



# The India Habitat Centre's Art Journal

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# Contents

- 5 **Director's Note:** *Raj Liberhan, IHC*
- 6 **Note on Collaboration:** *Chandrika Grover Ralleigh, Head, Pro Helvetia, India*
- 7 **Curatorial Note:** *Dr. Alka Pande, IHC*
- 9 **Editorial Note:** *Prof. Dr. Nils Rölller, ZHDK*

## Essays

- 12 **The Fickleness of Novelty:** *Shuddhabrata Sengupta*
- 17 **A reflection on perspective in art, science and digital media:** *Karan Sher Singh*
- 22 **Celebrating with anti-coagulants Ten Years of SHIBEN:** *Abhishek Hazra*
- 26 **Old Language in a New World:** *Alice Cicolini*
- 31 **New Media Art and its Obsolete Present:** *Shukla Sawant*
- 35 **New Media interventions from Bangalore:** *Suresh Jayaram*
- 42 **The New Music of New Media in India:** *Shankar Barua*
- 48 **The Way Things Go:** *Vilém Flusser*
- 50 **Programmes as space for thought?:** *Tabea Lurk*
- 65 **Variantology and Archaeology of the Media:** *Siegfried Zielinski*
- 67 **The Myth is the Message:** *Adrian Notz*
- 74 **Media authorship:** *Giacco Schiesser*
- 77 **HOME MADE and do-it-yourself:** *Dominik Landwehr*
- 80 **The DACollection/DASStore project:** *Annette Schindler and Reinhard Storz*
- 82 **Building bridges:** *Peter Schneider*
- 85 **Interview with Bob Bishop – A trend of computing**
- 88 **Xcult.org – the Swiss internet platform:** *Reinhard Storz*
- 90 **Public Art, Sociology, and the Theory of Art: Some Preliminary Remarks:**  
*Christoph Schenker*
- 93 **Not everything is predictable:** *Verena Kuni*
- 98 **Copyright and Freedom of Art in the 21st Century:** *Felix Stalder*
- 101 **Swiss Knife of Communication:** *Nils Rölller*

## Director's Note

If the idiom of art has become extensive and found ever increasing constituencies, it has also become more complex and didactic. To someone who has been brought up on the standard equation of paint + brush + canvas = artists, the present day boundaries are moving beyond this horizon. It over awes but it exhilarates. It challenges understanding but rewards comprehension. It makes you feel at once illiterate and ignites an urge to get into a classroom without any anxiety about your station or time of life. Ladies and Gentlemen, welcome to the world of digital art.

Here the canvas is your screen, and the technology driven keyboards help you create dynamic images conveying hundreds of thoughts. A landscape or a portrait or even abstract art on the customary canvas is frozen in time even though conversations around it 'animate', for as long as the work gets displayed. Electronics and collateral technology makes art pulsate whenever it interferes with the viewer.

So, argue or accept, the digital arts and new media are part of our lives and these will continue to push the boundaries of excellence as scientific discoveries occupy more space in our life.

It is in a sense an obeisance to the new Gods, a reverence to their creations that IHC's Annual Art Journal of this year seeks to celebrate. The widespread interest evoked in digital arts makes it all the more necessary to bring out different perspectives ranging from the exponents to the critics. There is also a bit of history about this medium included in this journal.

There is little doubt that electronic media has transformed the way the world lives, breathes and talks. We now live in exponential times. Not environmental any more, but truly exponential. It is history in the making as its roots go on further than the present. We have yet to fathom the full scope of the New Media. Till now, what has emerged is breath taking, so the future can transform the idiom of New Media.

**Raj Liberhan**

*Director*

India Habitat Centre



## Note on Collaboration

Pro Helvetia New Delhi takes great pleasure in having had the opportunity to work together with the Visual Arts Gallery, India Habitat Centre in the production of its Journal for 2009. Last year, we supported the Promising Artist of the Year, Ashish Ghosh who will have a residency in Basel as part of Pro Helvetia's Residencies programme in 2010. The Residencies programme is open for application until the end of January every year.

Drs Nils Roeller and Alka Pande first met in December 2008 and spoke about this collaboration and to see it fructify in such a satisfactory way is very rewarding – over twenty pieces in all from India and Switzerland – some from people who pioneered 'new media' in both countries. I am sure the Journal will be of interest to art theorists and practitioners alike, both here and there, and I thank both the editors for the energy and enthusiasm they invested in the project. It would not be out of place here to mention the quiet, but significant, contribution on the part of the translator, Ritu Khanna in making the German texts accessible to the readers of this edition.

