

Live Random Concepts and Sight-Reading Players: The Role of the Computer in the Era of Digested Digitalism

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The author's three compositions discussed here create live performances comprised of sound events of determined, foreseeable variability with the aid of a computer. Performers have laptops in front of them; their predominant role is score synthesis, not sound production. What the monitor shows must be sight-read and realised musically ad hoc on stage. A fixed, overarching time grid within the software generates the piece's formal structure by determining section lengths as well as the total duration of the performance. Different renderings of the same piece share recognizable features, but details within this general framework are created afresh in real-time by the computer. These changes create a situation in which the musician is sight-reading live and result in a performance that lies somewhere between a traditional composition and improvisation.

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Background

Rehearsals take place before any musical performance. They allow the musician to practise a final, static version of the music that is meant to sound the same in every performance. Improvisation, on the other hand, grants players a maximum amount of immediate freedom, as long as they do not slip into clichéd patterns they have used for years beforehand.

In the early 1990s, some of my pieces were bringing 'open form' and electronics together; they were neither a fixed musical text, nor a free improvisation. Some of my ideas relate to the work of Italian composer Franco Evangelisti who, in the 1960s,

envisioned a new soundworld that would permit ‘instantaneous composition’ aided by electronic means; he also made a clear distinction between the terms ‘aleatoric’ and ‘random’ (Evangelisti, 1991, p. 29; Muenz, 2002, pp. 7–11).

***deChiffrAGE* (1993) for Sight-Reading Speaker and Random-Controlled Laptop Computer**

This piece was conceived as an obituary for John Cage. The premiere of the German version took place in the commemorative concert ‘Not wanting to say anything about John’ on 4 December 1993 at the Kunstverein in Cologne, organized by the Cologne chapter of the International Society for Contemporary Music, with Marcus Windhagen as the speaker. Other performances have included Czech, English, Polish and Italian versions.

During performance, a laptop on stage transforms the given text within programmed time brackets through different compositional stages. Since the engine does not understand the text, and operates randomly, it assembles the linguistic material independent of context. Vestiges of sense appear like in a distorting mirror, with the audience perceiving the material as oscillating between speech semantics and music.

Any pre-existing text may be used by the software.¹ It becomes misshapen first on the level of individual letters, then at syllable level, then at word level. Finally, a short excerpt from the original text appears, in unmodified form, with the words separated by rather long pauses. This progression towards recognition of linguistic meaning is common to all performances of *deChiffrAGE*; it guarantees that the piece becomes increasingly semantic. However, in the end, listeners are again unable to understand the meaning of the speech (Muenz, 2004, p. 64).

deChiffrAGE constitutes my point of departure for a whole series of compositions that play with the audience’s perception of music and speech. Over the past seventeen years, numerous performances have taken place and listeners report continuously questioning themselves on whether they hear linguistic snippets in the sphere of word-semantics or music in the sense of a pitched and articulatory signal. *deChiffrAGE* touches on the fact that, on a neurological level, ‘the two domains may have a substantial degree of overlap’ (Patel, 2008, p. 86). The semantic level of speech, which is in the foreground in everyday conversations, is being obfuscated drastically and the brain oscillates back and forth between different modes of perception. Achieving this state of ambiguity seems an important factor for keeping the listener’s attention over the 7½ minutes *deChiffrAGE* lasts.

deChiffrAGE became a crucial point in my artistic development because I had created a kind of ‘anti-music’ by essentially jettisoning in a radical way everything that has to do with music (see also Nonnenmann & Muenz, 2004, p. 61). A ‘piece’ still exists despite the fact so many traditional determinants for the terms ‘music’ and ‘composition’ are absent. These terms, so much a part of traditional music, are rarely questioned, but *deChiffrAGE* demonstrates that they are not necessary for

constituting music. Spoken text serves as the sole musical material. What is being read is not a traditional manuscript. Conventional semantics and the communicative function of speech are consciously destroyed. The piece does not employ any trained instrumentalists or singers; anyone who can read text from a monitor may perform the piece. *deChiffrAGE* does not have a fixed score; this is codified within the computer program I wrote and the resulting on-screen notation is extremely variable.² No two performances are the same. The computer outputs what the speaker should read in real-time. The piece questions the role of rehearsals and the traditional concept of the composer bringing about 'logic coherence' in music. Context appears only in the audience's mind, with each listener creating their own musical meaning.

deChiffrAGE explores new modes of perception. Using real-time chance operations and sight-reading, *deChiffrAGE* represents a different approach from Cage's text works (such as *Silence*, *Writing for the Second Time through Finnegans Wake*, or *Roaratorio*) by excluding fixations that normally occur through practising and rehearsing. Still, the outcome of the piece is not an improvisation.

