2004 • Press

Golan Levin

Select books, critical reviews, published interviews, and press clippings. Ordered chronologically.

Besides technological developments, the evolution of digital sound and music was shaped by a multitude of earlier musical experiments that pointed to the possibilities of the new medium. John Cage’s work with found sounds and rules, or Pierre Schaeffer’s *musique concrète*—a term Schaeffer coined in 1948 for composing with materials from an existing collection of experimental sounds— are highly relevant to the digital medium’s possibilities of copying and remixing existing music files. Brian Eno’s sound environments and Laurie Anderson’s audio-visual installations/performances also had a profound influence on developments in digital sound and music. Apart from remix and DJ culture, artistic digital sound and music projects are a large territory that includes pure sound art (without any visual component), audio-visual installation environments and software, Internet-based projects that allow for real-time, multi-user compositions and remixes, as well as networked projects that involve public places or nomadic devices. Many digital artworks, from installation to Internet art, involve sound components without being specifically focused on musical aspects. The projects described below are just a few examples of the use of digital technologies in the field of sound and music.

Among the artists who have explored communication protocols in the simultaneous creation and interconnection of image and sound is Golan Levin (b. 1972), an artist, composer, performer, and engineer who received his degrees from the MIT Media Lab, where he studied with John Maeda in the Aesthetics and Computation Group. Levin’s *Audiovisual Environment Suite* (1998–2000), an interactive software that allows for the creation and manipulation of simultaneous visuals and sound in real time,
strives to establish inherent, ‘organic’, and fluid connections between the unfolding of musical and visual form. Many of the digital media projects focusing on the combination of visuals and sound stand in the tradition of kinetic light performance or the ‘visual music’ of the German abstract animator and painter Oskar Fischinger (b. 1900).

The concepts of multi-user environments, gaming, and file-sharing are central to John Klima’s (b. 1965) software Glasbead, (1999), a multi-user collaborative musical interface, instrument and ‘toy’ that allows players to import sound files and create a myriad of soundscapes. The interface consists of a rotating, circular structure with stems that resemblehammers and bells. Sound files can be imported into the bells and are triggered by flinging the hammers into the bells. While Glasbead creates a contained world where sounds and visuals enhance each other, it allows up to twenty players to remotely ‘jam’ with each other. The project was inspired by Hermann Hesse’s novel Das Glasperlenpiel (The Glassbead Game, published in English under the title Magister Ludi), which applies the geometries of music to the construction of synaesthetic microworlds.

The participatory, networked creation of soundscapes is also increasingly explored through the use of portable ‘instruments’.
Expanding his musical work into the realm of nomadic devices, Golan Levin (with nine collaborators) created *Telesymphony* (2001), a performance where sounds were generated by the choreographed ringing of the audience’s mobile phones. The concert took place at the Ars Electronica Festival in Linz in 2001. Audience members were asked to register their phone number at a webkiosk before the event and in return received a ticket which assigned them a seat in the concert hall. New ring tones were automatically downloaded to their mobile phones. Since each spectator at the concert had a registered phone number, seat, and ring tone, the performance itself could be precisely choreographed by the musicians/performers. The audience thus became a distributed melody in a ‘cellular’ space, while the disruption often induced by the ring of a phone was unified into a symphony. An installation-based project of a similar kind, *Telephony* (2001) by Thomson & Craighead, allowed visitors to a gallery and remote participants to dial up forty-two mobile phones that were installed as a grid on a wall. The phones would in turn start to also call each other, creating a layered audio environment. Works such as *Telesymphony* and *Telephony* continue the
explorations of pioneers such as Max Neuhaus, who defined new arenas for music performance by staging sound works in public arenas and experimenting with networked sound as a form of 'virtual architecture'. In the first installment of his project Public Supply (1966), he established a connection between the WBAI radio station in New York and the telephone network, implementing a twenty-mile aural space around New York City, where participants could intervene in the performance by making a phone call.

Sound and music projects also commonly take the form of interactive installations or 'sculptures' that respond to different kinds of user input or translate data into sounds and visuals. The sound 'sculpture' Ping (2001) by American Chris Chafe (b. 1952) and Swiss-born Greg Niemeyer (b. 1967) is an audio-networking project driven by data travelling over the Internet. The sound created by the installation is created by ping commands, which contact servers to see if a connection can be established and thus provide a form of measuring time and distance. Ping translates the time lag of the data flow into audible information. Through the installation, users can pick instruments and scales or influence speaker configurations, as well as add to or change the list of
as an art genre. With the model of web-based discussion and
distribution, runme.org offers an alternative to other art discourse
and archival models, such as Rhizome.org or THE THING. Like
many works in this field, software art's proximity to free-software
methods creates an important foundation.

Alphabet Synthesis Machine (2002) [190], made for American
television network PBS by Golan Levin (b. 1972) with Jonathan
Feinberg and Cassidy Curtis, allows users to consider certain
dimensions of typography and handwriting by developing a
typeface based on a direct mark (made with the mouse). Levin,
despite his prowess as a programmer, understands that aesthetic
activities online need not be devoid of handmade, direct,
unmediated line creation and experimentation. The manual
gesture of creating a letter, while subject to the rules of code that
turn it into an alphabet, suggests a different set of possibilities,
unlimited by proprietary word processor typefaces. Working in
film and TV as well as software, American artist Barbara Lattanzi
(b. 1950) began to develop software that would help her improvise
with film and video, cites existing resources as inadequate:
'I would rather make my own software (what I term "idiomorphic
software"), because the commercial software that I use comes at a
price. That price has less to do with money and more to do with
a different process of abstraction: the active framing of my work
within considerations dictated by irrelevant practices of Design,'
Golan Levin, Yearbook Pictures, 2000. A virtuoso programmer, Levin's intricate portraits are composed by software that converts images into delicate line formations. This series of photographs of teenagers is uniformly treated with the same application, yet each image is endowed with a particular, subjective gravity.

Below:
WHAT:

This program moves and connects 3 dots.

Each of the 3 dots animates around its own rectangle.

The 3 dots are connected in their current location by a translucent white triangle.

My program keeps track of former dot locations, and draws blue triangles connecting the 3 dots in places they used to be.

Like most (all?) things, the traces of where the dots have been fade over time.

You can change the rectangles,

and therefore the trajectories of the dots,

and therefore the patterns created over time,

by clicking anywhere on the screen.

A random corner of one of the 3 rectangles will relocate to the spot you clicked.

The dot controlled by that rectangle will move back onto its trajectory around the new triangle (most of the time - sometimes it doesn’t quite get back ‘on track’ but that was a mistake I liked so I left it.)

To quit the program, hit ENTER on your keyboard.

WHY:

This was apparently a very simple assignment: ‘move and connect 3 dots’.

But all motion implies time.

Time and motion can create complexity out of very simple things.

This is especially the case when a simple shape (a triangle) repeated over and over again, following another simple shape (a rectangle) creates a complicated network of lines.

including C, Perl, Java or Lingo. While Sawad Brooks uses Perl in Global City, for Saskia Sassen [133–134] and Camille Utterback (b. 1970) works with C in Linescape.cpp [135], Golan Levin’s Axis [137] and Martin Wattenberg’s Connection Study [136] reveal code with Java. Far from dehumanizing texts, code shows its latitude for intention and personality: it is political in the hands of Levin, elegant and terse when written by Wattenberg, and hyperrational in Utterback’s contribution.

Finally, not all software art exists in a functional state; some of it remains purely propositional. Moving away from the explorations of functionality and visualization in the previously discussed works, Graham Harwood’s London.pl (2001) [138] exists in an even less objectified form than an application: it is simply a script in Perl (a language designed for processing text). London.pl consists of a program that calculates the collective lung capacity of children in London who have been, in the artist’s words, ‘beaten, enslaved, fucked, and exploited to death’ since 1792 (at the time of
the designations used in Axis do not imply the expression of any opinion
whatever on the part of the author or publisher concerning the legal
status of any country or territory of its authorities, or concerning the
delimitation of its frontiers or boundaries.

Although we have tried our best to document all possible Axes, our data
indicates that not all threesomes of countries have yet completed their
Axis registration form. Thus only approximately half of the 6 million
possible Axes are displayable at this time.