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**Chandrika Grover Ralleigh**  
*Head, India*  
Pro Helvetia - Swiss Arts Council  
[www.prohelvetia.in](http://www.prohelvetia.in)

## Curatorial Note

*As a human being the artist may have many moods and a will and personal aims, but as an artist he is 'man' in a higher sense he is 'collective man' one who carries and shapes the unconscious, psychic life of mankind.*  
(Carl Jung)

IN 1938 the Swiss psychoanalyst Carl Gustav Jung, during his trip to India was honoured with three doctorates from Allahabad, Benaras and Calcutta universities. The sculptor, painter and art historian Alice Boner (1889-1981) from Zurich, who spent more than 45 years at the banks of the Ganga, in Benaras, was awarded the "Padmabhushan" in 1974 by the Indian President for her outstanding scholarly work on Indian art, especially sculpture and architecture is a reflection of the slim yet tenous link with India. During the years of World War II well known Swiss travel writer Ella Maillard, spent a number of years in the ashram of Ramana Maharishi, south of Madras, and reflected her unique experience in the novel "Ti Puss".

The philosophy of the land and the spirituality has been a constant source of engagement with the Swiss, mainly artists and intellectuals. They have been long fascinated with the historic and cultural splendour, and the puzzling diversity of India.

Swiss Banking, the Swiss watch Industry and the Swiss chemical industry too has a shared present with us here in India.

Continuing the tradition of applauding, we thought of now collaborating on the most innovative realm of art, The New Media and invited niche artists and writers on the common platform of Annual Arts Journal.

The seed of the journal on New Media started exactly a year ago when we invited Nils Röller to give a lecture on the ABC of New Media Art at the Habitat Centre. In an intense and passionate lecture Roller gave a gentle introduction to New Media Practices in Switzerland. As a lecturer in the

Department of Art and Media at the University of the Arts Zurich, where he teaches Media and Cultural Theory and is also co-director of the special field of Media Art, Röller is literally at the forefront of the development of New Media Practices.

I was presented with an irresistible opportunity on a platter and I grabbed it. I approached Chandrika Grover the Head of the Swiss Arts Council, the Pro Helvetia in India to come on board as a collaborator for the project, which she did. And ever since we have all been on a roll working closely together to produce a document which is a pioneering one in the disciple. New Media in the realm of art practice is still in its nascent stage in India. A bit of an oxymoron for a country like India which is providing the top human resources in the area of Information Technology and scientific research in the top laboratories globally.

Röller had great insights into the history and practice of New Media in the German speaking world of Europe. Having read philosophy at the post graduate level, a practicing poet, he brought in a dimension in his approach to investigate New Media which also finds echoes within the historical context of India's cultural and aesthetic development. Sacred geometry, Yantras and the rasa theory from ancient Indian cultural practices have a certain resonance in New Media art practices. Similar scientific thought processes are applied in the broad landscape of what is defined as New Media art.

New Media art by its very nature encompasses all artworks created with technologies from digital art, to computer graphics, computer animation, virtual art, internet art, interactive art technologies, computer robotics, and art as biotechnology. New Media is closely related to and often derived from technologies of telecommunications, mobile phones, and computer software technologies. The



key to this practice stems from conceptual and virtual art, and also the more performance based digital works i.e. the works of the American video artist Bill Viola. It is also interactive in nature where the reaction between the art and the artist is more immediate.

The genesis of New Media art goes back to moving photographic inventions of the late 19th Century such as the zoetrope (1834), the praxinoscope (1877) and Eadweard Muybridge's zoopraxiscope (1879). During the 1960s the development of then new technologies of video produced the new media art experiments of Nam June Paik and Wolf Vostell, and multimedia performances of Fluxus. At the end of the 1980s the development of computer graphics, combined with real time technologies then in the 1990s with the spreading of the Web and the Internet favorised the emerging of new and various forms of interactivity. The term New Media Art is generally applied to disciplines such as: Artistic computer game modification, Ascii Art, Bio Art, Computer art, Digital art, Digital poetry, Tradigital art, Electronic art, Evolutionary art, Generative art, Glitch Art, Hactivism, Hypertext, Information art, Internet art, Net art, Performance art, Radio art, Robotic art, Software art, Sound art, Systems art, Telematic art and Video art.

The set of 22 texts fourteen by Swiss authors and eight by Indian writers reflect the diverse yet eclectic voices of both practitioners and theoreticians on New Media. Technology however remains the common key which opens the door to the relatively emerging trajectory of new media art in India. While we have a strong and unbroken tradition in the fine art practice, the advancement of mathematics and scientific learning in which India was the first amongst equals in the ancient past, saw huge fractures and breaks through history. Yet for those who are forging ahead in the area of New Media cannot ignore the seeds of New Media practice of which there is a vast bowl waiting to be picked and sown. These ideas are evident in the opening essay of Shuddhabrata Sengupta 'The Fickleness of Novelty'. Karan Sher Singh in 'A reflection of perspective in art, science and digital media' explores the tensions between what we know and what we see. Suresh Jayaram through the bird's eye view of evaluating New

Media interventions from Bangalore presents a niche development from Bangalore a nerve centre of digital from South India, Shukla Sawant and Shankar Barua present a historical narrative of the recent developments in of New Media in art practice and electronic media. While Abhishek Hazra in his text highlights the space of a New Media laboratory of curatorial ideation.

