

Chapter 1

Compositions

This chapter aims to briefly describe the submitted work. However, these are not detailed commentaries of the musical output as the previous chapters already serve as a meta-commentary on this work.

1.1 E-tudes

E-tudes is a set of electronic *études* for six stage pianos, live electronics and mechanical piano.¹ These compositions were written for the ensemble **pianocircus**² for a project that became a two-year collaboration and lead to two performances.³ What initially attracted me to this ensemble was its very particular instrumentation consisting of six electronic stage pianos. I thought this would be a suitable platform to experiment with the notions of *real-time plunderphonics* and *live musica derivata*,⁴ considering that these instruments are electronic and therefore produce no considerable audible acoustic sound.⁵ Like a book of *études* from the repertoire, *E-tudes* consists of a set of pieces that can be performed together at the same event or individually as separate short pieces. At present time, I have completed four ‘e-tudes’, and as an ongoing project, I will continue adding new pieces to the collection. *E-tudes* is modular in the way in which it can be presented: depending on the set of circumstances for a given event, they can be presented separately or as a whole, either as a concert performance or as an installation with perforative elements. In the installation version, the

¹In case a mechanical piano is not available, it is possible to use a sampler with piano sounds.

²See <http://www.pianocircus.com/>

³Enterprise 08 Festival, The Space, London, May, 2008, and The Sound Source, Kings Place, London, July, 2009.

⁴See pp. 91–92.

⁵The only acoustic sounds that can be heard are the keyclicks produced by the physical contact with the stage pianos while playing. This noise is slightly audible mostly when there are no sounds playing through the speakers (or they are very quiet).

audience walks into, out of, and around the area surrounding the musicians and has creative control over how they want to experience the performance. By choosing between listening to the speakers in the room or to various headphones that are distributed through the performance space and generate different outputs, each member of the audience fabricates their own version of the piece. Therefore, in the installation version there are various possible outputs generated by the computer from the performance, which the audience can choose from. It is also possible to have a performance where the members of the audience are wearing wireless headphones that can receive multiple channels that are transmitted in the performance space, therefore allowing them to choose which channel they want to listen to.⁶

I use the same configuration for all of the pieces that comprise *E-tudes*: the ensemble of six stage pianos is placed in hexagonal formation and divided into two subgroups. The first subgroup consisting of three pianists are asked to select *études* from the western piano repertoire at will—they can select the *études* they prefer to perform (for example, *études* by Chopin, Debussy or Ligeti, to mention just a few)—and are to play them in their chosen order during the duration of the performance. The second subgroup consisting of the remaining three pianists perform together from *The Sixth Book of Madrigals* by Don Carlo Gesualdo da Venosa (1566-1613).

The pianists playing the madrigals send Midi information to two laptops that transform the audio signal from the *études* and schedule the digital signal processing events. The audience is not able to hear in the room what the pianists are playing as the stage pianos do not produce an acoustic sound. The seventh performer (performing the live-electronic part)⁷ performs different tasks: at some points s/he speaks the Madrigals' text into a microphone and the spectral information from this signal is used to process the final audio output and to trigger other sound events, at the same time playing Midi controllers. The live electronic part is not fixed, leaving space for improvisational elements within the human/computer interaction. Finally, through the analysis of all the inputs the computer sends Midi messages to the mechanical piano, adding yet another element to the performance. In the room the final result of the creative process of combining the simultaneous performances in diverse arrangements is diffused through the speakers. In the installation version, the headphones that are spread through the performance space portray the inner life of the performance sounding in the room and reveal the inner layers of computer processing and the appropriated compositions.

Computer programmes play a vital role in all the elements of *E-tudes* and were written in SuperCollider—some of these programmes are discussed in [Chapter 5](#) but some were exclusively writ-

⁶This was the case in the performance at Kings Place.

⁷In the performances of *E-tudes* I performed this part myself.

ten for *E-tudes*.⁸ These programmes are used to analyze incoming Midi data to schedule digital signal processing events. The digital signal processing of the live electronics come from two mayor audio sources: the input of the combined live audio of the sound generated by the three pianists playing *études* and *micro* elements⁹ derived from various recordings of existing music which I choose to appropriate. The individual live audio signals coming from each pianist playing *études* are interpolated with one another (by altering the pitch and volume of the signals).¹⁰ to create one resulting signal. The live electronics performer can change the duration of the interpolation between *études* with a Midi controller. At the same time, the resulting signal is then pitch-shifted again by several pitch ratios generating multiple signals that are then mixed together to create yet another signal. The sounding result of this last signal is a very noisy signal which could be described as ‘piano noise’ (it still retains a piano-like quality). I then use this ‘piano noise’ as input in synthesis algorithms which filter it using several techniques. The ‘piano noise’ however is very different to *white noise*, *pink noise* or any other types of noise used in classic synthesis techniques in that its spectral flux changes much more. Additionally, the live electronics performer can change the sonic qualities of the ‘piano noise’—and therefore also control up to a certain point the spectral flux—by altering the interpolation time of the live signals coming from the pianists playing *études*. The the first two ‘études’ in their final result (the final output diffused through the speakers) are composed exclusively using synthesis algorithms which use this ‘piano noise’ as input. At the same time, in the installation version, the audience can listen through headphones to the different outputs at different degrees of processing—for instance, the output of one of the headphones is made out of material generated from the interpolation of *études*, while another one might reveal the ‘piano noise’, etc. The original appropriated sources (the *études* and the madrigals by Gesualdo) are also displayed closer to their original form through certain headphone outputs.

⁸The code for these computer programmes can be found at <http://github.com/freuben/Etudes>.

⁹See pp. 89–90.

¹⁰Each signal is interpolated with the other by gradually pitch-shifting one signal down four octaves and fading out its volume gradually, while at the same time introducing the next signal which would be pitch-shifted four octaves down and gradually transposing it up until its normal pitch and by gradually fading it in.

E-tude I

E-tude II

E-tude III

E-tude IV

- Computer Applications (partial tracking, midi triggering, generative, etc.)
 - Relate it to other chapters (interpassivity)

1.2 On Violence

This composition attempts to explore the aesthetics of violence and reflect on different manifestations of violence. It is also inspired by slovenian philosopher Slavoj Žizek's ideas about violence. Žizek categorizes violence into two main types: subjective and objective violence. Subjective violence is clearly identifiable by an agent, for example acts of terror or crime, and it is perceived as a clear interruption of the normal state of things. On the other hand, objective violence is violence that is inherent in the social fabric and it is hard to see and experience for the advantaged classes or countries. What Žizek argues is that objective violence is inherent within the social "balance" and it is objective violence which triggers acts of subjective violence. Furthermore, Žizek identifies two types of objective violence: symbolic and systematic violence. Systematic violence is manifested through our economic and political systems that in order to give the idea of a normal smooth running of things, exert systematic violence on large groups of people. Symbolic violence is related to and included within systematic violence but it is specific to violence expressed through language and other symbolic systems (like music). Žizek goes further to argue that the forms of symbolic violence are actually based on and manifested by the symbolic systems as such.

1.3 Žizek!?

Zizek? is a computer-mediated improvisation that gives a live alternative soundtrack to the Zizek! (2005) movie. Each performer has a laptop in front of them. The laptops are connected through a network by which the composer guides the improvisers by sending them written directions, animations (moving graphical notation) and through headphones, an aural score that consists of sound and music derived from the audio of the film.

Alexander Hawkins (piano), Dominic Lash (double bass), Javier Carmona (drums)

1.4 FreuPinta

1.5 Improvisations