*/

import java.awt.*;
import java.applet.*;
import java.awt.image.*;

public class AxisApplet extends Applet implements Runnable {

    // Declaration of variables.
    // See end of document for inlined database.
    Thread appletThread = null;
    boolean stopThreadP = false;
    int csrX, csrY;
    int iter = 0;

}
Levin’s inspiration comes, believe it or not, from the hair in his shower drain. The on-screen hairball moves with the clicking and dragging motions of the mouse to tangle and untangle the digital hair.
As king of dynamic fluid abstraction, Levin momentarily shed his seriousness at my behest to create this cuddly piece of interaction. We are entertained by a highway of little bacteria that travel the grooves of his fingerprint, making us wary of shaking his hand, or anyone else’s for that matter.
Yet another Levin-ism is revealed in this computer piece. He sets loose a pulsating skinlike blob with a stubble that reflects its master's intense five o'clock shadow.
PAINT PARTICLES THAT TRACE A HAND
Golan Levin, 1998

Here, Levin has created a system of freeflowing paint bristles with minds of their own. The only mandate handed by the bristles’ collective brain is to attend to a rough photographic map.
In this auto-repeating freehand drawing system, Curly, each stroke of the mouse launches a crawl into the space of other strokes. Levin discovered much more than the mastery of a simple interactive trick; he found a career as a performing artist who evokes joy in his audience while scribbling strokes of light.
I like the question, "Is the computer a tool?" because my answer is embedded in the question. I believe that mind and computer are coextensive. Of course, it is difficult to propose something like this without seeming added by the trendy Gnostic philosophy of The Matrix, or caught in a swirly misnomer of McLuhanism about the "extensions of Man." But there is no doubt that software is more than an externalized record of thought (for which we already have writing). It seems to me that software is a living record of a thought one has had, or is having, about how the world ought to be. A brittle but determined little piece of mind that not only contains a model of one's point of view, but actively works to impose that view on the surrounding environment. If writing is a medium of thought, then software is an agent of will. When it executes my will, software and I form a single, coextensive unit of thought and purpose. The computer, accordingly, is merely the software's mortal coil.

Our intellects grow with our tools, eventually becoming inseparable. Although it may be hard to see how this could happen with a clunky item like the desktop PC, consider a much older tool: language. After a quarter of a million years of using language, our brains have actually evolved to accommodate it, and now have several substantial regions that are solely dedicated to processing it. Radical augmentations of human intellect like writing and computation, though much newer than spoken language, stand no less chance of becoming integrated into who we are, if our race survives long enough.

I believe computers represent a hybrid form of tool in that they combine the abilities of conventional tools to act on the world with the special attribute of tools like language and writing to enable substrata for thought. This combination makes the computer well suited for an integration with both our minds and bodies, to the point that it may someday sound as odd to ask the question, "Is the computer a tool?" as it is today to ask whether language is a tool.

With this in mind, the audience for my work varies considerably depending on the different contexts in which I present my projects. Like many people who create things, I enjoy publishing what I do on the web; my hope is that each of my Internet projects is somehow seen as a small gift to whomever might happen to stumble across it. I have only a faint idea of who my surfers might be; their traces through my sites tell me very little about them except, perhaps, statistically. For the most part, I would guess that many of the people who find my work on the web are students or practitioners of new-media art, which is to say, people like myself. But, judging from the quantity of bizarre emails in my inbox, I would also hesitate to generalize.

What is clear is that a visual culture has arisen, let us say since 1995 or so, in which artists and designers offer interactive abstractions in the online realm, and—perhaps for the same core reason that anybody looks to art at all—people really do consume them. The artists' justifications for these offerings are as varied as the projects themselves: Some are presented as modest formal experiments, others as technical demonstrations, and yet others as finished artworks or even calling-cards for their makers' design businesses. Whatever the reason, there seems to be a widespread interest in such abstract work, and a number of splendid designers and artists have been able to find food for thought as a consequence of sharing their experiments in this peculiar economy of bartered abstract visual forms. I am thinking of artists like Liu, Danny Brown, James Tindall, Marius Watz, Manny Tan, and, of course, Martin Wattenberg, Yago Nakamura and Joshua Davis. Whether by email or word of mouth, these artists, and many others like them, are engaged in a discourse with each other, sharing what they do in the hope that others find it interesting. They make new works as critical responses to previous ones. So, it is usually one of these colleagues whom I imagine experiencing my work, and whose critique I attempt to anticipate. These artists are exceptionally educated and sensitive observers, and also merciless critics. They are the audience I would like to have.

I do not present my work exclusively on the web because I enjoy sharing my work in person with other people. It was John Maeda who first pointed this out to me explicitly; when, sometime in 1999, he suggested that I ought to consider performance as a vehicle for my ideas about audiovisual abstraction. I am not certain that I would have realized my interest in new-media performance had he not prompted me. My first performance came at the invitation of Gerfried Stocker for the 2000 Ars Electronica festival, shortly after I graduated from the ACG, and I was immediately hooked by the intensity of communication I had with live observers. Since then, I have performed interactive projects at dozens of venues and festivals. It is an irregular living, but it has become my chief artistic outlet and my main way of getting by.
GOLAN LEVIN AND ZACH LIEBERMAN, TMEMA

Tmema is a partnership between Golan Levin and Zach Lieberman, based in New York City, and their assorted collaborators. Levin writes: “Tmema initially grew out of an invitation I received to create a massively networked virtual-reality installation for the Ars Electronica Center in Linz. I knew this project would be too big to make on my own, so I invited my best student Zach to come along and help out. I taught him everything I know. Well, Zach graduated and nowadays, it’s him who teaches me.” Tmema has worked on a variety of artistic and commercial projects, including interactive point-of-purchase displays, museum installations and avant-garde performances.

Messa di Voce

“Messa di Voce (Italian for ‘placing the voice’) is a concert performance in which the speech, shouts and songs produced by two vocalists are radically augmented in real time by custom interactive visualisation software. The performance touches on themes of abstract communication, synaesthetic relationships, carton language and writing and scoring systems, within the context of a sophisticated, playful, and virtuosic audiovisual narrative. Tmema’s software transforms every vocal nuance into correspondingly complex, subtly differentiated and highly expressive graphics. These visuals not only depict the singers’ voices, but also serve as controls for their acoustic playback. While the voice-generated graphics thus become an instrument that the singers can perform on, body-based manipulations of these graphics additionally replay the sounds of the singers’ voices—thus creating a cycle of interaction that fully integrates the performers into an ambience consisting of sound, virtual objects and real-time processing. Messa di Voce lies at an intersection of human and technological performance extremes, melding the unpredictable spontaneity and extended vocal techniques of two master composer-improvisers with the latest in computer vision and speech-analysis technologies. Utterly wordless, yet profoundly verbal, Messa di Voce is designed to provoke questions about the meaning and effects of speech sounds, speech acts, and the immersive environment of language.”
http://tmema.org/messa/messa.html

Independently, Levin has also made forays into the belly of the New York City art world. Since 2001, he has been represented by the bitforms Gallery in Manhattan’s chic Chelsea district. bitforms provides a forum to display some of the most vibrant and relevant art being made today, offering collectors an opportunity to discover a range of original and innovative forms. At bitforms, Levin sells ‘software artworks’ in limited editions of 100 or 200 copies. Collectors who purchase these works frequently display them on dedicated plasma screens or large, wall-mounted LCDs.

Floccus

“In 1999, I began to study the means by which dynamic graphical lines might become able to convey a plausible sense of physicality. I developed a model for representing the underlying structure of ‘physical’ lines, in which a finite-element, mass-spring-damper simulation is composed of virtual particles connected by alternating linear and torsional springs. The model has the effect of simulating the tensile properties of thin physical filaments, such as hairs or twigs. I used this physical model to create two reactive drawing systems, Brillo and Floccus.

“In Floccus (the Latin term for ‘hairball’), ductile filaments drawn by the user swirl around a shifting, imaginary drain centered at the user’s cursor. These filaments—torn by conflicting impulses to simultaneously preserve their length, yet also move towards or away from the cursor—find an equilibrium by forming gnarly, tangled masses. Floccus is somnified in real time by a custom software granular synthesizer.”

The Alphabet Synthesis Machine (2001)

“This is an online artwork that allows one to create and evolve the possible writing systems of imaginary civilizations. The abstract alphabets produced by the machine can be downloaded as TrueType fonts, and are compiled in an archive of user creations. The results probe the liminal territories between familiarity and chaos, language and gesture.

“Shown here are examples of alphabets created with the Alphabet Synthesis Machine, and a physical installation of the machine created for the bitforms gallery. The machine can be seen online at http://alphabet.tmema.org/.”
Golan Levin and Zach
Lieberman-Tmema
School of Art, CFA-300
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, PA
USA 15213-3890

Dear Golan Levin and Zach,

Please find enclosed copy of IdN Special 04: The Art of Experimental Interaction Design; I hope and trust you were as pleased as we were with the results.

I would also like to take this opportunity to thank you, on behalf of the publisher and myself for your generosity, time and passion in providing great materials for this exhibition. Without your contribution, we believe IdN Special 04: The Art of Experimental Interaction Design would never have been able to come to fruition.

IdN has earned an international reputation by featuring only the best work in the fields of design and communication, and by including works like yours, we can ensure that our reputation for excellence continues.

Best regards,

[Signature]

Chloé Tang
Assistant Editor
Since the '90s, sound art has found itself in the same position as all the arts: no one style prevails. You name it, it's happening today: appropriation, computer manipulation, plunderphonics, environmental works, and narrativity. And, due to the computer, it's happening in such great numbers that it's hard to keep track of it all. Much of it is flowing around the networks—every day I discover new works on the web. It's a landscape of abundance. Let's make a quick survey of some of the many projects that have grabbed my ear (and mind) of late.