Through the rest of the essays we move seamlessly through the matrix of ideas and development of New Media within India. Alice Cicolini a British fashion scholar who had lived in India and worked on a design project local/global excavates the layering of digital media in fashion technology. Shai Heredia '.....small invisible acts.....' in an open letter lays out the invisible acts of new media in the making of film.

My co-editor in the journal collected some of the finest names in New Media studies and practices and created a bouquet of voices which span the development of genre from its inception to present times.

**Dr. Alka Pande**  
*Curator and Art Consultant*  
India Habitat Centre  
New Delhi.  
Winter 2009



## Editorial Note

The Indian poet Sampurna Chattarji opens a verse with the words: "The soul is a moving number." These words are attributed to the mythical mathematician Pythagoras who may have had eastern origins. Quoting Pythagoras, the Mumbai-based writer expresses one aspect of the cultural exchange between India and Europe. The exchange has occurred in the past, with the invention of the zero for example, and is conducted at a variety of levels today. Here, for instance, with this issue of the Habitat Centre journal which you now have in your hands.

Located in the heart of New Delhi, the architecture and organisational structure of the Habitat Centre is a manifestation of its openness and interest in "the other". The "other" may be artistic experimentation with modern advanced technology or may be traditional expertise in the production of pottery storage jars. In this context it is an honour to invite Swiss authors to contribute to a publication on media art. It is a context with a long tradition in mathematics and is marked by rapidly growing expertise in the development of computer science and communication technology (see Bob Bishop in this journal). The chance to contribute also presents a challenge. It finds a theoretical framework in the history of media.

In European antiquity the word "medium" was used to express a temporal or spatial relationship between extremely distant points. Here this understanding is productive in two ways: on one hand it encounters the dynamics of contemporary India.

Indians engage on a daily basis with a variety of techniques involving extremes: the regular practice of ancient oral and written traditions of chanting, divine worship and spiritual conduct make up one end of the spectrum while modern global trends reflected in fast-changing lifestyles, economic crises and programmes accompanied by the confrontational strategies of religious fundamentalists constitute the other. Everyday life in India is therefore a permanent passage between diverse and antagonistic organisations of

time and space - this crossing is also productive in the context of artistic productions and reflections on media on the other hand. It has been intellectually fuelled in part by a tradition of a discourse on media in the German-speaking world (see Vilém Flusser). Today it is an exploration of time and space with the aid of digital technology.

Switzerland has fortunately been able to maintain continuity in artistic experimentation with digital technology. Tabea Lurk's essay in this journal emphasises the beginnings of computer art with a focus on the visual. These works are displayed for the first time in an international context. Festivals such as the erstwhile Viper in Lucerne, the Video Art Festival at the Walcheturm in Zurich, or the Shift Festival in Basel are established interfaces between artists and the interested public in Switzerland. The private institution Migros-Kulturprozent provides ongoing support for artists interested in experimenting with media technology, be it a single artist or a cooperative of artists across Switzerland (see Dominik Landwehr). Art schools in Aarau, Basel, Bern, Lucerne, and Zurich have introduced courses in media art in their curricula. Switzerland has gained special significance in the media art scene of the German-speaking world. This is because in Switzerland, especially Zurich, it has been possible to teach and promote courses in media art, while elsewhere interest and support have declined for a number of reasons. Cabaret Voltaire in Zurich supports this continuity by offering a platform for experimenting with the tradition of Dada under digital conditions (Adrian Notz).

Most of the contributing authors are based in Bern, Baseland Zurich, cities in German-speaking Switzerland. That the authors avoid general reflections on new media is common to their discourses. They focus on "patches" such as the archaeology of media (Siegfried Zielinski), questions of authorship (Giaco Schiesser), copyright (Felix Stalder), distribution and reception (Anette Schindler, Reinhard Storz, Verena Kuni), concepts of memory and consciousness (Peter



Schneider), public art (Christoph Schenker), and instruments (Nils Röller).

