Data-collection methods and reflection within a self-study on the creative process of music composition

Hans Roels

Royal Conservatory, School of Arts, Ghent and the Orpheus Institute, Ghent

hans.roels@hogent.be

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Real-time studies in a naturalistic setting

The functioning of the memory is a crucial question in studies of the creative process in music composition (CPMC). How well and how long can a composer remember what he has been thinking, feeling and doing while he was composing? Is he only aware of his creative acts for a few minutes, thus in the midst of the creative activity, or can he reconstruct the process months or even years after the genesis of a composition? In an overview of the research on memory and creativity Nęcka (2011) states: “it is therefore justifiable to conclude that the memory of creative individuals differs qualitatively from the memory of less creative people.” In particular, the functioning of the long term memory and the way information is encoded, stored and retrieved from this memory is crucial to generating creativity. In the same article Nęcka draws attention to the phenomenon of 'selective forgetting' and the related incubation phase. Lubart (1994) had already claimed that the incubation phase in music composition included “passive forgetting of superficial details or previous attempts at the problem.” The complex relation between memory, forgetting and the creative process immediately relates to the method that a researcher chooses to study the creative process in music composition (CPMC). The methodological problems in composition research are discussed at length by Collins (2007) and he stresses the importance of real-time data collection, especially by using a verbal protocol and by collecting different computer data (from notation, audio or sequencer software). All this data, obtained at different moments of the creative process, helps to reconstruct a rich picture of this dynamic process and additionally the sketches and computer data files can help the composer to remember new elements..

Because his method relies heavily on the computer to collect data in real-time, Collins (2005) states: “For this three-year study a professional composer was purposively selected. (…) His preferred mode of writing music was via a home computer-based system, and therefore the data collections methods were not an artificial or unnatural intrusion.” This raises two questions: can we apply these real-time methods to composers who are not used to working with a computer? Are there real-time methods to study the CPMC that do not rely (solely) on the computer? By dealing with these questions and by adapting the real-time data collection methods to the individual setting or style of a composer, more composers can be studied.

It is important to realize that the relationship between real-time data collection and a naturalistic setting is complex and full of tensions. Putting too much weight on the data collection method risks forcing the creative process into a tight procedure and undermining the notion of a real world study. Newman's self-study (Newman, 2008) offers an example of this strained relationship between the research method and a naturalistic setting. In a studio he designed a research instrument to record different streams of audio and video data. In the first week he started to compose a new work for two pianos in this studio. After that week, he continued composing in the places where he usually composes (at home, at work). At one point the author describes his study as taking place in a naturalistic setting, at another point he states, when writing

about his week in the studio: "A stressful environment was created by a combination of factors: the imposition of a limited schedule of composing, the nature of being recorded to later be examined and analyzed in great detail, the interruptions of changing tapes every hour, and technical problems that occurred." Moreover in the same study he also writes “my own assessment of the work reveals musical shortcomings that, as of this writing, lead me to not want it extensively performed.” A clear description of what makes a setting naturalistic is important to avoid the dominance of a data collection method but as far as I know, such a description does not exist in literature on the CPMC. The goal of the composition should be part of such a description, especially in the studies of a professional composer. A composer does not aimlessly produce work at home. The general goal of composition activities is to present music to an audience and the format and characteristics of this presentation are shaped by the context in which this composer operates. A classical composer usually creates music for a public performance; film composers want their music to be recorded and added to a film as part of the soundtrack. To me this drive to create for an audience is an important force in the creative process. Thus, a real-time data collection method should not only be tested in a situation where a composer writes a work within a research project but also in a setting where he writes a work for an occasion, such as a concert, which is a part of the composer's professional environment.

A last major methodological problem in the studies of CPMC is the choice of the period during which the creative process is studied (Deliège, 2006). Simple questions such as “when did a composer start or finish composing this work?” are extremely difficult to answer because germinal ideas may have been much older then the start date of the studied period and a finished composition may be revised or transformed into a new composition. If detailed and profound knowledge on the creative process is to be obtained, studies with a long time-span are necessary (Donin and Theureau, 2007).

Based on the previous problems discussed in the literature on the CPMC, the following threefold challenge is addressed in my self-study:

- to develop and apply a real-time data collection method that does not solely rely on a computer
- to study the creative process in a naturalistic setting, including the goal to compose for a performance
- to study this process over a long time span.

In general the data collection is adapted to the individual working method of the composer while the traceability of the creative process is enhanced.

A long-term self-study using verbal protocols

In October 2011 I started a long-term self-study of my creative process as a composer. The main aim of this project is to gain a deeper understanding of the creative process in music composition, and more specifically, of the relationship between the creative processes of different compositions, loose experiments and ideas. A self-study was chosen because the unity of researcher and research subject can enhance the explorative and creative attitude that was considered necessary to achieve the real-time data collection in an individualized setting. At the same time, this study also functions as a part of a larger reflective research project, in which I reflect on my practice as a composer.