***

In 2001, Stephen Vitiello made a remarkable disc called *Bright and Dusty Things* during his artist's residency in the World Trade Center. He would stand by the window and focus a light-sensitive meter onto an object—say, a flashing police car coming down the West Side Highway—and transform that light into sound via his computer. Or, he would stick a contact mic onto the window of the building itself and record the vibrations of the wind or the air conditioning system, capturing the sonic essence of the World Trade Center. Not only does Vitiello create gorgeous and subtle soundscapes, but in light of recent events, his disc stands as a powerful memory and memorial.

***

The New York-based artist Kristin Oppenheim has created a number of gallery-based sound installations using only her voice. In her most powerful pieces, she'll riff on a pop song—Jimi Hendrix's "Hey Joe," for example—with a lilting voice, over and over again, "hey Joe, where you going with that gun in your hand." It's minimalism, it's environmental, it's sentimental, it's entrancing.

***

Golan Levin, a conceptual digital artist, composed *Dialtones: a Telesymphony*, a 26-minute piece composed and performed on 200 cellphones. The premise is great: the first 200 people coming into the auditorium who were carrying cellphones registered at a computer kiosk in the lobby, and new
ringtones—specially composed for the event—were downloaded to their phones. They were then assigned seats in the front center part of the concert hall in a 20-by-10 arrangement, becoming a cellphone "orchestra." Onstage, Levin and his cohorts were working banks of computers as they frantically started calling each cellphone in the "orchestra." Since they knew exactly where each participant was sitting and what their ringtones would be, they began weaving lines of sound through this forest of phones. The piece, scored beforehand, was simply a matter of coordinating hundreds of machines to produce a symphony. And far from stopping at the wonders of sheer geekdom, it also sounds great, making this one of those rare instances of computer-based music where the music is actually more interesting than the machines that made it.

***

Harry Bertoia also worked environmentally, but through design and in domestic settings. Bertoia's classic diamond chair, designed in 1952, looks like a stainless steel instrument, perhaps something that Harry Partch would've created had he worked in space-age chromed metal. Its shape is like those three-dimensional visualizations you see of sound waves. Run your fingernail across the slick ridges and the whole chair reverberates. It makes you want to pick up a mallet and give it a few whacks, which was Bertoia's idea.

Around the same time, he was making his diamond chairs, Bertoia started making actual musical instruments that looked somewhat like his furniture. He's most well-known for a group of sculptures known as the "sonambient" sculptures which have best been described as "metallic harps." I recall a recent exhibition in Chelsea where his vast metal sculptures were on display. Some looked like pedestals with metal cattails sticking up; others were simply enormous gongs. Viewers were encouraged to take their hand and give 'em a solid whack. The concrete-floor white box gallery was cacophonous with low bellows and shrill treble-like sounds of metal on metal.

In 1999, the young Los Angeles composer Steve Roden interpreted Bertoia and released a 3" CD called Chair. Every sound on the disc was made by rubbing, bowing, plucking, scratching a Bertoia diamond chair. In the same series, he also gave the same treatment to a George Nelson lamp and an Eames wooden splint. He went on to more ambitious projects, like creating sounds from entire houses. His 2001 project, Schindler House, samples the famous R.M. Schindler house in Los Angeles and its garden: bamboo, fireplace, springs, flowerpots, voice, window panes, airplane and wooden beams all make their sonic debut on this disc.

***

In 2002, a Norwegian artist, Leif Inge, took Beethoven's Ninth Symphony and stretched it out to twenty-four hours. He was following the lead of visual artist Douglas Gordon, who created a piece called 24 Hour Psycho, which is exactly what it sounds like—Hitchcock's classic film slowed down, until it becomes something else.

sense of underlying Brownian-like movement. The sparkling metallic pigments generate a sense of alchemy amidst the organic. Rankaitis uses the base pair letters of DNA along with gears and diagrams as a primary alphabet, which she then permutes. Her activity is flexible and spontaneous, revealing the artist’s ingenuity working with a limited repertoire of symbols.

**COMPUTATIONAL SIMULATIONS**

Golan Levin is one of the contemporary artists who possess skills in advanced computer technology. A graduate of MIT’s new-media laboratory, he makes use of Navier-Stokes equations (the foundation of fluid mechanics) to create an interactive, intermediary art form that combines sound and visual effects. In Levin’s display, the cursor provides a repulsive force from which simulated fluid diverges. Levin implements his simulations with the aim of tracing the movement of a gesture through virtual space. In the process he produces an environment of glowing light and dramatic sound.

Levin’s high-tech capabilities only partly succeed in masking a romantic sensibility that redirects the functional, household PC to the personal, poetic, and even haptic sense of touch. In dialogue with modernism and painting, his images recall the flowing vision of Thomas Wilfred’s Lumis rather than the “machine in the garden.” Viewers stand before Levin’s computer art without directions and must bring their own resources to the work. One remembers that the early mark of modernism was to leave spectators to their own devices and enjoy freedom of (from) interpretation.

**COMPLEX ADAPTIVE SYSTEMS**

Artists implementing computational simulations ally themselves directly with the methodology of complexity scientists and industrial engineers. Simulations allow for the testing and control of events that could be fatal or helpful. In *Chaotic Pendulum*, Ellen K. Levy provides examples of the industrial applications of technological innovations, whether on the scale of controlling ventricular arrhythmias or managing cyclones. In the detail featured here, Levy portrays economics as a complex adaptive system, comparing the evolution of economics to biological evolution and visualizing the continually changing constraints and resource bases brought about by constant innovation. Accordingly, complexity studies offer new topics for artistic exploration.

The immune system is another complex adaptive system that notably learns from mistakes. For example, in real life the immune system “learns” from its encounters with viruses and develops defenses in the form of antibodies. Computer viruses share properties with the living in that they reproduce, store information, and mutate. They mimic some of the propagative activity of real viruses, as anyone knows who has suffered an attack by the ILOVEYOU bug. Joseph Nechvatal simulates a computer virus, records images of its progress at different times, and employs a computer-robot to paint the images onto canvas. By doing this he makes tan-
Berlins Grand Bleu wirft Worte in die Wolken

Der SAP-Firmensitz ist tagsüber Office, nachts Spielwiese der Sinne. Wie interaktive Medienkunst unsere Städte verändert.


Das, was hier wirkt, ist „The hidden world of noise and voice“ digitale Medienkunst, entwickelt von den New Yorker Künstlern Golan Lewin und Zachary Lieberman in Kooperation mit Ars Electronica, Zentrum für Medienkunst in Linz.

**Stadträume als Spielräume**


**Werbung, Spiel oder Kommunikation?**

herzzzerreißende Choräle schmettern? Oder attac einen Sprechchor über den Sozialabbau
initiiert, um eine imposante Kulisse für ihre Pressekonferenz zu generieren?
Die Medientechnik selber schließt derartige Nutzungen nicht aus. Das Selbstverständnis
von SAP wohl eher. Denn bei aller Liebe zur Medienkunst erhofft sich der Konzern von
dem Paradeprojekt einen Imagegewinn.
So bleibt abzuwarten, ob das Grand Blue über ein dekorativ-vergnügliche Marketing
hinaus zur Pluralisierung und Aneignung städtischen Lebens beiträgt. Letztlich
den entscheiden die Nutzer. In diesem Sinne gilt nicht nur für Technikfreaks und
ingefleischten Ikea-Fans sondern für jeden Berliner Nachtschwärmer: „Entdecke die
Möglichkeiten“.

This painting is from Hernan Bas’s series, “A Little Moby Dick in All of Us.”

MICHAEL FRESSOLA / On the arts

The unbelievably good Biennial

Even people who don’t follow contemporary art have heard that the 2004 Whitney Biennial is utterly shockingly lovable. The museum is reeling. The public too. Who ever likes the Whinennial? Crabbing about it is practically a New Yorker’s sacred right.

But this year not only are people lined up to see it (it always draws crowds), they’re anxious to get in.

The 2004 edition’s secret isn’t terribly complicated. Drawings and paintings are back in the picture, reinvigorated, for the first time in years. The hand-eye-brain connection that has distinguished art-making since Lescault is celebrated everywhere in two-dimensional works, in sculpture and even hand-processed film.

Installations are less numerous than usual, but unusually lucid and focused. I didn’t catch much video — the show’s gigantic — but people who did say they’re better than average. The 100 participants are often several years short of the mid-career mark.

There are some silver eminences like David Hockney, Robert Mangold, Stan Brakhage and Robert Longo, all doing well. Among the prevalent mind-sets, there’s much interest in self-help and other worldly matters.

The Goth predilection evident in the big bronze skeleton-stride-a-Harley in the lobby is fairly pervasive. The 1960s, which represent babyhood for scores of 2004 Biennialists, is a touchstone decade for many. Most see transplants, born and raised elsewhere, but now living in New York. Brooklyn more often than not.