The underlying concept in this journal pursues the argument that digital technologies such as computers and networks have radically changed our daily lives and blinded us to their power. Much like fish that do not notice a gradual discolouration of the water, we have become insensitive to the "incisive changes in the way we think, feel, wish and act" that have been induced by digitisation. But there are moments of disturbance which lead the authors to their patches of analysis. The term "patch" is used positively, as an invitation to connect singular fields of research in one common weave. The scale of this texture prevents its patterns from being programmed by a single author – perhaps by many. All the contributing authors holding positions in Switzerland were curious and attracted by the opportunity to share their patches with authors and readers in India. The attraction is reflected by the wish to exchange ideas on issues of common interest and to develop alternative means of communication. The willingness to contribute to this Indo-Swiss initiative was remarkable. It may be welcomed as a form of respect for the culture which gave humanity the concept of zero which has kept souls moving for centuries, especially since zeros and ones are essential for digital devices.

The production of this journal itself was a question of striking a balance between the rare but encouraging personal meetings and maintaining regular contacts through digital technology. For the opportunity and honour to be part of the initiative I would like to express my gratitude to co-editor Alka Pande (Habitat Centre) and to Chandrika Grover Ralleigh (Pro Helvetia). Thanks also to Marina Sawall who meticulously read through and coordinated the exchange of texts and images and helped us to bring out the journal on time. The authors and artists supported this endeavour with their contributions and confidence. Thanks to them it may be possible to launch more projects in the future. Talks with Marianne Burki (Pro Helvetia) were seminal in the idea of an exchange between Switzerland and India. Christoph Schenker (Institute for Contemporary Arts Research IFCAR/ Institute for Contemporary Arts Research ZHDK) and Giaco Schiesser (Department of Art & Media DKM/ Institute for Contemporary Arts Research ZHDK) have been both supportive and

flexible. The idea could grow and develop thanks to a three-month Pro Helvetia grant to Barbara Ellmerer, who aroused my interest in India where I stayed at the Sanskriti Kendra in New Delhi. Ever since my visit, I have understood India as an invitation to participate in the adventure of globally evolving humanity. It is an adventure, which is also conditioned by the vastly different parameters of Switzerland and India: a nation with a long standing tradition of democracy and a state which is the largest democracy in the world; an Alpine country with a population of 7.7 million and an international city like New Delhi with a recent count of 14 million; and "old" Europe, educated by ancient Indo-Germanic institutions and an India which is re-inventing itself under global conditions.

**Prof. Dr. Nils Röller**

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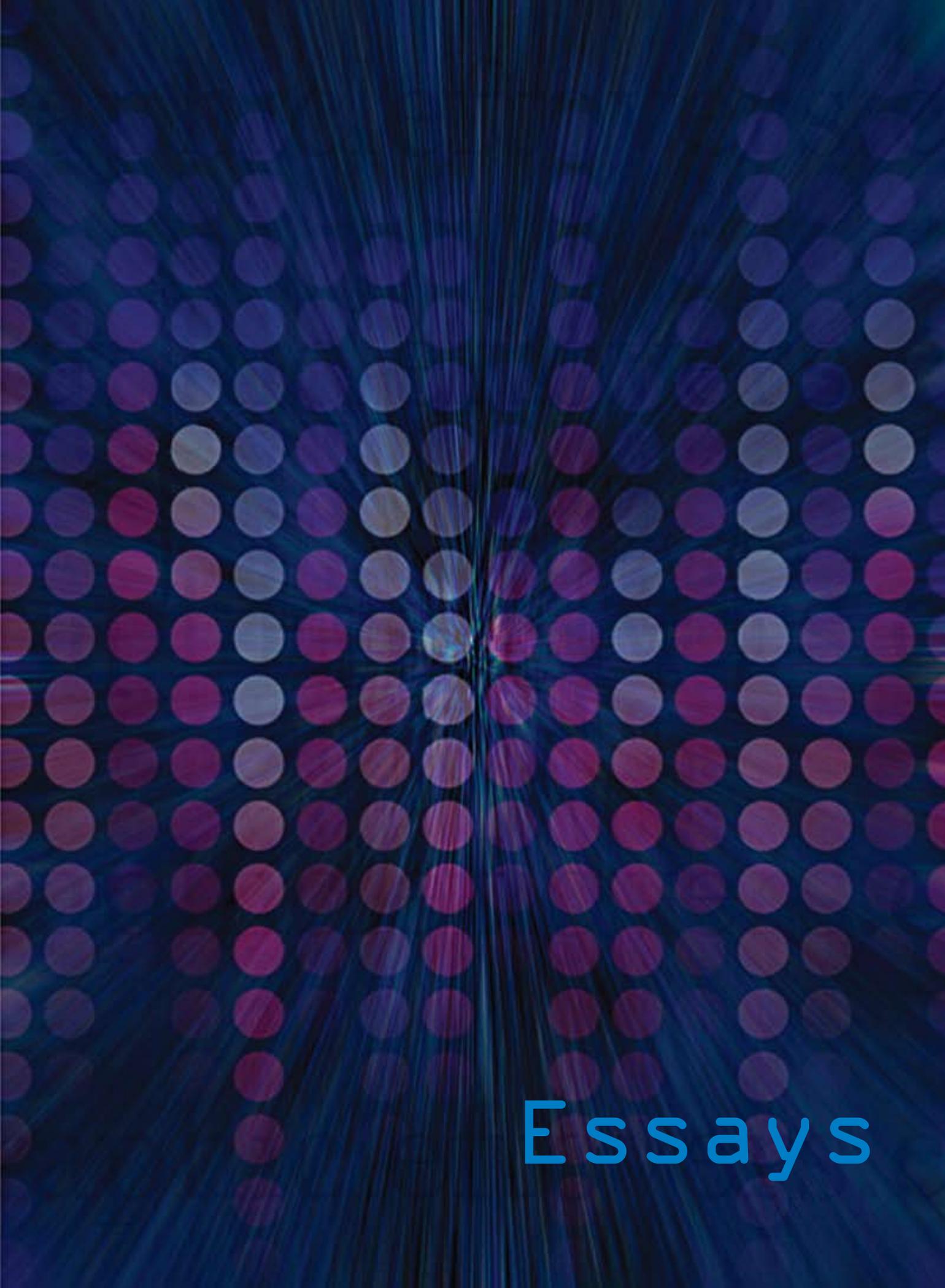
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The background features a grid of semi-transparent, multi-colored circles in shades of purple, blue, and pink. A vertical line of light blue and white circles runs down the center, creating a focal point. The overall effect is a dynamic, textured pattern.

