowing is not just a notated piece but a specific performance of that notated piece transcribed back into notation.

TROTTIER: You talk about the extension of the *cantus firmus* tradition, so you have the impression that this is a way we can renew this tradition?

BEAUDOIN: I don't see myself as renewing a specific tradition, per se. But I think there is almost no difference between my process and the process near the very beginning of music notation, which is to say the *cantus* technique.

TROTTIER: I'm not totally convinced by this connection with the *cantus firmus* tradition: I think it's idealistic and that you foster an abstraction of it. If I approach your pieces pragmatically, I see a discontinuity: sometimes we can hear it, sometimes not. It is more a fragmentary *cantus firmus*, often difficult to hear.

BEAUDOIN: Firstly, all good composers likely foster idealistic abstractions of their musical ideas. Such temporary self-delusions have proven very useful, historically, in all fields of culture. Secondly, I will send you back to Machaut, who often elongated his *cantus firmus* in ways that prevented it from being actively heard. What is important is that it is still there, and still governs what it governs. So, when I say that I feel this as an extension of the *cantus firmus* technique, I mean this tradition in all of its original complexity.

TROTTIER: Obviously, the *cantus firmus* technique gives unity to your pieces. And that delimits the form of the piece. But is the form of your piece the same as the *cantus firmus* itself?

BEAUDOIN: Now you are getting to the most interesting territory, which is the extent to which the form of the Chopin influenced or created the form of my *Études d'un prélude*. I have many thoughts about this, but it is hard for me to feel that I know for certain. A one-measure phrase in the Chopin could be 18¼ measures in my piece, starting on a syncopation and ending on a syncopation. So what is a unity in the Chopin score becomes a very strange landscape in my

score. And then you have to ask yourself the question: is this still a unity, or are there new unities which articulate in places different from the source, or are both possible? There's a tension there.

SCIENCE, AESTHETICS AND THE FUTURE OF THE 'PHOTOREALISM' PROJECT

TROTTIER: Regarding continuities and ruptures, I'm surprised that you haven't mentioned one of the major new implications on the side of your artistic trajectory: the scientific connection. Have you ever had a relationship with a musico-scientific institution before? For a twentieth-century scholar like me this is important, given the prominence of innovation centers such as IRCAM, GRM, and CNMAT.

BEAUDOIN: I have no relationship with any institutions that involve music and science, except via Olivier Senn at the Hochschule in Luzern. But that connection is largely personal; for example, to date I have never visited the grounds of the Hochschule. That said, my interaction with performance science has had its effects: I'll be honest with you—I think I hear differently now. If you study astronomy, you see the world differently because you understand the scale of everything. Now that I understand the microscopic scales of timing, of *rubato*, of tempo, I don't listen to music in the same way.

TROTTIER: But you are marching into scientific revolutions and innovations. Forty years ago this project wouldn't be possible. Considering that, do you feel you belong to the modernistic tradition, the one that deals with the past and involves collage, far from the other path of modernity, the purist one?

BEAUDOIN: A friend of mine, a philosopher, once casually remarked to me that modernism had failed. That puzzled me. I was never aware that modernism had a stated goal, or a territory it desired to conquer. What I know about modernism is simply a series of great artworks; ones that were part of how I learned about myself. I imagine it is possible to place my work in line with these, but either way it does not interest me much.

TROTTIER: I still have the impression that the *Études d'un prélude* were a kind of laboratory—in the sense that each piece asks a problem that was resolved by the next one.

BEAUDOIN: I think you probably right. One does not title a piece *Étude d'un prélude* for nothing: it's not just a pun on Chopin's own études and préludes. It really is in fact a 'study.' If it were all published together someday in one book, it would represent *studies of sound in sound*. None of the pieces are transcriptions of earlier pieces in the series; they are different questions or, as it were, different answers to a single question. In 2010, I published an article in the *Journal of Music Theory* called "You're there and you're not there: Musical Borrowing and Cavell's 'Way,'" which makes this point in a different way. Redirecting a line of Stanley Cavell's toward music, I make the claim that "musical borrowing . . . is a compositional approach whereby a composer can explore the idea of having a 'self' by being the other to one's self, calling upon it with the sounds of others."

TROTTIER: What about the "mode of inquiry," a concept I'm borrowing from David Metzger's 2009 book on musical modernism. Each of your recent pieces seems to be conducted by such modes.

BEAUDOIN: Yes. We can think about the spectralists who were asking fundamental questions about the nature of sound and acoustics. I would say my recent pieces ask fundamental questions in the field of rhythm. Not because they are notationally complicated (though some are), but because their rhythm records a very complicated human act. But there is also the issue of memory: for example, when Bach borrows a Lutheran chorale, the content of that Lutheran chorale is now inside of his piece. And then if Berg, as he does in the Violin Concerto, borrows Bach, he is simultaneously borrowing that Lutheran choral that is embedded in the Bach. My pieces are also harnessing or capturing these multiple perspectives.

TROTTIER: As a way of concluding, I want to thank you for the generosity of your answers, and open out to the current series of works, *The Artist and his Model*, which are based on Cortot's 1931 recording of Debussy's "la fille aux cheveux de lin;" *nach Webern, nach Pollini*, based on Pollini's 1976 recording of Webern's *Variationen für Klavier* op. 27; and what I understand is some microtiming of Thelonious Monk.