For those doing the show top to bottom, practically the first thing to see is a computer terminal that offers “The Secret Life of Numbers.” This investigative item of Web-art is the work of Golau Levin, a former Prince’s Bay resident and son of Island artist Helen Levin.

“Secret Life” maps the prevalence of

SEE WHITNEY, PAGE E3

2004 Biennial

More than 100 painters, draftspersons, printers, sculptors, photographers, mixed-media experts, installation-makers, musicians and performers participate in this multimedia event.

Where

Whitney Museum of American Art
945 Madison Avenue at 75th Street

When

Through May 10
Open: 11 a.m. to 6 p.m.

1:30 p.m. Friday
Closed: Mon, Tues.

How much

Admission is $22, general; $19.50 for students.

Information

Call (212) 570-3630 or visit: www.whitney.org
Museum’s 2004 Biennial offerings don’t disappoint

Zak Smith wasn’t even born when Thomas Pynchon’s “Gravity’s Rainbow,” that ambiguously dense, brilliant con-
tribution to 1970s counterculture, was published. Smith caught up with it and has done a detailed post-card sized ink and watercolor drawing, each one more mysterious than the next, for each of the novel’s 755 pages.

AND THE REST

At this wonderfully ob-
essed juncture, it’s time to salute the passion evident ev-
erywhere at this Biennial.

It’s less politically or so-
cially driven than you might expect, but open to varied topics and methods.

There are silly things, like the sound and light-shows in the rest rooms, and some bad moves and wrong turns. But most of it is good to see.

The 2004 curators (Chris-
sie Iles, Shamin M. Monin
and Debra Sunger) have left a huge challenge for their suc-
cessors.

The show’s Central Park component features Paul McCarthy, Liz Craft, Muller and Yayoi Kusama, and the excellent group that gals it-
self “assume vivid astral focus.”

Antony and the Johnsons are on the performance ro-
ter.

The silver-and-gray cata-
togue ($45 at the museum; $30 at book stores) includes the standard essays-and-illustrations volume, plus a box full of cards, posters, film and other keepsakes produced by the 109 artists.

Last weekend, visitors were buying them three at a time.

Michael J. Fresnola is the arts and ideas editor for the Advance. He may be reached at fresnola@advancel.com.
La bienal del Whitney regresa a una órbita menos experimental

Golan Levin, el niño mimado del MIT, emplea buscadores, estadísticas y programas para saber la popularidad de los números, del cero al millón.

El museo Whitney de Nueva York acoge hasta el 30 de mayo la bienal más tradicional de las últimas tres ediciones. El arte digital, que había sido incluido en el normal recorrido del acta ya en la pasada bienal, ha sido asimilado e integrado por el sistema del arte, siempre y cuando responda a cánones fácilmente identificables y codificables.

Los comisarios Chrissie Iles, Debra Singer y Shamim Momin han privilegiado obras fácilmente reconducibles a prácticas artísticas ya sabidas, reduciendo drásticamente el espacio para la experimentación y el atrevimiento. Es el caso de Learning to love you more, un sitio donde Harrell Fletcher y Miranda July publican las obras enviadas por los internautas en respuesta a sus convocatorias temáticas. Como la mayoría de ellas son pinturas, dibujos, fotografía, vídeos o instalaciones, la red vuelve a su papel de mero suplemento de experiencia pensada para el espacio físico.

Más vinculada al análisis del desarrollo digital la obra de Cory Arcangel, que, tras realizar el brillante Carnivore Project (basado en la apropiación artística de un programa de intercepciones en Internet concebido por el FBI), centra su interés en la tecnología informática de la década de 1980.

Arcangel participa en la bienal con Super Mario Bros. Cloud Walk, una instalación basada en una modificación del célebre juego, del que salva solamente las icónicas nubes flotantes.

Golan Levin, el niño mimado del MIT definitivamente convertido en artista de moda, presenta su personal reflexión sobre los números en The Secret Lives of Number, donde emplea programas informáticos, motores de búsqueda e investigaciones estadísticas para determinar la popularidad de cada uno de los números desde cero hasta un millón.

Resulta curiosa la fama de la que gozan determinados números, a los que la conciencia colectiva atribuye significados metafóricos como el 911, que se identifica con los atentados en Nueva York o el 666, considerado el número del diablo.

El único español seleccionado es el barcelonés Joan Leandre, coorganizador del festival de video OVNI. Participa con The Velvet-Strike, una modificación pacífica del popular videogame de guerra Counter-Strike, realizada con los estadounidenses Anne-Marie Schleiner y Brody Condon.

También en esta edición, muchos artistas incorporan tecnologías electrónicas y digitales en sus obras. Todas ellas se presentan en un sitio web creado para la ocasión, que cuenta con diferentes recursos informativos muy interesantes... lástima que sólo se pueda ver con Flash 7, la última versión del programa.

BIBL: www.whitney.org
Access to the universe of digital possibilities begins with a perfectly simple act: A pair of hands touching a set of keys.

This isn't the entire foundation of Golan Levin's new live cybershow, "The Manual Input Sessions." But keep the image in mind.

The former Prince's Bay resident is getting to be a well-known figure on the international digital/experimental art scene. He's done the German festival Electronica. His digital, interactive, cell phone sound work "Dialtones Telesymphony" earned wide recognition and enthusiastic reviews.

The 32-year-old is also represented in the 2004 Whitney Biennial.

His contribution is an ingenious computer coup called "The Secret Life of Numbers" and accessed at a grounded laptop. In conjunction with the Biennial, he is performing/presenting "The Manual Input Sessions" tonight and tomorrow at The Kitchen, a West Village concert and performance space.

Earlier this week, by e-mail and telephone from Carnegie-Mellon University in Pittsburgh (where he is currently teaching), Levin had some things to say about his new work.
"Our concert is performed on a combination of custom interactive software, analog overhead projectors and digital computer video projectors. The analog and digital projectors are aligned such that their projections overlap, resulting in an unusual quality of hybridized, dynamic light."

During the performance, a computer vision system analyzes silhouettes of the performers' hands as they scribble on transparencies and move across the glass tops of the overhead projectors. The hand gestures and transparency drawings are then analyzed by custom software.

"In response, our software generates synthetic graphics and sounds that are tightly coupled to the forms and movements of the performers' actions," Levin said. "The synthetic responses are co-projected with the organic, analog shadows, resulting in an almost magical form of augmented-reality shadowplay."

In other words, "The Manual Input Sessions" is a 10-to-12-minute sound-and-image presentation, generated in real time and using hands as the subject.

Is this a completely new idea?

"The closest connection it has is to some very old work, something called a 'Lumigraph.'" Levin explained. The Lumigraph which was developed by the innovator named Oscar Fiskinger.

"It was a strerched piece of white substance, rubber or fabric," Levin said. "Fiskinger would push his hands into it, interrupting a stream of light. It creates a kind of handmade hologram."

His Biennial piece, "The Secret of Life of Numbers," is a graph-like program that plots the "popularity" of ordinary numbers (one to 100,000). The work was commissioned several years ago by Turbulence.org, a web-art producer and archive founded by Helen Thorington, a former New Brighton resident.
Boys will be girls, or directors
Islanders team up for original play; ex-Prince's Bay resident warms The Kitchen
Sunday, May 09, 2004
By MICHAEL FRESSOLA
STATEN ISLAND ADVANCE

Just because he is directing a play about a woman whose new, straight beau sneaks out in skirts and mascara, it doesn't mean that Orville McCarter is slipping into any little black dresses anytime soon.

[...]

TERRIFIC INPUT

Something called "The Manual Input Sessions" sounds cold, even grim. But at The Kitchen last weekend, it was neither. This projected, abstract work of cyberart -- performers "danced" their mitts over screens that "reacted" in unexpected ways -- was funny, full of music and visual texture.

Golan Levin, an ex-Prince's Bay resident, and Zachary Lieberman were the creator/operators. The evening was devoted to off-site, computer-driven performances by young Whitney Museum Biennial participants. Levin's web-work "The Secret Life of Numbers" is in the 2004 Biennial. The evening's other good time came from Tracy + the Plastics, a thoughtful, beat-driven, girl trio "played" by Wynne Greenwood, who is on stage at a keyboard, interacting (sort of) with a nearby video screen in which other band members appear and make deadpan funny pronouncements. It would all be kind of CalArts punk/pretentious if Ms. Greenwood weren't such an alert and stylish singer/songwriter/videomaker.
NEW YORK -- Digital art, like computers, doesn't seem to be made with longevity in mind. Every few years, both the machines and the art created with them suddenly need a major upgrade.

But Ars Electronica, Austria's influential digital-art center, is out to prove that digital art can stand the test of time, albeit only a quarter century, with a series of exhibitions showcasing the best digital art of the last 25 years.

The Digital Avant-Garde shows, in celebration of Ars' own 25th anniversary, will be presented in New York City at the American Museum of the Moving Image, Eyebeam Gallery and the Austrian Cultural Forum.