# Essays

# The Fickleness of Novelty

## Notes Towards a Speculative History of New Media in South Asia

Shuddhabrata Sengupta, Raqs Media Collective

As practitioners of New Media, which is one (inadequate) way of describing anyone who works in the electronic arts, we can often catch ourselves feeling bereft of a history, compelled as if to inhabit the eye of a storm called the 'new'. We are the miscegnated progeny of the furtive couplings of the information practices and cultural processes of the past, warily looking up from our toadstool level at the tangled branches of the sheltering family tree. We are close to the roots, far from the branches, thriving on the remains of fallen ancestors, waiting our own turn to be compost for the mushrooms of the future.

Anyone who has ever had their thought or their practice tagged as in any way 'new' is destined to be nagged by the anxiety of looming obsolescence. Having lived through the roller coasters of dot com booms and busts, broadband waves and bottlenecks, dot net utopias and dot org wastelands, we, the generation that grew up in or to the internet, no matter when and where we grew up, we are all already history.

Novelty is a fickle companion; the 'New' just doesn't stay new for very long anymore. Today's killer application is tomorrow's exhibit in a technology museum. Today we have e-mail anxiety attacks; once upon a time, our hearts skipped a beat at the sudden, staccato arrival of a telegram. In Hindustani, the idiomatic mode of conveying urgency, immortalized in the plea that the distraught heroine in a village far from the nearest telegraph office makes to her lover in the distant city in innumerable Hindi films from the 1930s, 40s, 50s and 60s is - "*is chitthi ko telegram samajhkar aana*", or "rush, consider this letter a telegram."

Early, pioneering experiments with submarine telegraphy by the Irish doctor William O' Shaugnessy in nineteenth century Bengal, and the crucial role played by gutta-percha, a material with a distinctly South Asian provenance in the international telegraph network, suggest to us that a remote corner of colonial South Asia was as much a nursery of this global precursor to the internet as was Samuel Morse's New York workshop. In speculative hindsight, the history of South Asian 'new media' practice can claim Shaugnessy's experiments with long distance communication as its own contribution to the international culture of new media practices and forms.<sup>(1)</sup>

The telegraph, too, was new media, once, as were cinema and photography, as was movable type and the printing press in its own day, as indeed, was writing itself. Socrates, in Plato's Phaedrus is as against the novelty of writing, because 'it destroys memory and weakens the mind' as people who rail against the internet are today. There is nothing new about the contest between the partisans of the future and the past.

Every time is laden with its own assorted cargo of 'futures'. Some of these 'futures' or promises, come unstuck and drift away into a temporal limbo, stuck between the tenses like odd bits of floating grammatical anomalies. They are neither '*would be-s*', nor '*have been-s*', but mere '*could be-s*'. I call these anomalies - the 'Remains of Tomorrow's Past'. They are what to someone in our '*yesterday*', might have appeared as if they were capable of maturing into credible '*tomorrows*'. Thus we can see many potential futures at any given moment. Each of these futures is related

<sup>1</sup> Choudhury, Deep Kanta Lahiri. 'Beyond the Reach of Monkeys and Men': O'Shaugnessy and the Telegraph in India, circa 1830-1856. Indian Economic and Social History Review, vol. XXVII(3), July-Sept 2000, 331-360.



to every other future that is potential, and the one that matures into a 'credible' tomorrow, is in my view, continually indebted to the others it left behind. No one 'future' can exhaust all the promises of tomorrow. And we must return to the imprisoned and abandoned futures in the past to renew our own tomorrows. This is why I insist on revisiting tomorrows past.