BEAUDOIN: I have just returned from London, where I supervised the Kreutzer Quartet's recordings of five works: *Étude d'un prélude X—Second String Quartet* (which includes *Étude d'un prélude II—Flutter echoes*, *Étude d'un prélude VI—The Real Thing*, *Étude d'un*

prélude VIII—Kertész Distortion, and *28^{four}*) and *The Artist and his Model II—la durée sans contact s'affaiblit*. I also met with Mark Knoop, who played me the master takes of the six works he recorded in Potton Hall in December 2010: *Étude d'un prélude I—Chopin desséché*; *Étude d'un prélude IV—Black Wires*; *Étude d'un prélude VII—Latticed Window*; *Étude d'un prélude XI—four²⁸*; *nach Webern, nach Pollini*; and *The Artist and his Model I—la fille floutée*. I was able to talk to these musicians about their experience of these pieces, and the performance practice that is growing around these scores, especially regarding their rhythm.⁷

TROTIER: You seem to be engaged in an evolutionary process: each piece in the *Études d'un prélude* contains a different idea with its own aesthetic and artistic explorations. Is it so with these new works?

BEAUDOIN: I see what you mean by 'evolutionary process.' My direction toward performance science is getting stronger, as is the level of abstraction with regard to the sources. However, I come back to the beginning of our interview when I said that composers that interest me the most are the ones that take their entire sense of the world and somehow turn it into sound structures: that is my only goal. Clearly, I'm changing with each piece, but at the same time I feel like, with the Chopin/Argerich material, it was a question of getting better at allowing myself to coexist with the source material, while adding certain tensions. Now, with the works based on Webern/Pollini, Debussy/Cortot, or with the Monk material, I would say it's less a process of self-discovery and more a process of turning one's personal way of experiencing time into a score.

NOTES

1. Senn's presentation, given in the Davison Room in the Department of Music at Harvard on 27 February 2009, was an early version of a talk given later that year at the International Symposium on Performance Science in New Zealand; it was later published as Senn, Kilchenmann, and Camp 2009. The paper provides a detailed account of the LARA methodology as well as precise diagrams of sections of the Argerich recording of Chopin Op. 28 no. 4.
2. The twelve works in the *Études d'un prélude* series, with instrumentation, duration, première date, performer, venue:

Étude d'un prélude I—Chopin desséché, for solo piano, 7'30", 8 November 2009, Marilyn Nonken, The Center for New Music and Audio Technologies (CNMAT), University of California, Berkeley, USA

Étude d'un prélude II—Flutter echoes, for string quartet, 9'30", 15 March 2010, Kreutzer Quartet, Wilton's Music Hall, London, UK

Étude d'un prélude III—Wehmut, text by Heine, for voice and piano, 3'30", unperformed

Étude d'un prélude IV—Black Wires, for solo piano, 7'00", 8 November 2009, Marilyn Nonken, The Center for New Music and Audio Technologies (CNMAT), University of California, Berkeley, USA

Étude d'un prélude V—Photorealism, for large orchestra, 12'00", unperformed

Étude d'un prélude VI—The Real Thing, after Glenn Brown, for string quartet, 5'45", 15 March 2010, Kreutzer Quartet, Wilton's Music Hall, London, UK

Étude d'un prélude VII—Latticed Window, after William Henry Fox Talbot, for solo piano, 1'51", 17 May 2010, Mark Knoop, Kings Place, London, UK

Étude d'un prélude VIII—Kertész Distortion, after André Kertész, for string quartet, 10'30", 15 March 2010, Kreutzer Quartet at Wilton's Music Hall, London, UK

Étude d'un prélude IX—And they talked about Chopin again, for narrator and piano, 10'00", 24 October 2010 by the composer and Constantine Finchouse, Buckley Recital Hall, Amherst College, USA

Étude d'un prélude X—Second String Quartet, for string quartet, 38'00", 30 September 2011, Chiara String Quartet, Sanders Theater, Harvard University, USA

*Étude d'un prélude XI—four*²⁸, for solo piano, 22'15", unperformed

Étude d'un prélude XII—The After-Image, tableau for two voices and ensemble, 20'00", 1 February 2011, commissioned and produced by Boston Lyric Opera, Calderwood Pavilion, Boston, USA.

3. See Trotter 2009 for an exposition of these ideas in relation to current trends in French contemporary musical thought.
4. The opera-in-progress *Pierre* is based on Herman Melville's 1852 novel of the same name; Act I was staged at the Arcola Theatre in London on 22 August 2007. The cast included Annette Dasch and Joseph Kaiser.
5. A more complete description of Glenn Brown's use of technology in his painting process can be found in Stubbs 2009.
6. Glenn Brown's painting, *The Real Thing* (Oil on wooden panel, 81.3 x 66 cm) can be viewed online at <http://www.tate.org.uk/whats-on/tate-liverpool/exhibition/glenn-brown/glenn-brown-explore-exhibition/glenn-brown-room-3>.
7. These recordings were ultimately released in April 2012 on the 2-CD set, *Microtimings* (New York: New Focus Recordings).

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