The works in all three exhibitions, which all opened to the public Friday, don't just hang around looking pretty. Visitors are invited to play, poke, pat and reprogram the art, much of which was created by artists collaborating with engineers or scientists.

Surprisingly, much of the older art is still interesting, fun to look at and interact with. Even the tired virtual-reality environments, once so trendy, make you feel you've been transported elsewhere, even though wild gestures and stumbling about in front of what is, to everyone but you, a flat monitor make you look goofy.

That said, some of the art on display wouldn't draw a second glance if it weren't digital -- a set of three-dimensional portraits aren't particularly special, until you realize that tapping on a nearby touch screen changes the portraits' "moods" and how they react to each other and to you.

"Aside from the landscape, the most common living-room wall accessory is the portrait, and I am looking forward to a time when variable, customizable images will take the place of the typical pictures on paper and canvas one sees today," said John Gerrard, who created Networked Portraits with Erwin Reitboeck, Martin Bruner, Andreas Jalovec, Christopher Lindinger and Pascal Maresch.

Networked Portraits is on display at the American Museum of the Moving Image, whose portion of the exhibits has been dubbed Interactions/Art and Technology. The Interactions show displays new work created by teams of artists and scientists working together at Ars Electronica's Futurelab.

One of the standout pieces at the Interactions exhibit is Interactive Bars, a digital terrarium of colorful computerized blobs that slither happily over to human visitors, who can pick them up, pet them and fling them about the installation.

The blobs also respond to items placed in their enclosure, sliding over to investigate keys, glasses of opening-night wine and whatever else people fish out of their pockets and plonk into the terrarium.

Interactive Bars was created by Gerfried Stocker, Erwin Reitboeck, Horst Hoertner, Dietmar Offenhuber, Christopher Lindinger, Stefan Mittlboeck-Jungwirth, and Martin Honzik with consulting artists Zachary Lieberman and Golan Levin.

Over at Eyebeam Gallery, Prix Selections displays eight artworks that previously won awards in Ars' annual digital-art competition. Prix focuses on documenting the artistic and technical developments in digital art over the past 25 years.

Lynn Hershman's America's Finest, from 1995, may not look particularly high tech; in fact, it just looks like a revolver.

But when the trigger is squeezed, the viewer's image is captured by a camera and pasted into the gun's sights. This image is then blended and overlaid with other ghostly scenes. It's a virtual-reality trip through the history of the Colt revolver and the camera, both of which were created in the year 1830. Hershman's project plays off that historical connection and the idea of "shooting" pictures.

Also at Eyebeam is David Rokeby's n-cha(n)t, from 2000. In this installation, a group of networked computers listen to gallery visitors talk, then create and repeat a sentence formed from random words or phrases picked up from their conversation.

If the people in the room are quiet, the computers slow their chatter until it devolves into a sort of droning chant. Surrounded by a perky and verbal group of people, the computers get excited and babble blithely at each other.

Far more sedate is Tom White and David Small's Poetic Garden. Visitors to the garden sit at the edge of a flowing pool of water, watching as words projected onto the stream flow by and tumble over a waterfall. Viewers don't even have to get their hands wet in to rearrange and change the words. The artists say the garden is a symbol of man's control over nature.

The Austrian Cultural Forum will host talks by the artists and digital-art experts. Workshops, artists' lectures, digital-animation screenings and other events held in all three venues will provide additional background on the history of digital art and current developments in the field. Digital Avant-Garde will be on display through July 18, 2004.
Runtime Art: Software, Art, Aesthetics

IV. Runtime Art

For the exhibition 'Runtime Art', we have selected a number of projects that engage specifically with one aspect of software, i.e. its execution in the 'runtime' of the computer processor, and thus the close connection between code execution and aesthetics.

A classic piece in this respect is Every Icon by John F. Simon, which exhibits both the precise clock-speed of the computer that runs through the iterations of black and white pixels in a binary grid, and the impossibility of a comprehensive representation of reality by a computer which, quite apparently, already fails in the simple task of offering all possible computer icons in a reasonable amount of time. While 'Every Icon' dramatises the execution of code by the sheer tedium of its almost endless process, Vexation1 by Antoine Schmitt achieves a more singular tension by giving the impression of a hesitant, self-conscious computer program that 'drags its feet' as it has to decide which path a white dot should take from one pre-determined side of the rectangle to the next. Despite the clearly given determinacy, the program still appears to be caught in a subjective decision-making process.

For his project Micro Images, Casey Reas has developed a complex set of algorithms that send the generative graphics into unpredictable and hugely complex configurations. Here, 'runtime' is the medium of excess of machine-based differentiation. A similar task is approached very differently in the project Electric Sheep by Scott Draves, a screen-saver program that takes its calculating power from a distributed network of computers running the software generating the graphics which can be individually designed and viewed. The 'excess of runtime' is also explored in Mandl & Krautgasser's Pedigree which uses the actual written code to translate the story of Oedipus into an algorithmic language which, when executed, offers a dynamic representation of the Oedipal drama of Love and Death in multiplying triangulations of relationships.

The question of the interface through which human users can interact with software-based systems has been approached very elegantly by Golan Levin. His Audio-Visual Environment Suite (AVES) is a series of tools for the gestural creation and manipulation of sonic and visual structures. More analytical in its approach is the Webstalker by I/O/D, one of the first projects to deconstruct the notion of the web-browser: the Webstalker offers several ways of looking at the code and link structure of a website, giving access to all the information that a regular browser would also show, and more, but in a way that is formal and purely structural. While the Webstalker was designed in opposition to existing representational models, Minitasking by Schoenerwissen/OFCD had to invent its own representational paradigms for a structure that had not been visualised before, i.e. the Gnutella file-sharing network. Minitasking combines the function of a crawler with that of a network scanner, offering a complex image and a functional interface to an ongoing, internet-based communication network.

Such representational models are called into questions by Auto-Illustrator, a software package developed by Signwave and modelled on existing vector graphics programs. Unlike those, however, 'Auto-Illustrator' exhibits a distinct autonomy in the visualisation of commands and movements of the user, which it frequently translates into crazy and uncontrolled results, thus highlighting the fundamental difference between intention, user-interaction, and result. A similar deconstructive approach is taken by Joan Leandre in the retroYou R/C project which, on its different racing game levels, employs increasingly corrupted rules for the representation of the virtual environment in which the race is taking place. True to its slogan, "Fight the gravity code!", it pinpoints both the constructedness of such virtual 3D-spaces, and the limitations of interaction in non-rational spaces.

Finally, a project by Robert Luxemburg exemplifies the political dimension of digital data and their execution. The Conceptual Crisis of Private Property as a Crisis in Practice is a screen-shot, i.e. a digital image, whose code can also be executed as a program - when executed, the file produces the novel 'Cryptonomicon' by Neal Stephenson. The project is a riddle about the different representational and juridical layers at which coded, and thus also encoded intellectual property, can exist. Here, 'runtime' is not only the condition, but the problematic medium, interface and gateway to the borders of representation and legality.

This selection of works covers the particular field of generative art and is in no way exhaustive, and certainly not for all the ways in which software is currently being explored as a medium and theme of artistic practice. These include a whole range of projects, from the exploration of code as poetry, through the psychogeographic programming of cities by socialfiction.org, to the real-time programming environments developed for live performance and interaction tasks. In this entire field, artists are no longer just working within existing technological paradigms, but through their creative programming efforts, they are actually trying to push the boundaries of what software means as a social and cultural technique. The cooperation between artists and programmers is often very close, and in many of the examples presented here, the artists have in fact done the programming themselves.

The exhibition 'Runtime Art' is an exploration into the generative aesthetics of software. Rather than being conclusive, it hopes to open up further debate about the artistic potentials of computer programming and digital code as cultural artifacts, and techniques.
Golan Levin

極致聲光表演

Golan 特別精通程式設計與音樂的數位藝術家。作品賦予使用者對聲音及影像的靈活掌控，超越語言溝通上的限制。常以現場表演的形式呈現創作，概念鮮明、幽默動人，並富含深邃的理論基礎與哲學意涵。

您的作品結合音樂性，來喚起這方面的背景與表現的往事吧。
自青少年時期就極度愛好電子音樂，電子音樂代表科技與藝術的完美結合，正是我從小的美麗。記得高中時期，和朋友 Mark Rhodes 合組「雪克 2 人組」（Quark Park）樂團，非常享受電子音樂的創作。在 1987 及 1989 年發行的 2 張新創紀元的專輯「相對論」（Relativity）和「觀察者」（Observatory）。當時喜歡的歌手包括 Michel Jarre、Isa Tomita、Vangelis 和 Tangerine Dream。專輯發行後，我們展開了巡迴約紐約的市的演出。所到的演出，就是互補效果的編曲上台，按下編曲機上的 Start 鍵，樂器就會自動開始演奏。我們只需偶爾用手揮舞幾個小鍵。Mark 和我都不是鋼琴高手，所以只好把手頭的動作編裝成曲子，但複雜的音符和節奏的技巧風格並不浮躁。