What is true of time, is also true of space, of geographical and cultural distance. The ideas that spring forth, as if they originated in a given space, can usually through a process of investigation be seen to have a complex matrix of origins. Their components may derive from the commerce in ideas, concepts and innovations that is a standard incidental of cultural contact. Ideas and innovations emerge in a cultural context. A cultural context is something that I can only think of as being like a harbour or haven for ships that have berthed after travelling what we in Bangla like to call "Shaar Shomudro, Tero Nodi" or seven seas and thirteen rivers. Nothing comes from just one place.

Nevertheless, we continue to suffer under many misconceptions. Such as the idea that what is new media, must always have had, and will always have a strong transatlantic, middle european, and to a certain extent, pacific rim cultural tenor. New Media is what happens, or happened in New York, in Amsterdam, in San Francisco, in Berlin, in Vienna, in Nagoya, in Yokohama, in Seoul, in Sydney. The notion of a Eurocentric, or Transatlantic, or Sinocentric, or Indocentric or whatever-centric new media culture is only an illusion, because it is based on the fallacy that communication cultures arise in isolation from each other. Nothing does in the realm of culture, least of all with respect to cultures of communication. Some people would go so far as to say that nothing does at all. I am inclined to agree with this view, and with its explanatory force and generosity, but for the moment

let us stick to the narrower universe of media and communication culture.

One might as well ask *"..if we are to abandon our servitude to novelty and loosen the anchor of latitudes, how can we even begin to narrativize or historicize or offer any concrete explanations of what we are, how we came to be, and what we are about."* Let me suggest a line of thought that might be of some help.

One way of looking at cause and origin is to pin down a time and a place where something emerges. Another way is to reveal, layer by layer, the complex web of time, space, events, processes, interactions and cultures within which that emergence is nested. To see things in this way is to emphasize a materiality of relatedness above a solipsistic, idealistic and monadic origin myth. My contention here is that it is time that the New Media cultures of Europe and North America overcame their immature solipsism, and understood that theirs too is but a provincial and provisional moment in the unfolding of the material history of communicative practices. Similarly, it is time for cyber-triumphalists, say in India, to heed the warning that just because the zero, and the idea of 'sunyata' or nothingness began being used in Sanskrit texts on number theory and philosophy sometime in the first millennium AD is no reason to think that the origins of binary code lie in South Asian culture, and that therefore Indian programmers will eventually prevail and rule planet earth. (There are some people who think seriously along these lines, just because lots of Indian programmers, schooled in the computer programming assembly lines of engineering institutes in India, got lots of HIB visas to go to silicon valley). Arrogance of this sort can only need to debilitating anxiety.

The liberation from having to think of yourself as unique and new, or the very origin of everything,



means that you don't have to be so paranoid about ending when you have to, letting go and moving on. It also means that you do not have to hold on to cultural material as if it were your property, produced by dint of your monadic transformative authorship. If tomorrow all the computers in the world spoke to each other only in Finnish or Swedish, (as they do in something resembling English today at the level of higher level programming languages, at the level where the words for 'if', 'then', and 'run' become embedded in the commands we give to a machine) in homage, let us say to the cultural antecedents of Linus Torvalds (may peace be on his name), it would be neither a good thing nor a bad thing, it would just mean that a lot more people would have to learn the Finnish or Swedish words for if, then and run. Communication would not have come to some terminal end merely because the residual anglo-saxon linguistic imprint on programming culture were somewhat modified in a Finno-Ugric or at the very least more Nordic direction. Substitute English for Finnish, Finnish for Lithuanian, Lithuanian (which is the closest European Language to proto Indo European) for Sanskrit, Sanskrit for Hindustani, Hindustani for Tibetan, Tibetan for Chinese, Chinese for Japanese and Japanese for Xhosa and you will still get computers that can talk to each other, for better or for worse. The world of new media will not come to an end. There are in other words distinct advantages to realizing that you are not the centre of the new media universe, of realizing that the domain of media practice can be productively viewed as one which is contraindicative of the idea of a centre, or of an origin.