An extended version called *de[ux]ChiffrAGE* was premiered in 2004. Two performers sit at a table, each with a laptop running *deChiffrAGE*, and try to establish a dialogue from text material that is generated independently on their computer screens. This creates a grotesque prosodic interaction.

I have continued to work with de-semanticized speech in my music (see Muenz, 2004). *deChiffrAGE* ultimately also led to the foundation of my 'artistic speech art trio' *sprechbohrer* in 2004, which specializes in performing pieces that blur the lines between experimental literature and music.

***standArts* (1996) for Sight-Reading Clarinet Player and Random-Controlled Laptop Computer**

This project was realized in close cooperation with Volker Abel (for details on his research see Abel, 1992 and Abel et al., 1992), who did the programming work. The premiere took place in 1996 in the *hören-sehen* concert series at the museum *Kolumba* in Cologne with the dedicatee David Smeyers playing the clarinet.

In *standArts*, my goal was to apply the *deChiffrAGE* concept to instrumental music. During the performance, a clarinetist sight-reads what the computer generates in real-time. In line with my 'open' compositional thinking, and instead of utilizing traditional musical notation, I used a series of stylized pictograms (icons) to represent fundamental musical parameters. These icons fall into three categories: 'basic phenomenon' (sustained vs. accented sound, sound patterns), 'sound quality' (single note, dyad, multiphonics, side noise, etc.), and 'inner pulsation' (trill, flutter tongue, vibrato).

Pitch, dynamics, articulation and connectedness/disconnectedness between two events are represented graphically as well. All icons were designed with a sight-reading musician in mind, and are meant to serve as 'models for musical behaviour'. Later I employed similar icons in printed scores (e.g. *Seven Graphic Sheets*

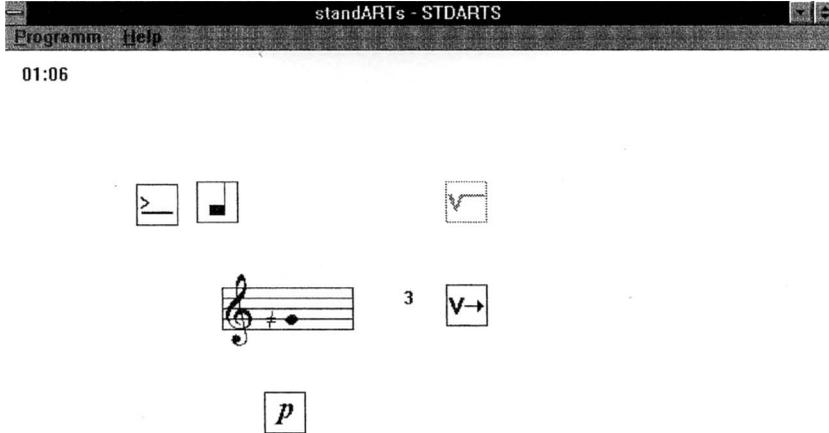


Figure 1 Screenshot from Harald Muenz's *standArts* for sight-reading clarinet player and random-controlled laptop. The central set of icons requires a G3 stop raised by a $\frac{1}{4}$ tone held for 3" in *p*. The icons in the upper row ask for an initially accentuated (left) mere noise sound (rectangular note head) to be played *senza vibrato* (right, the shaded icon indicating it has already been present in the preceding event). Icons with an arrow suggest a gradual change of the given parameter; in this case vibrato must be constantly added.

[1996/97] and *ope-seynsu*. (*n*)one sound installation for piano and random controlled CD [2001]). Without allowing free improvisation, they codify basic musical phenomena in a binding way, while still entrusting many performance details to the player. A manageable number of icons relating to different parameters are shown simultaneously on the screen; they are to be realized instantly and replaced by new ones.

'Normal' clarinet tones appear alongside extended techniques such as flutter tongue, multiphonics, or breath noises. By shifting the weighting between sounding events and rests towards the latter, events are singled out, forcing the listener's attention onto their inherent qualities and preventing the creation of overarching traditional 'musical tension' (see Muenz, 1996, p. 49).