雖然覺得不習慣，但別無他法，因為電子音樂的藝術，就很容易被演奏。20 幾個樂器，不久後就放棄表演了。我開始寫小詩當作，後來幾年鑽研電子音樂相關的音符（Timbre）、格調（Sampling）及「抽象音樂」（Musique Concrète）。

為何值得您重試音樂？
老實說我也無聊。那時離開音樂界將近 10 年，在麻省理工學院的媒體實驗室（Media Lab） fabrication，跟隨烏克與普魯士和 John Maeda 教授研習。媒體實驗室有條不紊的規定：『不作秀就走』（Demo or Die）：為了跟隨這個規定，我們先檢視所有學生都要有心理準備，隨時上臺『推銷』自己的研究領域和專案。我當時的重心在聲音和影像的即時（Real-time）連結，發展出一系列的「視聽環境套裝軟體」（Audiovisual Environment Suite）。

這套軟體首次在人體動作同步控制影像與聲音演出，而且非常完整，我成功的預想到當作表演時，用它們設計為可以私下玩的教學工具。但是 Maeda 教授告訴我，若我要上台展示軟體得自己安排。他告訴我「夢想未來可以嘗試加入更多表演的元素」。

這話很可能聽懂就忘了，想不到不久後，電子音樂節的總監 Gerfried Stocker 打電話來邀請我，把 Audiovisual Environment Suite 這件作品變成長達半小時的現場演出。表演是對軟體純粹的驗證，我甚至猜測演出中途會被要求停止。演出時長 6 個月的時間進行測試，還請朋友 Greg Sharer 和 Scott Gibbons 一起加入演出。表演最後才確認須『塗抹』（Scribble）。它的成功使我重拾對舞台的熱情。感謝 John Maeda 與 Gerfried Stocker 一直支持我電體內蠢動的表演因子。

您認為『塗抹』（Scribble）的成功來源在哪裡？
許多電子表演都有一個共通的限制，我稱之為「屏障」（opacity）。觀眾在隨機時的音效和健麗表演者的動作頻繁聯繫，就算把演出者的電腦殘余投射給觀眾，也無法接收到任何聲音。透過 Max 等軟體複雜的界面呢？觀眾無法進行操作，難道整場會在無數。

Scribble 的優點就在於完全拍出了這複雜的界面，沒有眼花撩亂的按鈕，按鈕的定義不變，是某在人的動作、聲音和影像之間，沒有任何象徵性的干涉，「身體本身就是，結果應用之間的」。觀眾可以清楚的感知，我們手上滑即的動作，確切監控聲音與影像的輸出。

另外，Scribble 的聲音和影像皆非預先錄製，而是藉著表演者的動作，經過數位演算即時產生。觀眾分辨得出是現場的創作，而不是。表演中的流覽的「偶發性」，或是一部分隨機出現的「勝任性」，讓 Scribble 以數位的不完美特質勝取。

以現場表演呈現創作時，對作品本身及創作流程會帶來怎樣的影響？
以互動藝術的表現來看，我堅信『現場表演』是困難度最高的表現形式。視覺上的作品可以不斷修改，也不用跟觀眾面對，裝置作品也不會事後修剪，你可以在演越來越好。我每次創新的 SYNTH 軟體，快要 5 分鐘到家時，下課通常會給面子，表演的情況比較特別。表演當然時一次，觀眾花了時間排隊、排了排報覺，你的責任就是『娛樂』他們，其真實滿享受表演帶來的高度挑戰性。

以『Dialtones 手機演奏會』為例，完全由現場觀眾的遊戲設計所製。一場非常困難的案子。為了與觀眾的互動連接，必須從微遙控的電子設備供應商那裡，下載許多機密資料。經過一個月的協調，終於在表演的前一週，獲得知情人們意處出連接，而我們只剩一個儀表的測試時間，還要以電信編碼，也不會知道觀眾會帶來什麼手機到現場。

同時，主辦單位之所以將『全世界第一場手機演奏會』，為名讓廣告商幫忙。下課通常會在現場演出，大約有 6 分鐘，表演者會在下列之一：一想到數萬個人，我已十分慶幸。不論創作品質是否與樂器相關，我認為音樂表達的互動藝術提供豐富的靈感和資料，樂器製作是人類最古老的技術之一，數千年來，這種將流傳的技術，不斷萌生意味深長的互動滿足，所以用新的音樂表達形式，來詮釋演化上的變遷是很有自然的。
Messa di Voce 中的「聲音」，图像居然能反过来让表演者们把「演」和「演奏」！这是怎么回事？

这是一套特製的软体模组，包括艺术家 Jaap Blonk、Jenben Saito 视频师、发行出优美的声音时，泡泡的碎裂声、光影的变换也都会从画面上显现出来。有时候，甚至还能听到创作者与艺术家的对话。

在声学和音效的交互作用方面，您将如何深入的研究，请问在最具挑战的「手的输入式」（Manual Input Sessions）的演出，您又是如何表现的？

我希望透过这样的方式，呈现出声音与画面的互动，从而创造出一种全新的体验。
時、並沒有預期我要藝術品互動、有可能變得極端被侵犯也不一定。所以我必須要悉數減至最少，並對那些有意識與周邊互動的人、提供必要的回饋，

以我和 Zachary Lieberman 作爲南韓化妝品公司 AmorePacific 在紐約 Soho 旗艦店的設計為例，我們在整個空間投射出柔和平緩的影像，以微妙的方式引來即製化的顧客互動，並顧客走去商品陳列架拿起包包、有絲絨感的使用說明書與相關資訊，便會跟着顯現。如果影像更顯眼些，也許就會有人注意這些保養品了。

這類型的展品通常有較充足的財源，至少在各種藝術節提供的經費中，幫找來不少難題。但我注意到，許多作品都沒有事先準備好維修的預算和人力支援，以因應隨著時間日漸荒廢，值得重視。

您一定致力於使介面「透明化」，將人機互動的干擾減至最少，但是觀感性、開放式給作品的互動媒體可能會阻撓訊息傳達的完美功能嗎？而視覺內容貪婪的表現，以及遊戲和道具？

對這兩個問題的回答分別為不對和對。針對第一個問題，我必須承認「訊息傳達」提出這樣的觀念，我認為在藝術作品裡傳達任何訊息，都是無限延時的，至少不能以單純化來看，以藝術來傳達訊息不過是對美感修辭而已是在美感修辞性，其成品往往落入政治宣傳的範圍。

當然，例如摩卡克的作品「格爾尼卡」（Guernica）似乎就否立下的疑問。當然藝術可以與政治，擁有目的性；但是當藝術告訴我，在開放系統的環境下，藝術作品本身是挑戰意義，將會達到所謂的「最大效果」，

當觀眾維護有下論述的自由時，作品纔有更深遠的影響力，因為在整個「過程中」，觀者主動參與，並以個人意義感受藝術創作。你提到許多互動藝術的缺失內容也沒錯，很遺憾，我確有同感。這種情況常常發生在衍生藝術（Generative Art）的領域裡。通常的狀況是，2-6秒，然後目光轉移至其他主題之內，然後…就沒了。並不是希望這類

作品必須傳達諸多訊息的媒體，如電影看來，如果衍生藝術的概念能在雙向互動之間顯現，而過程可以改變且豐富使用者觀看的空間即刻。

其實跟藝術作品就是最好的遊戲，🙌，能讓人樂此不疲地玩上幾次，就能重新詮釋人類溝通的成或現，一種 MyronKrueger 的作品「即時世界」（VideoPlace），或是 KaushikHachiya 的「即時互動機械」（InterdisciminationMachine）。還有一些不錯聰明的作品，其中完全沒有玩家或遊戲的元素，例如 BenRubin 的「聆聽器」（ListeningPost）和 RafaelLozano-Hemmer 的「向量上升」（VectorialElevation）。

最後，我以麥克羅倫（McLuhan）的媒介即訊息，將名言反駁「開放式、透明的互動作品，就無法傳達訊息」。

目前在台灣藝術館展出的作品「數字的私密生活」（TheSecretLivesofNumbers）展示了有著騰訊在您的作品中並不見多。以上介紹，

這件作品以實踐的手法，比較從等到一百萬的整數中，每個數字受歡迎的程度，與合作團隊再整理過的巨量資訊，以偏視覺界面表達出來。

「數字的私密生活」也嘗試向隱藏在人類文化、心智和生理律例中的深層意義。例如某些數字如 911、「0」、「911」、「911」、「911」、「911」、「911」、「911」、「911」、「911」、「911」、「911」、「911」、「911」、「911」，

因為為了讓電話號碼、機器人、晶片形態等電話節目名稱，使它們在數字上屬的數字中被獨一無二。而人們健忘 10 的數字，應該和人類特

別有關；103455 或 8888 可能因為好記而常出現。總之，所有資料都顯示出人類集體意識的數字化切片，最後把所有從大眾取得的資訊，以互動的視覺介面透過音樂，讓大家來探索數字後的含意。