The radical denial of an origin, or centre of a practice, or of any reality is echoed in the Mahayana Buddhist idea of 'dependent origination' which in turn has a relationship to one of the crucial founding metaphors of the internet. The Bombay based curator and poet Ranjit Hoskote, in a discussion of the possibilities of contemporary new media based art practices in India. Ranjit writes and I quote -

*"The Internet is only the latest in a long tradition of metaphors enshrining the interrelatedness of all beings, the possibility of a global community. Earlier in this genealogy, there occurs one of the most spectacular expressions of a global network that draws human, non-human and divine creatures together: the image of the net of Indra, the world conceived of as a web in which every sentient being is a jewel-like node or knot. We find this compelling image in the Mahayana scripture known as the Buddhavatamsaka Sutra, or the Sutra of the Garland of Buddhas. Called the Avatamsaka Sutra for short, this Mahayana scripture is extant only in Tibetan and Chinese translations today; the Sanskrit original has been lost. Taking for its centrepiece the principle of mutually unobstructed interpenetration, the Sutra teaches that all sentient beings are to be valued and cherished equally, without regard to difference."* <sup>(2)</sup>

The metaphor of Indra's net can be found dispersed in several texts (written in Sanskrit and Pali) across the Buddhist canon, though it's most cogent expression is in the *Avatamsaka*, *Flower Garland* or *Hua-Yen* text. Other Buddhist sutras that refer to this net are *Maharatnakuta Sutta* (where we come across a modified version of Indra's Net in something called *Maudgalyayan's Net*) and in the *Nidanavagga* section of the *Samyutta Nikaya* (*The Book of Causation or the Connected Discourses on Causation*) and in the *Kaccanagotta*, the *Digha Nikaya* and the *Brahmajala Sutta* (where it is referred to as the '*Supreme Net*'). We do not have texts for all of them, we know some of them through citations, or dead hyperlinks, if you will, in other texts)

A recent English translation of a fragment of the 4th century AD Chinese translation entitled *Hua-Yen Ching* of this now lost Sanskrit text reads as follows :

*"Far away in the heavenly abode of the great god Indra, there is a wonderful net which has been hung by some cunning artificer in such a manner that it stretches out infinitely in all directions. In accordance with the*

<sup>2</sup> *The Net of Indra* by Ranjit Hoskote, *The Hindu*, Sunday, December 03, 2000  
<http://www.hinduonnet.com/thehindu/2000/12/03/stories/1303076i.htm>

See also, '*Indra's Cyber Net : The Impact of the Internet on the Development of American Buddhism*' - a thesis by Scott.A.Mitchell  
<http://www.buddha-world.org/webdocs/Thesis.pdf>

For a text of Hua Yen Ching : *The Garland Sutra*  
 see <http://thesevenrays.topcities.com/EthericWeb.htm>



*extravagant tastes of deities, the artificer has hung a single glittering jewel in each 'eye' of the net, and since the net itself is infinite in dimension, the jewels are infinite in number. There hang the jewels, glittering like stars of the first magnitude, a wonderful sight to behold. If we now arbitrarily select one of these jewels for inspection and look closely at it, we will discover that in its polished surface there are reflected all the other jewels in the net, infinite in number. Not only that, but each of the jewels reflected in this one jewel is also reflecting all the other jewels, so that there is an infinite reflecting process occurring... This relationship is said to be one of simultaneous mutual identity and mutual intercausality."*

The survival of the image and metaphor of Indra's Net as it is expressed in the Garland Sutra is itself a function of the properties of an ancient net that transmitted signals back and forth between different nodes in the ancient Buddhist world. The *Hua Yen* school, (which had Tibetan and central asian antecedents) gave rise to *Hwaom* school of Korean contemplative mysticism, which in turn is the parent of the *Kogen* tradition in Japanese Zen Buddhism. What is crucial to know here is that the first iteration of the source code, if you like, of this piece of software was lost in the very space where it was created, and what survived were rescensions, which flourished elsewhere.

The South Asian subcontinent became over time, inhospitable towards Buddhism, and like much else in Buddhist culture, little remained at the locus of so called origin. However the presence of many other nodes in the network, ensured that the signal could continue to be transmitted. Notice the parallel I am drawing here between one of the design impetuses that led to the creation of communication system that we now know as the internet, that communication would route itself around a failure, or fault in any one node in the network, and the history of the transmission of a metaphor in Mahayana Buddhism.

It is no wonder then that Tim Berners Lee,<sup>(3)</sup> who wrote the html code that laid the foundations of the internet experience as we know it today, echoed the metaphor of Indra's Net, quite consciously, in his conception of

the world wide web. It had come to him as part of the unitarian heritage that he had grown attracted to. The Unitarians had long had strong affinities with dissident strands in south asian philosophical traditions, and the Universalist Unitarians<sup>(4)</sup>, the denomination that Lee was to eventually adhere to, had in particular a history of using the Indra's Net metaphor to construct an image of an interdependent universe, and to imagine an ethic of mutuality and reciprocal relatedness.

