

Johannes Auer, Beat Suter, René Bauer
Search Trilogy (2006-2011)

<http://edinburgh.netzliteratur.net/>

A computer is not a multimedia machine, but a text machine. Multimedia is only the surface, it is an interface as the screen or the loudspeakers.

Whenever a computer turns out multimedia, it becomes analogous.

At the symbolic level digital technology consists of layers of texts: Computer programmes, protocols, and even the 01 code is a text like the Morse code. If these texts are executed by the computer as computing instructions, they are called algorithms. The third important constant that characterizes our relations with the computer is the interaction.

For some time we have been busy working out how these three basic conditions of digital technology – textuality, algorithm and interaction – can be put into a productive artistic context. The hard nut here is the question of real interaction.

Real or authentic interaction in our view requires a counterpart that can react autonomously and interpretive. For example a chatbot like ELIZA does not qualify for real interaction, since in an interactive conversation it makes us realize after some time, that it is not acting independently but is programmed to respond. Authentic interaction with a computer would require artificial intelligence, and we can now simulate at best.

How may we therefore introduce computer-generated text and allow the audience an authentic interaction?

We believe this works only just by humanizing the output interface, for example by means of a speaker or musician who is able to interpret the generated texts and perform autonomously.

And that is exactly what happens in the performances "Search Lutz!", "search songs" and "SearchSonata 181" - the Search Trilogy.

Another constant of this trilogy is the use of words that are typed anywhere in the world in real time straight into search engines like Google & Co. These keywords are then picked up and processed algorithmically.

In the first part, in "Search Lutz!", they are inserted into texts (2006), in the second, in "Search songs" they are converted into sounds and melody (2008) and in the last, the "SearchSonata 181" (2011) the words are processed into phonetics that form the acoustic bridge between text and sound. All interfaces of the trilogy may also be seen and tested in the Internet.

Another constant in the Search Trilogy is, that an existing algorithm was incorporated into the programming as a kind of ready-made. In "Search Lutz!" it is the stochastic texts of Theo Lutz, an algorithm that was used in 1959 in Stuttgart trying to generate literary texts with the computer for the first time ever. The "SearchSongs" use a rule for computing that was already used for example by Johann Sebastian Bach, namely the rule that letters correspond to sounds of the acoustic scale (ie in the example of Bach B-A-C-H). The "SearchSonata 181" finally has incorporated a password algorithm.

Johannes Auer
"Search Lutz!" (2006)

<http://searchlutz.netzliteratur.net/engl/sprecher.php>

More than 50 years ago a calculator generated a literary text for the first time ever. This happened in Stuttgart, Germany.

In 1959 Theo Lutz wrote a programme for Zuse Z22 to create stochastic texts. Following Max Bense's (Stuttgartian philosopher) advice, he took sixteen nouns and adjectives out of Kafka's "Schloss," which the calculator then formed into sentences, following certain patterns. Thus, every sentence began with either "ein" or "jeder" ("one" or "each") or the corresponding negative form "kein" or "nicht jeder" ("no" or "not everybody"). Then the noun, selected arbitrarily from the pool of sixteen given nouns, was linked through the verb "ist" ("is") with the likewise arbitrarily chosen adjective. Last, the whole construction was linked up through "und," "oder," "so gilt" ("and," "either," "thus") or given a full stop. Following these calculation instructions and by means of this algorithm, the machine was able to construct sentences like:

EIN TAG IST TIEF UND JEDES HAUS IST FERN(A day is deep and every house is distant)JEDES DORF IST DUNKEL, SO GILT KEIN GAST IST GROSS(Every village is dark, thus no guest is large)

For the performance of "searchLutz!" I use a web conversion of Theo Lutz's programme that I wrote in PHP. The web interface generates stochastic texts on the basis of Lutz's algorithm but permits additional word input. The nouns and adjectives of the original vocabulary can be replaced by the audience during the performance by using a terminal. Furthermore words from the live search of the search engine could infiltrate the text generation process.