這件作品延續我一貫的研究重心，也就是「抽象溝通」的思考：界面的使用也無異於其他作品的表現方式，以藝術作品的角度處理資訊複雜化，是一門博大精深的課題。「數字的私密生活」藉由數不計的資料流，傳達廣大人類的溝通模式，希望不論從宏觀或微觀的角度，都能完整地將數字審視在轉換的、開放式的、簡單易用的互動介面上。未來我會朝資訊感覺領域，做出更多有趣的嘗試。

在互動設計的教學上，有什麼好建議？

我任教的學校包含各種藝術科系，從傳統繪畫、雕塑、錄音藝術、互動設計到互動形式無所不容。老實說，為什麼不太讓純藝術科系的學生來學習電學、數學，或是數位藝術的學生哪些繪畫課？我認為這些科系是互通的。學生有義務讓自己暴露在各種藝術領域的陶冶之下。

電音藝術是個特徵很重要的課題之一，就是資源貧乏，缺少資源往往影響歷史上的重要作品。沒有選擇「最佳互動藝術 DVD」，我們可以隱形一張東西，否則學生很可能會選中十年前就玩過的過氣把。

當然，還有極佳的資源，這裡介紹 3 本書：RandallPacker 和 KenJohnson 合著的「多媒體：從柴格到虛擬真寫」（Multimedia: From Wagner to VirtualReality）。NoahWardrip-Fruin 和 NickMontfort 合著的「新媒體讀者」（NewMediaReader），以及 Neil Spiller 的「網絡讀者：數位時代的重要論述」（CyberReader: CriticalWritingsfortheDigitalAge）。

另外，找到是 CaseyReas 和 BenFry 所撰寫的軟體語言「DesignerPragmatics」（參考 XFUNS第11期），是近十年來電子藝術領域重要的資源及教學工具之一。期待更多精彩作品的出現。

最近對哪些領域的事物感興趣？

部落格（Blog）、機器人科學（Robotics）、和奈米科技（Nanotechnology）。

★ 本期 CD ROM 與給 Galen Levin 的攝影影片及音樂作品。
Le tableau animé de Golan Levin

Par Annick RIVOIRE

lundi 06 septembre 2004 (Liberation.fr - 13:02)

Linz (Autriche), envoyée spéciale

Les œuvres de Golan Levin :

Les festivaliers visitent en masse l'exposition d'œuvres interactives Cyberarts, présentant les prix Ars Electronica 2004. Les enfants sont les rois de l'installation Messa di voce, tirée d'une performance très remarquée l'an passé de Golan Levin (avec Zachary Lieberman). Golan Levin, Américain, valeur sûre des nouveaux médias, petit et remonté comme un coucou, parle à quatre personnes à la fois tout en vérifiant les messages sur son portable, et répond à l'interview en attrapant le stylo pour expliquer par le dessin ses projets en cours. Messa di Voce fonctionne comme un tableau animé devant lequel deux personnes jouent avec leur ombre et un micro. Le son déclenche des formes variables (bulles de couleur, flamèche, ondulations, etc.), tandis que l'ombre du spectateur peut soulever lesdites bulles, etc. Ludique et poétique, nécessitant une réelle participation (en chuchotant dans le micro, rien ne vient, il faut chanter, siffler, chuinter...), Messa di Voce a obtenu un prix art interactif. Golan Levin en parle à 200 à l'heure.

Pourquoi avoir transformé la performance avec le poète sonore et vocaliste Jaap Blonk et l'interprète Joan La Barbara en installation?

J'ai obtenu le prix après la performance et nous devions la présenter cette année. Nous aurions pu montrer un DVD mais le public mérite de tester par lui-même où se situe la magie dans cette pièce. De manière à saisir aussi le formidable travail des interprètes, même si nous avons dû pratiquer beaucoup de réductions (de 14 sections pour la
performance à 4 pour le public).

**Ne craignez-vous pas qu'au format installation, elle perde de sa force ?**

L'installation est là pour expliquer la performance. D'ailleurs, elle sera montrée sous cette forme au ZKM (en Allemagne, ndlr) et dans un festival d'arts électroniques en Espagne.

**Quel est votre prochain projet?**

Mon prochain gros travail est basé sur la physicalité. Plus d'écrans, mais de la méca-tronique, un terme que je préfère à robotique parce qu'il fait moins référence aux robots humanoïdes. Les univers basés sur l'écran sont désormais bien maîtrisés, ils attirent plein de nouvelles voix et moi, je me répète. J'ai d'autres challenges à affronter.

(publicité)
INZ, Austria, Sept. 6 - Twenty-five years ago an electronic music festival and conference called Ars Electronica was added to a local celebration of Anton Bruckner, the native son composer. Since then the festival's focus has broadened considerably, and it is a leading forum for media art, which uses technology, often in an interactive fashion.

Since 1987 it has awarded a Prix Ars Electronica for interactive art, computer animation, digital music and Web art. This year it added "digital community." All categories share a total of $121,000 in prizes.

For this year's festival, which ran from Thursday to Tuesday, Ars Electronica chose to explore the next 25 years of media art while including a smattering of its greatest hits.

What started as an awkward genre appears to have become more self-assured. For instance, this year's top prizewinner for interactive art was "Listening Post" by Mark Hansen and Ben Rubin, both Americans. In it 231 small displays are mounted in a grid. A computer scans Internet chat rooms, message boards and forums, and displays the results, while a speech synthesizer reads some of them.

The cycle starts its scanning for the phrase "I am," which is soon elaborated upon: "I am Turkish." "I am a Beatles fan." "I am sure you are right." All of these are read once, as the unseen writers assert identities, perhaps false, while gentle electronic music plays. When most of the grid is filled, it goes dark, and the real-time scanning of user-ID's is shown, whirling past so quickly that it sounds like wind.

Then come text fragments that remain for only a moment to be replaced by the next scan, short sentences that are also read out. Since each displayed text has been posted only seconds earlier, the viewer never sees the same "art" twice.

Many of these pieces involve the viewer. A popular one this year was "Messa di Voce," also by two Americans,
Golan Levin and Zachary Lieberman. One steps up to a projection, casting a shadow on one of three selected backgrounds, and makes sound into a microphone. The shadow becomes surrounded by a line, which can then be manipulated by waving the arms or making a different kind of sound.

The participants in Ken Rinaldo's "Augmented Fish Reality" are Siamese fighting fish, which are intensely territorial and have excellent vision. Mr. Rinaldo has put three in separate fishbowls fitted with sensors the fish can trigger to rotate a plant mounted in the bowl's center or move the stand on which the bowl is mounted across the floor. Are the fish learning to do this? Do they choose to move close to one another to perform threatening stances? Whatever, there's no question that they have been moving around the space.

The basement of Linz's new Lentos museum has some exhibits of past prizewinners, which sometimes reveal the perils of media art: especially with works created on older machines. It’s something of an inside joke among media art fans that every exhibition has to be visited multiple times, not just to re-experience works but to see everything run at least once.

The Ars Electronica Center was erected in 1996 to exhibit, document and archive media art. It has become so popular that it can be jammed on weekends. Most of the works exhibited at the center are lighthearted, like "Cheese" by Christian Möller. It consists of filmed head shots of six young American actresses who were asked to smile for up to an hour. Software that purports to measure emotions determines whether the smile is genuine; when it judges it's not, a red light goes on.

"La Pâte à Son," a screen with a grid on which whimsical pipes and vents can be placed, moves little candylike bits of electronic melody through a "factory," manufacturing tunes. And in "Moony" by Takehisa Mashimo, Satoshi Shibata and Akio Kamisato, water evaporating from a surface forms a mist into which three-dimensional butterflies are projected. Users can manipulate the butterflies' position by moving their hands, but if they try to touch one, it flies away.

A regular event at Ars Electronica is an invitation to a media arts program at an educational institution to occupy the Linz Art College for a week. This year's visitors were from the International Academy of Media Arts and Sciences in Ogaki, Japan.

The visiting students provided some of the high points of this year's festival. For instance, "Karakuri Block" by Natsu Kawakita and Nobuya Suzuki has two plastic blocks with Game Boy-like screens. When plugged into a grid, a block shows an animated Japanese family crest. When a second block is plugged in, elements from one block flow into the other.

Even the cafe here was interactive: Hisako Yamakawa had a tea dispenser in which one deposits a euro. A screen lights up and asks you to sign a promise to enjoy the tea and drink it all, and the signature then determines the exact blend.

Music and dance also are part of Ars Electronica. Over the weekend there was a well-received performance of a dance piece, "Apparition," designed and composed by Klaus Obermaier, in which two dancers begin by playing with lines projected behind them and quickly move to more complex interactions. Desiree Kongerod and Robert Tannion's precise, vigorous performance brought a storm of applause afterward.