***The SelfComposer* (1999–2002) for Sight-Reading Oboe Player with a Laptop**

The SelfComposer was again realized with Volker Abel, with kind financial support from the Kunststiftung NRW foundation and the aid of Simon Strasser, oboist of Ensemble Mosaik (Berlin), who performed the premiere in 2002 at their Audible Interfaces Festival in Berlin.³ Here, an oboist plays the computer-generated material on stage *a prima vista* from the screen of a laptop computer, which shows pitches in a traditional manner, while durations are given as a special form of space notation. A running cursor indicates the current tempo.

What happens in principle, from a compositional point of view, involves an intermittent series of formal blocks in alternating tempos, one accelerating and one slowing down over the course of the piece. As basic material, 23 short extracts from the orchestral repertoire for the oboe are stored inside the computer. These excerpts are drawn from notoriously difficult passages of the operatic and concert repertoire, the kind that would be presented in orchestral auditions. The selection comprises, among others, Bach (*Matthäuspassion*, Aria no. 20), Beethoven (3rd Symphony, 2nd movement), Brahms (Violin Concerto, 2nd movement), Smetana (*The Bartered Bride*, Overture).

Without directly revealing the original score, the computer selects two of the pre-stored test pieces and generates new melodic lines from these 'beautiful passages' (see Adorno, 1984) by combining them in various ways and displaying the results on the screen. Many of these choices are random, and therefore the wind soloist never knows what will appear next, and must sight-read the displayed notes in real-time.

During several sections, the computer enters into competition with the player. First, it plays in unison with the oboe, the second time it adds microtonal content to what the oboe is playing. During its next appearance, the computer complements the player through imitation. Finally, to top it all off, the tin-can-like object suddenly clangs in virtuous figurations, too quick for the oboe to match, thus creating a felicitous contrast to some particularly slow *belcanto* notes played by the musician.

On an aesthetic note, my critical approach to 'computer music' examines the notions of technical perfection and compositional craftsmanship in the age of mechanical reproduction: there is a gap between the human struggle to make music and the artificial grace of machine-produced sound.

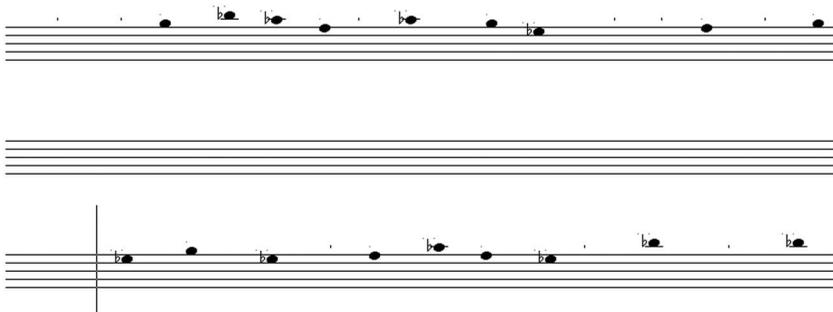


Figure 2 Screenshot from Harald Muenz's *The SelfComposer* for sight-reading oboe player with a laptop. Rhythm is given in space notation; the tiny 'commas' indicate a 1" time ruler. The long horizontal line is the running cursor indicating tempo and actual playing position.

Conclusions

Increasing the amount of freedom available to composers, performers and the audience during a traditional concert led me to focus on the impact real-time notation has on the performer. Spontaneous reactions fill gaps in the notation; practising details is not possible. This may be seen as a criticism of 'rehearsal culture', but free improvisation is never intended: the pieces require careful preparation by the musician to familiarize themselves with the notation and flow of the performance.

The aura of 'pure' concert music is partially abandoned; the term 'concert installation' could be applied. Performers appear on stage in concert clothing, with dress suit and white shirt. The use of a laptop is key. The musicians appear with their instruments and a laptop under their arms; they put it down, open it, and play whatever is displayed. This is a behavioural pattern similar to businesspeople working on their spreadsheets; for many, computer music has become business-like.