In 1959, computer texts were connotated as literary texts in two ways: Firstly through the "Kafka" vocabulary used, and secondly through corrections carried out by Theo Lutz. In a printed copy of a selection of stochastic texts he had edited, Theo Lutz corrected little grammar mistakes and missing punctuation marks by hand, and thus, contrary to programming acted as a "traditional" author. During the performance we refer to these literary features (or one could almost say there is no escaping from one's humanity) of the first computer-generated texts in two ways: First we do so through the co-authorship of the audience, secondly we have a professional speaker who is reading the so produced computer texts directly off the screen and is thus performing them as they were generated.

Johannes Auer, Beat Suter, René Bauer
"SearchSongs" (2008)

<http://searchsongs.cyberfiction.ch/>

SearchSongs captures the stream of words of a search engine's live search. This stream of words might be understood as an expression of collective desire, as the net's melody of yearning, which is played by thousands of people, who at any moment try to reach the

desired by means of a search engine. This melody of yearning is made audible by SearchSongs.

Words contain playable tones of the musical notation system (c, d, e, f, g, a, h, c, fis, ces ...). On one side SearchSongs' web interface shows the stream of words of the live search, on the other side there are lines of musical notes below which transform playable letters in musical notes. Non-playable letters define the length of a tone.

In ancient Greece there already was a notation system of letters that was used for indicating the pitch of a tone, and the length of a tone was marked with a symbol written above the letter. A traditioned example is the Seikilos epitaph dated from the second century B.C. The most well known example of a word set to music by a letter notation system is the B-A-C-H motif, which Johann Sebastian Bach repeatedly used in his compositions.

SearchSongs refers to traditional letter notation systems like the Seikilos epitaph and the B-A-C-H motif. SearchSongs accentuates the correlation between letters and notes in a more determined and concrete way. Furthermore the theme of musical improvisation is juxtaposed by a random generator, and the strict rules of the musical notation system is antagonized by algorithm. In this respect at the end the subjective search is being objectivized by the melody of the SearchSongs.

However the SearchSongs keep their personal momentum by making it possible for visitors and listeners to interactively insert own words into the stream of words. In our live performances a Cello-Player was performing the musical notes in real time. He acted as a human interface and - that is crucial - interpreted the music line as a human being with own intonation, emphasis and improvisation.

**Johannes Auer, Beat Suter, René Bauer
"SearchSonata 181" (2011)**

<http://searchsonata181.netzliteratur.net/>

SearchSonata 181 is the last part of the search trilogy on performing algorithmically generated texts. It refers to the important poetical categorization of artificial and natural poetry in Max Bense's work on aesthetics that started out with investigating mathematics in art. Artificial poetry may be produced by machines, it lacks personal and poetical consciousness, natural poetry is an ontological continuation of experiencing world. SearchSonata 181 now turns artificial poetry into natural poetry via an anthropomorphic interface for the output. But first inputs are made by searchengines and visitors of the website. Inputs into searchengines are words of yearning for human beings in the internet. With entering those words the searchers try to reach the desired. For a computer, structurally those inputs into searchengines correspond to passwords. So to speak passwords are the machine's words of yearning; the machine needs them to ask for access.

Computer programmes according to the FIPS 181 standard (Federal Information Processing Standard) are phonetic and soundpoetic text generators without inherent intention of producing art. FIPS 181 describes how to produce algorithmically secure but yet pronouncable passwords (We are grateful to Linus Suter for this reference). With its algorithm of FIPS 181 (Appendix A) SearchSonata 181 encrypts human words of search

and yearning as ready-made into sound poetry.

"Consistent poetry" according to Kurt Schwitters "is built up of letters. Letters have no sonic concept. Letters in itself don't have a sound, they only offer possibilities that can be tonally evaluated by the speaker."

The performance of SearchSonata 181 plays the generated texts back into real space: the message has to pass through the algorithm without getting caught there.

Conceptually, SearchSonata 181 is a highly complex mesh of language, encryption and tonality. It features interaction between human being, machine and net communication, between text input, text encryption, sound poetry, programming and real-time streams of words of a live search.

SearchSonata 181 is meant to be performed live. The premiere was held at the Filmwinter 2011 Festival in Stuttgart. Searchsonata 181 was interpreted by Regina Spindler. A simplified and very functional interface is used for live-performances.

Searchsonata 181 also has a different and distinct web interface that shows all steps of the soundpoetry process. Web visitors may participate in generating encryption-soundpoetry by input into the interface. It is suitable for installations as well.