The grand prize winner for digital music was Thomas Köner for "Banlieue du Vide," a mix of 3,000 surveillance photos taken on deserted streets during a nighttime snowstorm. It was mixed with documentary sounds of the daytime streets and some electronic sounds. Some appeared to be a bit confused about why this was considered music rather than a video installation, but most viewers seemed to feel it deserved a prize.
Science news briefs: 9/27/04

Monday, September 27, 2004

Pittsburgh Post-Gazette

Science fair workshops

The Pittsburgh Regional Science and Engineering Fair is sponsoring workshops next month that will offer tips, ideas and resources for middle and high school students who are interested in entering the upcoming fair.

Student researchers will discuss their experiences in science competition during "Science Projects: Getting It All Together," from 9:30 a.m. to noon Oct. 16 at the Carnegie Library lecture hall, Oakland. Reservations are suggested; call 412-622-3138.

Recent science fair participants will talk about how they chose their projects and what they would do differently during "Science Projects: A Practical Approach," from 6:30 to 8 p.m. Oct. 27 at the Carnegie Science Center on the North Side. Reservations are suggested; call 412-237-1534.

Young scientist and innovators

- **Anton Schraut**, 13, of the Aquinas Academy is one of 40 middle school students nationwide ---- and one of just three in Pennsylvania ---- to be named finalists in the 2004 Discovery Channel Young Scientist Challenge.

Finalists were chosen based upon their entries in local science fairs; Schraut's project was "Methicillin-resistant Staphylococcus aureus: A Community Pathogen?" The finalists will travel to Washington, D.C., next month to compete for more than $100,000 in scholarships and prizes, as well as the title "Top Young Scientist of the Year."

- Two Carnegie Mellon University faculty members, **Golan Levin** and **Jesse Schell**, are among the world's Top 100 Young Innovators, an annual listing by Technology Review magazine.

Levin, an assistant professor of art, is an artist, composer, performer and engineer who explores new modes of expression, such as a 2001 concert whose sounds were generated by the choreographed dialling and ringing of the audience's cell phones.
Meet the world’s top young innovators. From computing to biomedicine to nanotech, their technologies will transform our lives.

INNOVATION HAS BECOME an endeavor without borders. And nowhere is that more evident than in this year’s TR100—Technology Review’s selection of 100 top innovators under 35—a group that demonstrates that the barriers to innovation, both geographical and disciplinary, are crumbling. The TR100 for 2004, the fourth year that Technology Review has named its list of innovators, hail from places as varied as Singapore, Boston, South Korea, Israel, China, and India—and many are developing technologies that defy easy classification, often fusing recent advances in computing, medicine, and nanotech. On the list, you’ll find leading academic researchers, entrepreneurs, social advocates for technology, and even experts in high-tech entertainment. In short, the TR100 represent the diversity of those using technology to transform the world around us.

Choosing the top young innovators is a challenging job—and not something we take lightly. Beginning more than a year ago, TR began scouring the world for nominees. As in years past, our editors then relied heavily on an expert panel of judges (see “TR100 Judges 2004,” p. 79) who carefully whittled down the list, initially more than 600 entries, to the very best and brightest. These are incredibly talented and hardworking people, and in the following 26 pages, you’ll read about their achievements and visions. Collectively this group provides an eye-opening picture of the future of technology. On page 76, you’ll also read of past TR100 members, many of whom have continued to make world-transforming contributions to technology.

■ Predicting the future of technology is notoriously difficult. But it’s a sure bet that the people you’ll meet in the following pages will play an important role in shaping it. —THE EDITORS
AREF CHOWDHURY
Age: 32
Member of technical staff, Lucent Technologies
Invented techniques at Bell Labs that enable higher-speed transmission of data over very long distances (up to 6,400 kilometers) within fiber-optic networks.

RAFFAELE COLOMBELLI
Age: 33
Research staff member, University of Paris-Sud
Develops new types of quantum cascade microlasers with a variety of sensing and imaging applications.

ADRIAN COLYER
Age: 33
Senior technical staff member, IBM
Leads IBM’s Winchester, England-based effort to improve software quality and cut development costs through “aspect-oriented programming,” an approach that promises to simplify coding for a wide range of applications.

ROBERT DROST
Age: 34
Principal investigator, Sun Microsystems
Pioneered a wireless technology to eliminate the wired connections between closely spaced chips in computer systems. The advance, enabling a 100-fold speed gain over wired connectors, will be crucial to future Sun supercomputers.

DAN GRUHL
Age: 32
Research staff member, IBM
Serves as chief architect for IBM’s WebFountain system, which identifies patterns in and extracts meaning from billions of Web pages to aid business decisions and fraud detection.

MICHAEL HELMBRECHT
Age: 34
Founder and CEO, Iris AO
Fabricates microscopic, deformable mirrors on computer chips that perform image correction for medical imaging, surveillance, and other applications.

AARON HERTZMANN
Age: 30
Assistant professor, University of Toronto
Combines machine learning and graphics to capture the motion of actors, dancers, and athletes—and to generate realistic animations for films and video games.

KURT HUANG
Age: 34
Cofounder and president, BitPass
Launched a startup developing micropayments technology that allows artists, small businesses, and others to charge fees of as little as one cent for access to online content.

ARI JUELS
Age: 34
Principal research scientist, RSA Security
Devised techniques at Bedford, MA, firm to improve the security and privacy of radio frequency identification tags, as well as cryptographic tools for authentication systems based on personal information and biometrics.

RICHARD KENT
Age: 34
Assistant professor, University of Virginia
 Produces biomechanical data vital to the design of air bags and auto safety systems that adjust during a crash, customizing protection to such factors as the passengers’ size, weight, and physical condition.

ANDRE KULZER
Age: 29
Research engineer, Bosch
Created a thermodynamic simulation that showed the feasibility of gasoline direct injection, which lowers auto fuel consumption and emissions and eliminates the electric starter.

GOLAN LEVIN
Age: 32
Assistant professor, Carnegie Mellon University
Explores the artistic implications of information technology.
 For Dialtones: A Telesymphony, the artist and engineer choreographed the ringing of audience cell phones.

MASSIMO MARCHIORI
Age: 34
Professor, University of Venice
Develops more efficient ways of identifying, finding, and retrieving information on the Web. The computer scientist also developed the World Wide Web Consortium’s Internet privacy standards.

WOJCIECH MATUSIK
Age: 31
Visiting research scientist, Mitsubishi Electric
Uses sophisticated computer graphics and image-rendering techniques at Mitsubishi Electric’s Cambridge, MA, lab to create 3-D television and related 3-D photo and video systems that weave together images from multiple cameras.

JAMES O’BRIEN
Age: 34
Assistant professor, University of California, Berkeley
Invented algorithms for simulating natural phenomena such as splashing water and explosions, for use in movies, video games, and advanced training simulations.

NURIA OLLIVER
Age: 33
Researcher, Microsoft
Constructs more-intuitive human-computer interfaces. The Spanish native’s projects include a smart office that can recognize what its occupants are doing and a system that lets users interact with computers via hand gestures.

ALI HAJIMIRI
Age: 32 | Cofounder | Axiom Microdevices

By squeezing an entire radar system onto a single chip, Ali Hajimiri may have brought us closer to the day when even a low-end car can “see” through fog. Earlier, the Caltech electrical-engineering professor found a way to fabricate a multiwatt amplifier on inexpensive silicon with no external components—a development that could result in smaller, cheaper, less power-hungry single-chip cell phones and led him to start Axiom Microdevices of Orange, CA.

RAMESH RASKAR
Age: 34
Visiting research scientist, Mitsubishi Electric
Built large computer display systems that seamlessly combine images from multiple projectors. The computer scientist’s image-processing and graphics research may lead to new applications in entertainment, image-guided surgery, and user interfaces.
»Typing is a percussive spatial action — a play of tiny thoughts scattered onto a tightly organized grid. Typing is also a kind of speech, spoken through the fingers with flashing rhythms and continuous gestures. Dakadaka is interactive software that explores these two ideas by combining positional typographic systems with an abstract dynamic display. Dakadaka was created in collaboration with Golan Levin.«

Für die relativ neuen Bereiche komplexer Interfaces gibt es inzwischen ebenfalls zahlreiche Arbeiten, die als Beispiele für avancierte künstlerische Experimente dienen können. Diese hybriden Künstler begreifen den Programmc ode als wesentliche Komponente ihrer Projekte und können sich nicht vorstellen, diesen Bereich ohne Authentizitätsverlust an andere zu delegieren. Eine fundierte Theorie, die Programmstrukturen als universelle Prinzipien und archetypische Denkformen begreift und diese mit zeitgemäßen Kunst- und Ästhetiktheorien verbindet, steht allerdings noch aus.

Zusammenfassung


Die Ausgangsfrage unseres Beitrags ist abschließend radikaler zu formulieren. Es reicht wahrscheinlich nicht aus, zu fordern, dass lediglich Medienautoren und insbesondere Medienkünstler sich mit der Struktur der programmierbaren Maschine auseinandersetzen. Vielmehr stellt sich die Frage, wie sich Künstler heute überhaupt noch an eine Leinwand stellen, oder einen Steinblock bearbeiten können, ohne die Kulturgeschichte der programmierbaren Maschine – mit ihren alles