

Teaching and Learning Electronic Music Composition

Joachim Heintz

Hochschule für Musik, Theater und Medien Hannover | Germany

Abstract: In this essay, composer Joachim Heintz presents his ideas and pedagogical strategies on teaching electronic music composition, specially within the current model found in universities around the globe. One of the important aspects investigated by Heintz is the complexity between teaching music composition and programming / instrument design, as well as the roles of professor and student (and what it means today). Through an organic and didactical methodology, Heintz describes his thoughts on teaching electronic music according to the German reality in universities and Hochschule: collective weekly seminar meetings and individual one-hour lessons. [note by editor].

Keywords: electronic music, music composition, improvisation, instrument design, pedagogy.

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Old Chinese master Xuedou Zhijian was asked about his way of teaching. When guests come, you should welcome them, he said.

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Is it allowed to compare students of electronic music to guests? Students who pass an entrance exam. Students who want to receive information and education. Who want to become professionals. Students who will evaluate the teaching and will be evaluated (judged) by the professor, be it at the final exam or even each semester, perhaps a grade for each piece? And is it allowed to compare teaching electronic music composition in any way to teaching in a religious context and to negotiation about the way in which life can be lived as it should?

Of course, it is not allowed. It is ridiculous and perhaps even dangerous. We are teaching electronic music composition in the frame of a university, with clear regulations and conditions, with paying and being payed, with rights and duties for both sides, the professors and the students. One of the many formalised and regulated relationships in which we live in modern societies.

It is not. But only if we arrive at this reality, if we enjoy to sharing meals, in different roles, we will come to what teaching and learning electronic music composition really means.

3

The core is music and composition. Music, the huge, vast, present world of sound in which we live. *I remember as a child loving all the sounds*, says Cage in his *Lecture on Nothing*. Composition, the dedication to this world of sounding entities, the desire to give it a place, a space, a possibility to exist and to be heard by others. The desire to express perhaps, be it expression of an inner or of an outer reality, question, pressure, very much depending on the person and their experiences, position, personality. Who am I? What is music in my life? What is my music for others? Which music has formed me? Which music do I want to write?

4

Similar to language, music is something beyond individuality — it cannot be thought of as belonging only to one single person. Nevertheless, it is eminently subjective and individual. Music is both, simple and mystic. It is a simple thing that sound is there and can be heard. But its effects, its ability to evoke emotions, its connection with rituals and magic seem to include a secret which resides inside music.

Music in itself, as well as teaching and learning music is situated in the tension between these poles: the simple and the complex, the social and the individual, the obvious and the hidden.

5

So, what to learn now, and to teach, about music. Learn how composers in the past have put their questions, have searched their way, have found their forms, have developed their material, have come to their compositional decisions. If we analyse music like Cage's *Williams Mix*, Xenakis' *Hibiki Hana Ma*, Ferrari's *Visage*, Nono's *Sofferte onde serene* or Zimmermann's *Tratto*, we will not get the answer about “how to compose” (one of the most absurd questions to put at all), but we will gain knowledge about some ideas and motivations of composer colleagues, and we can study how they worked out their ideas.

6

What is this working out? What is composition, not as result, but as process from the initial idea during a considerable amount of time to finally a piece of music at its end?

I think it is this: to figure out which questions arise and trying to solve them. Or to say it more musically: listen to the questions your music is putting, and find answers to them. This is an abstract formulation for something which is very concrete in the process of working, always different from composer to composer and from piece to piece. I believe that by this procedure we not only learn how to compose, but also how we should act as teachers and students in electronic

music composition, meeting once a week for one hour in a one-to-one lesson (which is unfortunately not the normal case in many countries although it should be, in my opinion).

7

If composing is basically to put questions, the main job of a teacher is to put questions, and to look for the right question at a certain moment. The right question is the question which meets the student as much as possible. This has several aspects: meeting the student in his/her situation of working on the piece; meeting the student in his/her situation of creating music in general; meeting the student in his/her knowledge about electronic music and its background.

Meeting the situation: Usually we experience different steps or phases in the process of composing. Sometimes the question about the form of a piece arises at the very beginning of the process; sometimes it is the last step. Sometimes the question about pitches arises early and requires a systematic approach; sometimes the pitches develop from a starting point, perhaps a melodic phrase or a quotation, and form their own space, flowing, only requiring to be watched and accompanied. Sometimes rhythms have to be worked out and become a leading layer in composing; sometimes a piece needs more decisions about durations, time brackets or proportions than about rhythmical structures.

Mostly there is one aspect of the work, in the moment when the teacher meets the student, which is most important, perhaps crucial for the progress of work. The teacher should try to find this question and propose it to the student. From teacher's point of view: Be aware that a question which does not meet the current situation of working on the piece can hinder or even block the process for the student. It is not always the time to ask for form, pitch, rhythm. Never ever consider your questions as a list which you have to execute. Be open to find questions you never put before.

8

And be aware that you don't put your question to an abstract human being learning composition. Instead, here is one particular young composer, with a particular personality, with particular strengths and weaknesses, both in composing music and in composing his/her life. Some

students need a lot of support and confirmation. They feel anxious and doubtful, they have problems to start a composition, problems to try things out, or problems to finish a composition and accept it as a preliminary result. Although the teacher may have some questions about form, sound selection, timbral relationships or gestures, they will decide not to put these questions now, if they feel it would block the student's work. Other students, in contrast, may need to be stopped at some time from their usual run, if the teacher considers this run as repeating always the same or missing some deeper questions. For this intervention, usually the teacher needs to know the student for a fair time, to feel sure enough in putting a question which might disturb the student's workflow or create a conflict between teacher and student. But teaching should not avoid conflicts. Teaching is not wellness in the primitive sense of always being nice and affirmative. The real wellness can only happen if both, teacher and student, dedicate their time and their relationship to the composition.