This study of my creative process relied on different kinds of data sources to enable a multi-faceted description of this complex process. Verbal accounts are the most important source on ideas, feelings and thoughts during my compositional work.

These accounts lasted between two and fifteen minutes and were loosely based on the following questions:

- What were my thoughts while composing?
- What decisions did I make?
- Why did I take these decisions?
- Which evaluations and reflections were part of my composition work?
- How did I imagine the future development of the composition?

These accounts were not concurrent: they were not think-aloud protocols generated while composing but immediately retrospective accounts. They were made as soon as possible after a meaningful block of composition work had been done.

Traces of the creative process

Apart from the real-time comments by the composer, it is also important to counterbalance these verbal accounts with real-time traces of the composer's activities. This can shed light on less conscious processes while composing. To enhance traceability within an individualized, naturalistic setting, I started to reflect on the material conditions of my personal composition environment. The following items were observed and examined:

- the tools and technology that I use while composing
- the actions I take while composing
- the time and location (when do I compose? where do I compose?)

In a next, more creative phase I designed techniques, based on the previous observations, that capture the composition activities and create traces without blocking the flow and concentration while composing. To ensure that these techniques could be used in a simple and comfortable way, it seemed important to me that they were based upon my own experiences and practices. Thus I reflected on the following issues:

- What traces did my composition method leave before I started this study?
- What (reproductive) technologies do I have at my disposal? Which ones can I use competently?

Based upon the reflections and observations above, I developed the following real-time data collection techniques. First, two systems were made to measure the time that I spent on composing. The first one, used when composing at different locations, consists of the photo camera application on my mobile phone and two pages with the the title of the composition and the word 'start' or 'stop'. These pages were added to my folder of paper scores and sketches which I always carry with me when I am composing at different locations. For the second system I created a simple applet on my computer (that can be opened at any time) with start and stop buttons. It automatically writes the start and end time tags to one common log file.

Second, an inventory of available audio recording technologies was made and these technologies were 'practised' outside the creative process to ensure that they could be used swiftly in or immediately after the creative process without losing too much time. Thanks to mobile technologies like phones, e-readers or netbooks there is always a recording device at hand wherever I am composing. Third, I gave simple names to my paper sketches, names that have no relation to the current composition or music in general. In the past I used logical names that referred to an instrument, idea, music fragment and the version number but during the creative process the chronological order of themes, pages, files and ideas can all be reordered and the content can be modified (by writing on top of older sketches). In the past the cognitive load of a task such as giving a logical name to a sketch or computer file

often distracted me from composing. The current names are simple and absurd but they don't disturb me while composing. They have the extra advantage that they can be used as simple referrals or pointers (to sketches) in my verbal accounts. Fourth, after realizing that I had several files on my computer in which I wrote down composition ideas and fragments, I created a specific back-up system for these files that added information on the modification or creation date to the files. This back-up system was linked to a general one which I use regularly to save all my computer data. Fifth, to enable writing down ideas on my computer while working with other programs, I searched for an application that can be opened at every moment (thus on top of other running applications) and that could add a time tag to the notes. The applet Tomboy was used for this.

These data collection techniques are partly based on my personal repertoire of compositional 'housekeeping' practices, such as ordering sketches and files, tidying them up or searching for other sketches with related ideas. On these 'housekeeping' practices Collins (2007) writes: “Such activities (which may be construed by some as outside the domain of artistic, creative behaviour) took up a considerable period of time within the overall spectrum of the compositional period, (...)” By starting from my own 'housekeeping' repertoire as a composer to develop my data collection methods, the workload while composing could be reduced. And this proved a nice counterbalance for the additional work of producing the verbal accounts.

These new data collection methods were evaluated for their obtrusiveness. In practice this turned out to be quite simple and intuitive: whenever I felt during my composition process that a data collection technique was annoying me or obstructing me from composing and obtaining the artistic quality I wanted, I stopped using it. I knew that later on, when a period of composition activity was finished, I could reflect on this intrusive technique. I could adapt it or find a new method.

Preliminary results and interactions between research and practice

This self-study is scheduled to end in December 2013 and will have lasted more than two years. In the future the generated traces and data will be analyzed in depth relying on methods used in music sketch studies, studies on the CPMC and qualitative case studies. At this moment a large amount of data has been generated of all the unfinished and finished compositions that were made during this period. This data is spread out over time and gives information on different moments of the creative processes. Only before a deadline had to be met, in the last week of the creative process, and during one other busy period were the verbal accounts delayed and related to larger chunks of compositional activity. Moreover, the whole set of collected data is diverse and sheds light on the cognitive aspects (thoughts, decisions, evaluations etc.), the activities (performing, improvising, writing etc.) and on the products (sketches and different versions of the compositions) in my creative process. At the same time I have been able to compose two larger works and a number of shorter works (some unfinished) in a way that feels comfortable for me. I am not more or less pleased with the quality of the compositions than in the past. This is the current state of my research at the moment of writing (March 2013).

