



Marco Stroppa

Hochschule für Musik und Darstellende Kunst, Stuttgart (MHS)

Teaching composition and computer music in the time of social networks and the world-wide-web:

**challenges
motivations
provocations...**

Case study at the MHS

MHS = Conservatory **NOT University**

Employer: Region (Land)

Same conditions as universities

Less research, more teaching hours (20)

Profile of students (KA → BA/MA/KE)

- a. Instrument**
- b. Composition**
- c. Music Theory**
- d. History of Music**
- e. Schulmusik**
- f. Kirchenmusik**

Orientation:

pragmatic, rather than theoretic

Personal choices

a. critical international compatibility

- a. further work at institutions**
- b. less emphasis on home studios**

b. “polyphonic” learning

- a. eggs and basket(s)**
- b. depth / superficiality / intellectual efficiency...!**

c. critical mind

- a. show many doors that students open alone**
- b. rather than “exploring” a single “room”**
- c. issue: free software vs. paid software**

Composition as research?

Computer Music as research?

Composition as...

a. thinking?

b. verbal thinking?

c. rational thinking?

d. other?

Assumption:

Research → Science → Natural sciences

Hypothesis

Music as sensible thought

ASSUMPTION

- Research **IS** scientific research
 - biological & physical sciences (natural sciences)
 - paradigm of reduction (simplified model)
 - disjunction and extreme specialisation
 - incapacity of reflecting the social and cultural uprooting
- Neglect of human sciences (anthropological/social)
- Dissociation between science and philosophy
- Res extensa vs. ego cogitans (Descartes) → Popper (critique of science) or Morin (complex thinking)

Music as sensible thought

- Each “composer” is a “researcher” (of new sounds, forms, materials, structures, etc.)
- Notion of “progress / innovation”:
Lachenmann > Henze??
- Artistic thinking as an expression of sensible concepts
 - attempt to communicate
 - not only a brut(e/al) stream of emotions
- Difficulty: hard to communicate (verbally, logically)

Bibliographic reference

→ Interview with J. Dautrey, N. Donin and C. Béros:
*Pensée conceptuelle et pensée sensible en
musique.*

Partial translation by Elena Ungeheuer:
Klangforschung in Musik (Kehrer)

How technology can help??

What to expect from a student?

The “case” of the CNSMDP...







CONSERVATOIRE NATIONAL SUPÉRIEUR DE MUSIQUE - PARIS

The case of Liu Jialin

**Bachelor Student in Composition
in Stuttgart
from Central China**

**1st piece for trumpet, double bass tuba,
contrabassoon and double bass**

→ youtube apprenticeship...!

**Foreign (MA) students
from linguistically distant countries**

→ Wiki-names!!

Teaching Composition: goals

a. spur the student's creativity

- a. make him/her write good music...!
- b. NOT ONLY show knowledge...!
- c. Creative (originality) vs. scholar (exhaustiveness) approach

b. each case is unique → no “presets” possible!

- a. social and family background
- b. education
- c. sensitivity → individual needs

c. technical competence

a. objective

- i. knowledge of instruments (internet, partially)**
- ii. knowledge of repertoire (youtube recordings, little scores)**
- iii. notation (extended techniques, rhythm, etc.).**

b. subjective

- i. quality (aesthetics)**
- ii. personal (importance of the original “idea” or “concept”)**

c. historic

- i. was the issue (more or less) tackled before?**
- ii. how much difference from the student’s issue?**

Teaching Computer Music: challenges

a. Technical (DSP)

- a. Frequency/Time trade off in FT
- b. Filter(s) → resonance
- c. Formant → time/frequency relation
- d. Synthesis Techniques

b. Aesthetical (DSP)

- a. what is a “good” sound?
- b. what is a “good” control?
- c. what is a “good” development (level of sound)

c. Technical (live interaction)

- a. what it means compositionally?**
- b. what it means technologically?**
- c. what it means for the performer?**
- d. what it means for the audience?**

d. Aesthetical (live interaction)

- a. what is a “good” interactive piece?**
- b. which kind of thought founds it?**
- c. which kind of experience it suggests?**

Bibliographic reference

→ *Live Electronics or... Live Music: towards a critique of interaction.*

Contemporary Music Revue, Vol. 18, Part 3, pp. 41-77, 1999

→ *For the Abolition of Real Time: in quest of a musical interaction between humans and machines.*

in preparation, Proceedings of the Symposium on Interaction, IReMus (Institut de Recherche en Musicologie), Sorbonne University, Paris

e. Technical (computer-aided comp.)

- a. what is a well-expressed problem?**
- b. what is an “elegant” solution?**
- c. how well the solution expresses the problem?**
- d. does it go further than the problem itself?**
- e. how efficient is the solution?**

f. Aesthetical (CAC)

- a. “good” formalisation → “good” music?**
- b. how does CAC relate to the perception?**
- c. is a compositional “wysiwyh” meaningful?**
- d. CAC: skeleton or skin?**
- e. is the problem per se “aesthetic”?**

**Technological danger
in educational institutions
(TeDEdIn)**

**Hypertrophic “monody”
(ex. Max, Live, csound, Cubase, ...!)**

Learning strategies

Trial-and-error

- help-patch syndrome
- plugins syndrome

Understanding

- till where (full theory or phenomenology?)
- reading manual(s) or addressing concrete and personal issues?

Programming is mentally healthy for composers!!

Quotations from:

Structure and Interpretation of Computer Programs,

Harold Abelson and Gerald Jay Sussman with Julie Sussman

The MIT Press Cambridge, 1996

The acts of the mind, wherein it exerts its power over simple ideas, are chiefly these three:

1. Combining several **simple ideas** into one compound one, and thus all **complex ideas** are made.

2. The second is bringing two ideas, whether simple or complex, together, and setting them by one another so as to take a view of them at once, without uniting them into one, by which it gets all its ideas of **relations**.

3. The third is separating them from all other ideas that accompany them in their real existence: this is called **abstraction**, and thus all its general ideas are made.

John Locke, *An Essay Concerning Human Understanding* (1690)

Educators, generals, dieticians, psychologists, and parents program. Armies, students, and some societies are programmed. An assault on large problems employs a succession of programs, most of which spring into existence en route. These programs are rife with issues that appear to be particular to the problem at hand. To appreciate **programming as an intellectual activity in its own right you must turn to computer programming; you must read and write computer programs -- many of them. (..). What does matter is how well they perform and how smoothly they fit with other programs in the creation of still greater programs. The programmer must seek both perfection of part and adequacy of collection.**

Underlying our approach to this subject is our conviction that **“computer science” is not a science** and that its significance has little to do with computers. The computer revolution is a revolution in the way we think and in the way we express what we think. The essence of this change is the emergence of what might best be called *procedural epistemology* -- the study of the structure of knowledge from an imperative point of view, as opposed to the more declarative point of view taken by classical mathematical subjects. Mathematics provides a framework for dealing precisely with notions of **“what is”**. Computation provides a framework for dealing precisely with notions of **“how to”**.