Many issues 'between the fallible-corporeal and the fixed-disembodied' in so-called interactive computer music have been addressed recently (Croft, 2007, p. 59). My 'live random concepts' reflect a different critical approach. I feel a moral imperative to criticize any blind positivism that has invaded electronic music and can sadly even be found in many 'scholarly' articles on the topic. Heinz-Klaus Metzger's *bon mot* 'the rank of an artist is not being measured by what he creates, but by what he abolishes' (Metzger, 2003) might serve as an explanation as to how I came to create 'fields of rubble' from which to begin again as a composer. Such radical language could be easily identified with my provocative mood when I was realizing *deChiffreAGE* nearly twenty years ago (see Muenz, 1996). However, the rampant objectification of art still disturbs me, especially when it occurs in combination with digital means of production.

The question whether a composer should take anything for granted (Muenz, 2009, p. 41) was an essential driving force behind my pieces from 1992 to 2005, in which I tried to challenge conventional notions about music, work, score, notation, and even the composer himself. But what does such a notion of 'avant-garde' mean today after modernism, experimentalism, postmodernism (and other *-isms*) have been digested? Couldn't one, in the meantime, call this an escape into a highly protected and, paradoxically, ultimately idyllic refuge? Consequently, over the last few years, I have thoughtfully explored instrumental music in traditional score format, without the use of any electronic or phonetic forces. The challenge to work with pitches and chords, rhythms and instruments is not meant as a return from 'non-music' to 'real music', but as research into new opportunities that might exist to create 'anti-music' with 'musical' means.

Notes

- [1] I personally always stick to the same text, which is the beautiful obituary for John Cage written by Helmut Lachenmann. It fits *deChiffreAGE* well, since it contains an ironic view of the situation, which we are experiencing during the performance of the piece. In essence, Lachenmann claims that Cage's 'disciples' have seized the American composer and are

misinterpreting him in a highbrow, philosophical way. He concludes that one should not usurp Cage, and instead of complaining about his death, rather keep silent or 'just work'. See Lachenmann, 1992.

[2] The programme was written in the language *BASIC*.

[3] A review of the premiere can be found in Anderson, 2002.

References

- Abel, V. (1992). The Mutabor II system of computerized intonation. In C. Barlow (Ed.), *The ratio book*, Feedback Papers 43. Cologne: Feedback Studio Verlag.
- Abel, V., Wille, R., & Reiss, P. (1992). *MUTABOR II: ein computergesteuertes Musikinstrument zum Experimentieren mit Stimmungslagern und Mikrotönen*, Preprint No. 1513. FB Mathematik. Darmstadt: University of Darmstadt Press.
- Adorno, T. W. (1984). Schöne Stellen. *Gesammelte Schriften*, 18, 695–718. Frankfurt am Main: Suhrkamp.
- Anderson, C. (2002). Audible Interfaces Festival in Berlin, Germany. *Computer Music Journal*, 26(4), 83.
- Croft, J. (2007). Theses on Liveness. *Organised Sound*, 12(1), 59–66.
- Evangelisti, F. (1991). *Dal silenzio a un nuovo mondo sonoro*. Rome: Semar.
- Lachenmann, H. (1992). Er taugt nicht als Ikone. *MusikTexte*, 46/47(December), 93.
- Metzger, H.-K. (2003). 'Wieviel Geschichte braucht Neue Musik?' [Interview with Stefan Amzoll]. <http://www.freitag.de/2003/52/03521601.php>.
- Muenz, H. (1996). Reagieren in Echtzeit. Der Computer als Klangerzeuger. Published in 2004 in: *MusikTexte. Zeitschrift für Neue Musik*, 103(November), 46–50.
- Muenz, H. (Ed.). (2002). *Hin zu einer neuen Welt. Notate zu Franco Evangelisti*. Saarbrücken: Pfau.
- Muenz, H. (2004). Begrenzungen überschreiten – die Ästhetische Phonetik als Brücke zu einem anderen Umgang mit Musik als akustischer Kunstform. *MusikTexte*, 103(November), 63–65.
- Muenz, H. (2009). Fortschritt des kritischen Bewußtseins. Heinz-Klaus Metzger nachgerufen. *MusikTexte*, 123(December), 41–43.
- Nonnenmann, R., & Muenz, H. (2004). Musik an den Rändern und Bruchstellen. Rainer Nonnenmann im Schrift-Gespräch mit Harald Muenz. *MusikTexte*, 103(November), 53–65.
- Patel, A. D. (2008). *Music, language, and the brain*. Oxford & New York: Oxford University Press.