This self-study also functions as a reflective research project. I am both the researcher and the composer being studied and thus I have constantly been confronted with data revealing aspects of my creative process. This ongoing research fits into what Schön (1983) describes as reflection-in-action and reflection-on-action. The interaction between research and artistic practice is explicitly studied within this research project. Making memos or field notes (Spencer, Ritchie and O’Connor, 2003) was used to become fully aware of the changes that this research has wrought

on my practice and vice versa. It is these insights into my own compositional and research practice that I will further elaborate on, although it is expected that in the future, when this self-study comes to an end, that this knowledge will be further deepened and adapted. As this study is still unfinished, I will focus on three important insights.

First, I have repeatedly noticed how quickly I had forgotten previous steps of the creative process while I was going through parts of the data of my self-study. What I forget is very diverse, from actions through motivations and ideas to decisions. Second, through rereading the transcriptions of my verbal accounts and listening to recordings that were made during the creative process of a composition called Eigengang, I became aware that I was struggling with a 'personal workshop' problem. This can best be expressed as the question “how can I find a method to compose this work?” This problem is different from other composition problems like choosing sound materials or developing a structure for a composition. Eigengang is a work for three pianists playing inside the piano and using extended techniques and preparations on the piano strings. I don't have a grand piano at home, so I was experimenting on pianos at the School of Arts and the Orpheus Institute. I wanted to write a polyphonic piece, which required these techniques to be more or less equally loud. On top of this, the extended techniques created a lot of practical constraints. At this stage of the creative process I experienced vagueness concerning the overall 'idea' of the composition and the sound materials with all their implications, mixed with uncertainty over finding a practical way to create this whole composition. Should I compose at home or somewhere else? Should I perform everything that I compose, or just a few parts? These and similar questions created a feeling of unease and stress while I was composing: I wanted to continue composing faster but there seemed to be an invisible rock before me that was hindering me from progressing more quickly. Through reflection on the data in this self-study, I have realized that this 'personal workshop' problem was also part of the creative processes of older compositions.

My individualized research method has partly become a composition method: this is a third consequence of this reflective self-study. As described earlier, collecting, systematizing and synthesizing past work and ideas are less well understood activities in the CPMC and the search for an individual data collection method creates an overlap between these research methods and my way of composing. Especially the verbal accounts, made after a block of composition work, have stimulated me to review my past work and my future plans more frequently than I used to before this study. I have the feeling that this research method enables me to store this information longer in my memory and helps me to recapture the often vague, germinal composition idea after a few days of non-composition work. The availability of various data and verbal accounts has also changed my composition method with respect to longer incubation phases. When I listen to my last draft after a few weeks or even months of non-composition work, I can easily make a fresh review of my composition. This is a procedure from the past that I still apply. But now I have added a next step that consists of going through some of the past sketches, recordings and the verbal accounts. This again helps me to re-imagine the world of that specific composition again, faster than in the past.

Limitations and conclusions

To what extent can other composers or artistic researchers use the methods presented in this self-study to further enhance their reflexivity on their creative work? Performing this study consumed quite a lot of time and energy but thanks to the availability of research time (I am appointed to do artistic research) and to my

enthusiasm (I could combine the functions of being the research subject and designing and performing the study), this was not problematic. I also have a research assistant who transcribes the recordings of the verbal accounts, which is a time-consuming activity. Because of this work load, it remains dubious, whether this method is currently applicable to professional, non-researcher composers, although this is open to experimentation. Perhaps it would be more realistic to study a shorter time period in these cases. But the individualized setting has potential for other composers-researchers who want to study their creative process, especially the general guidelines to design a data collection method. To this should be added though, that the computer still plays an important role in my creative process, although it is smaller than in the cited studies by Collins (2005) and Newman (2008). It would require creativity, based on my guidelines, to find real-time data collection methods that fit a radically different artistic working method.

It is also important to note that this self-study is not a 'frame analysis' study (Schön, 1983). In general my self-study focuses on the individual creative process and on all the ideas, decisions, thought processes and activities that shape this process and take place within it. How the broader context (my personality, the contemporary classical music scene and its performance culture, social and political relations) may shape my process, is not part of this study.

To conclude, this self-study has produced a large amount of diverse and in-time data of my creative process as a composer. In general I have been able to continue my activities as a professional composer with a minimal level of obstruction caused by the data collection methods. A future analysis will have to meet the expectations produced by this data and determine whether a multi-layered description of my creative process is possible. At the same time the reflection on my composition practice has provided me with important insights into individual problems and processes that arise when I am composing. Although the details of some methods and insights might be too individualized to be transferred to other cases, the general lines of this study are thought to be usable in other studies of the creative process. The fusion of compositional 'housekeeping' procedures and research data collection methods on the one hand and the use of mobile technology which has pervaded the everyday life of so many people and composers on the other hand, are the two most important guidelines to enhance the traceability of the creative process.

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