

Generation: A Digital Aesthetic

The body as an organisation is obsolete. The artist's role becomes one of an evolutionary guide, a genetic sculptor, an architect of internal body spaces. Stelarc, 1984.

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Abstract

With the Internet fast becoming ubiquitous in the developed world, artists are finding new ways to not only express themselves, but to communicate with each other across geographically remote, and often politically volatile, regions of the World, often helping each other to meet and collaborate.

This paper and presentation is an overview of creative processes evolving through computer networks, the interactions and simulated/virtual communities that spawn from them and, more significantly, the art that is the process of remote interaction itself.

The Masters project *Ausländer und Staatenlose* explores the very new area of generative art practice, whereby computers, within a networked environment such as the World Wide Web, are used as an enhancer or, generator of new media content in concert with communities of collaborating artists.

Presented at Digital Aesthetics, Sydney 9 - 14 April 1996. It was accompanied by an original generative underscore. It opened with the lecture room in complete darkness. A single torchlight was used on my face whilst I performed a piece from *Ausländer und Staatenlose*.

This paper was presented a second time under the title, *Web as Generative Art*, at the Masters of New Media Lecture Series, RMIT University, 2 May 1996. It was published in the first issue of *Octarine*, an independent zine produced in Brisbane, Queensland, 1996.

The Web as Generative Art

The Web, and the Internet for that matter, are unlike any media we have ever known. Regardless of the hype, the Net is not a database, an encyclopaedia, a hyper-text book, the denizen of perverts and pedophiles, nor is it like a magazine. It doesn't even come close to competing with television. It is ephemeral, ever-changing, growing more like life itself than any media with which we may try to compare it with.

The Web is exciting! Computer networks are exciting! They are liberating media for some, enabling anyone with access to the technology to share something of themselves, and to discover new lands of thought and expression. This is a revolution. We are charging head first, all senses on deck, towards a transformation in the way we communicate, create and express ourselves. Despite what you may think now, given the outrageous(!) growth of Internet activity, it is still the most significant development in communication since wireless radio. It is akin to that of the printing press when exclusivity of the written word was smashed, when language was freed and people communicated to each other via the printed word. The downside was the gradual loss of oral traditions within many of our societies. Story-telling was largely replaced by story writing and reading.

Today, these traditions are being rekindled, and largely via the Net. Laurie Anderson remarks, "Technology today is the campfire around which we tell our stories. There's this attraction to light and to this kind of power, which is both warm and destructive."¹ We are spending more and more of our time in front of computers telling our stories or reading those of others.

The written word, it has been suggested, makes permanent what in oral language was permeable and ephemeral². Writer, Jacques Leslie, suggests that, "... in email, we've devised a written medium that partly undermines the assumptions of writing, that evokes the uncertainties of oral culture. Getting used to email [and the Web] ... may mean accepting its vast capacity to sew ambiguity"³.

People are telling each other stories every day via email, via IRC (Internet Relay Chat), within simulated environments such as MUDS⁴ and the popular Warner Entertainment Internet interactive (at the time of writing), The Palace⁵. They're forming new types of communities, warped and indulgent tribes, friendly, strange and sometimes decadent virtual villages unlike any we have ever known. The net is more like a mall than a super-highway. You can stop and talk to someone without fear of being run over.

We've come a long way since the days of stone and wood

How does the Web figure in all this? The Web, interactive Internet communities and games like MUDS are generative media; platforms for art, for expressions that evolve, change and never look and sound the same twice. The most engaging of sites are those that change as frequently as shelves in a supermarket. Some, as wine, mature slowly, growing in complexity and depth creating pathways and journeys, and perhaps new traditions and communal-cultures.

Designing and programming a site to change as frequently as, say, a screensaver, takes some doing. But it is possible to build layers of generative processes. For instance, embedded within the *Ausländer* Web site are soundscapes which, with the appropriate plugin, will play automatically

¹ McCorduk, P 1996, Multi-Mediatrix, *Wired*, 2.03, pg81.

² Denat, B (n.d.) The Hebrew University of Jerusalem, unpublished essay on computers and their impact on text.

³ Leslie, J 1996, Mail Bonding - Email is creating a new oral culture, *Wired* 2.03 pg42.