9

For the student, this dedication mostly means: to work. Learn what your idea requires. Learn what the next question is. Learn how you can find your own solution for this question — a solution which perhaps learned something from Varèse, Cage, Xenakis or Zimmermann, but will nevertheless be your own solution, it be because of the methods, because of their applications, or because of their meanings.

For the teacher, the dedication to the student's composition mostly means: be a good companion. Be supportive for both, the student and his/her music. Make sure you do not mix up the student's music with your own music. (Both may require quite different questions and answers.) Try to feel when there is a conflict — be it a conflict between the student and his/her music, as the music requires something which the student is not recognising or not accepting, or between your point of view and the student's point of view. Don't avoid these conflicts but find a way to speak about it with the student; find a way to solve the conflicts together as partners. Consider yourself as teacher as learning in every single meeting together with the student. Be a partner in this learning collaboration, but never abandon your role. You will have accomplished your job when your student does not need you any more in his/her self-confidence and self-

criticism, in putting questions and solving them as well as possible. Remain in this role until this point has been reached, regardless of other relationships you may have with the student.

10

No word so far about the many subjects which are to be learned in electronic music composition: bit depth and decibel, tuning systems and programming paradigms, recursive functions and critical band, waveshaping and Fourier transform. If teaching and learning electronic music composition goes well, these subjects are part of the general approach: figuring out the next question and work on it. In instrumental composition, this question usually includes something specific about the instrument(s): which pitches are possible on this instrument, what is the way to play them, what meets the instrument or is against it. In electronic music composition, the next question usually includes some technical questions: how can I accomplish this sound modification, how can I trigger a sound by a certain condition, how can I write a function to detect an onset of this instrument, how can I find a timbre which combines qualities from granular and from additive synthesis.

11

Ideally, the division of work between teacher and student in this technical domain would be like this: The teacher points to a subject which arise in a certain situation (if the student is not already aware of it or asking it) and suggests the student to read about it. For instance: what is a band filter, and how does it sound here, if you apply it to this sound of your piece. The student will then read about the technical background and will try to implement or apply it in a given software. In the next meeting, the student will get back with questions and problems.

This would be the ideal way of teaching all these subjects and apprehending all this knowledge. Everyone can read and understand this stuff on his/her own, and everyone should learn during their studies how to read scientific books or learn programming languages. There is nothing in it which is in a similar way important for the student's music as discussing compositional questions, the central subject in the meetings.

Unfortunately, the reality is not like this. Many students expect to be fed with well-portioned knowledge rather than reading books on their own or watching good tutorials. And many teachers understand electronic music composition as transmission of knowledge about hard- and software, thus degrading their teaching to technical service, and degrading music to the application of software. The reasons for this are manifold for both, the students' and the teachers' sides. I am not accusing students of being lazy and illiterate, and I include my own teaching practice to a certain degree in the critique of focussing too much on technical issues. The reasons are manifold and beyond moral judgements, but it is not good anyway, and the sounding results can be heard often: music which is not composed.

12

But is electronic music composition really something traditional like someone sitting at a table, with sheets of paper in front and a pencil in hand, developing rhythms or chords, as Lachenmann, Schoenberg, Brahms and Beethoven did? What about other traditions, like Noise, Conceptual, Sound Art? What about improvisation, what about performance? What about Multimedia?

We need to be open for new developments and for new contexts in which music can be played and received beyond the classical concert (which has its right but is only one way to share and experience music). And I am glad to work in a field in which the technological development leaves a direct footprint and in which many different musics and traditions meet. I like improvisation; I developed *Alma*¹ as software instrument for it and had many concerts with different partners the last years. I spent some years in a performance arts group and contributed electronic music for two pieces of this group. But I believe that especially in these times in which many traditions seem to be abandoned in favour of a “disruptive” new app or technology — it is important to pass some knowledge which is not a knowledge about technology but about art, music, composition. I am convinced that we lose something essential if we lose a certain quality of this tradition: the musical

¹ Alma is not a piece, but an instrument. It can be used to improvise or compose. More information is available at: <http://joachimheintz.de/alma.html>. Access on 04 jan. 2020.

imagination which is based on inner hearing; the knowledge of the musical material which is always new but has strong connections to the past; the ability to work out this material, to study and develop it, both with a pencil and with a computer. And I am convinced that as composers we have a rare chance, important potentially for anyone else: to connect ourselves with each other and with the world of sound not in ruling but in listening. Our job is to listen to the questions the music puts to us. In this job we connect ourselves with many past and present composers and musicians not only in Europe but in many different cultures in the world. And this common listening is the base for teaching and learning electronic music composition, it is the base for the meetings between teachers and students. Through this we can share meal, and sometimes even forget who is host and who is guest.

ABOUT THE AUTHOR

After studying Literature and Art History, Joachim Heintz began his composition studies with Younghi Pagh-Paan and Guenter Steinke in Bremen in 1995 at the Hochschule für Künste. During the course of his studies in Bremen, he worked intensively in the electronic music field and also with mixed media such as video. He is the head of the electronic studio FMSBW at Incontri, the institute of new music at HMTMH (Hanover University of Music Drama and Media), taught Audio-Programming at the HfK Bremen and is a member of the Theater der Versammlung in Bremen. He is engaged as a co-developer in the Open Source projects Csound and CsoundQt and hosted the First International Csound Conference in 2011 at HMTMH. His list of works includes pieces both for instruments and electronics, for concerts, sound installations, and as theatre music. His music has been performed all over Europe, Asia and America. E-mail: jh@joachimheintz.de