⁴ MUDS, Multi-User Dungeons.

⁵ The Palace [online] <http://www.thepalace.com> [Accessed April 1996].

when the page is loaded to screen. They will loop at five minute intervals. Whenever you return to the site these pieces will replay, but differently each time. Although composed, for all intents and purposes, they may be heard in many chance combinations.

Prefering to begin a compositions from a system, a scheme for the basis of the work was derived from five notes relocated anagrammatically to create compound chromatic clusters or chords. They were then dispersed over nine bars which were, in turn, cycled over 81 bars. The compositions were then looped, generating fresh variations of their 45-note, 9-chord, 81-bar seedlings.

They were composed with a remarkable piece of sound design software called, *KoanPro* (see the paper *Generative Sound for Interactive Media* for an explanation of Koan). All pieces created with Koan are interpreted and composed in real-time, generating different versions of a composition every time it is played so that it is never heard the same twice.

Brian Eno has enthusiastically adopted Koan, creating a *Generative Music* installation at the 11th annual Music Festival of *Urban Aboriginals* in Berlin, and an album on diskette called, *Generative Music 1*. Eno suggests that kids in the future will wonder why we ever used to listen to the same piece of music over and over again.

Generative music not only challenges the way we listen to music, it leads us to re-think our notions of interactive-multimedia, our notions of a digital aesthetic. The digital realms offer us the opportunity to not set our ideas in stone, but to allow them to grow and manifest new forms. We're seeing the demand for this already in the simulated worlds such as LamdaMOO and the YORB⁶, spaces that are evolving even as we speak. Brian Eno says of computers, "I think the best thing about computers is that they can grow things from seed...".

Computers need not only be used as a means for storing and replicating information. They can be used as the creator, as the generator of new media content. Author Stephen Holtzman suggests that computers are "...the ultimate manipulators of abstract structures"⁷. And we, the great abstractionists, need only fuel them to maintain our exploratory quests, wherever they may lead us...

⁶ Cox, D 1996, USA, UK & Holland, *Satellite Dispatch*, [online] <http://www.toysatellite.com.au/news/onroad/cox/7.html> [Accessed April 1996].

⁷ Holtzman, S 1994, *Digital Mantras - The Language of Abstract and Virtual Worlds*, ISBN 0-262-08228-4.

The Sound Came

The Sound Came was written by Persian writer and former political refugee, Mammad Aidani. It was written in response to the first generative sound pieces I had composed. I performed *The Sound Came* to a generative underscore at Digital Aesthetics 1.

*the sound came,
was it a voice in the depth of ocean colours within the depth of the difference talked to the
heart of atmosphere and then again the sound came
seeing the yellowness of a thing in the heart of shapes something came
waves danced and lines in the insightfulness of the heart of a human being
the machine was employed
it was there as a tool
but it did the job for the sound*

*the voice came
the multiplicity of colours beige, blue, red, grey and all of them
in a shape danced together
there was a heart
yes, it was there
it danced too*

*the atmosphere shaping the space inside itself gave the shape of whiteness of sands
steps walked
you could see them
they were talking about a life
they came too with the music*

*a picture from above perhaps broke all the lines
colours in parrallellness of the thing talked
what colours there were
and they all came through the screens
and the voice in the ear sang wordless in the space
when it continued whithin the sphere of circles.*

Postscript

Since this paper was written as an early attempt to give the evolving Web a context for art, the use of algorithms in artworks has become widespread. In particular, real-time processing of sound and image, involving the generation of new ideas and relationships is developing at an astonishing rate. For example, the works of Global Visual Music⁸, Gary Zebbington, Troy Innocent⁹, Professor Celestino Soddu¹⁰ and Toy Satellite are contributing to the emergence of a media that will not stand still for idle minds.

⁸ Sorensen, V, Puckette, M, Steiger, R 1998, University of California, [online] <http://www.visualmusic.org> [Accessed July 2000].

⁹ Innocent, T 2000, *Iconica* [online] <http://www.iconica.org> [Accessed July 2000].

¹⁰ Soddu, C 2000, *Generative Design Lab Politecnico di Milano University*, [online] <http://www.generativeart.com> [Accessed July 2000].