Let me quote Tim Berners Lee to make this relation more explicit ;

*"...In an extreme view, the world can be seen as only connections, nothing else. We think of a dictionary as the repository of meaning, but it defines words only in terms of other words. I liked the idea that a piece of information is really defined only by what it's related to, and how it's related. There really is little else to meaning. The structure is everything..."*

Tim Berners Lee, 'Weaving the Web'

Or again, in an address called "Hypertext and Our Collective Destiny" Tim Berners Lee writes, in 1995 -

*"People need to be part of the fractal pattern. They need to be part of organisms at each scale. We appreciate that a person needs a balance between interest in self, family, town, state and planet. A person needs connections at each scale. People who lack connections at any given scale feel frustrated. The international jet-setter and the person who always stays at home share that frustration. Could it be that human beings are programmed with some microscopic rules which induce them to act so as to form a wholesome society? Will these rules still serve us when we are "empowered" by the web, or will evolution give us no clues how to continue?"*

*Look at web "home pages": "Home pages" are representative of people, organizations, or concepts. Good ones tend to, just like people, have connections of widely varying "length". Perhaps as the web grows we will be able to see fractal structure emerge in its interconnections. Perhaps we ought to bear this in mind as we build our own webs. One of the reasons that the web spread was that the hypertext model*

<sup>3</sup> *Hypertext and our Collective Destiny*, talk by Tim Berners Lee, 12 October, 1995

[http://www.w3.org/Talks/9510\\_Bush/Talk.html](http://www.w3.org/Talks/9510_Bush/Talk.html)

<sup>4</sup> *The Dialogue Between Contemporary Western Buddhism & Unitarian Universalism*, by Janice Christenses, UU Sangha, Issue #3, May 1995  
<http://www.uua.org/uubf/sangha3.htm>



*does not constrain the information it represents. This has allowed people to represent topologies they need. We have found that people love to use trees, but like to have more than one, sometimes overlapping. We have found they need structure and involvement at all scales."*

It is perhaps in this spirit that we in the Raqs Media Collective began writing what came to be a text called the 'Concise Lexicon of /for the Digital Commons'<sup>5</sup> in 2002. We were not aware of the image of Indra's net in the Garland Sutra or of its invocation by Tim Berners Lee, but an entry that we made for the word 'Nodes' is resonant with both the vision of Berners Lee, and of Indra's Net.

*"Nodes: Any structure that is composed of concentrated masses of materials which act as junction points for the branching out of extensible parts of the overall system may be described as nodal. The concentrations or junctions being the nodes. A nodal structure is a rhizomic structure, it sets down roots (that branch out laterally) as it travels.*

*Here, nodes may also be likened to the intersection points of fractal systems, the precise locations where new fractal iterations arise out of an existing pattern. A work that is internally composed of memes is inherently nodal. Each meme is a junction point or a node for the lateral branching out of the vector of an idea.*

*In a work that is made up of interconnected nodes, the final structure that emerges is that of a web, in which every vector eventually passes through each node, at least once on its orbit through the structure of the work. In such a structure it becomes impossible to suppress or kill an idea, once it is set in motion, because its vectors will make it travel quickly through the nodes to other locations within the system, setting off chains of echoes and resonances at each node that trace a path back to the kernel of the idea.*

*These echoes and resonances are rescensions, and each node is ultimately a direct rescension of at least one other node in the system and an indirect rescension of each junction within a whole cluster of other nodes. Nodes, when written, perhaps erroneously, as 'no-des'*

*gives rise to an intriguing hybrid English/Eastern-Hindi neologism, a companion to the old words - 'des', and 'par-des'. 'Des' (in some eastern dialects of Hindi, spoken by many migrants to Delhi) is simply homeland or native place; 'par-des' suggests exile, and an alien land. 'No-des' is that site or way of being, in 'des' or in 'par-des', where territory and anxieties about belonging, don't go hand in hand. Nodes in a digital domain are No-des."*

What we are trying to do here is to argue for a different logic of spatiality. Not one that does not require a map, not one that does not admit to difference, but which at the same time refuses to construct a causality, points of origin, arrows of progress, hierarchical evolutionary schemas that converge towards the manifest unifocal destiny of the history of the industrialized world, or a hoary point of origin in a mystical orient. Instead, we are trying to argue for a world of intercausality. Where different immanences separated in space and time emerge and subsist in relation to each other. We must learn always to be both more specific, and more general at the same time. Interdependence, or dependent origination is not only consistent with a rigorous philosophical materialism that sees strands, strings, knots and webs everywhere where other visions might see isolated entities, but also demands that we actively pursue relationality as an ethic in order to protect the signals that we create from a kind of self absorbed autarkic metastasis that accompanies any attempt to construct a siege of the self by the self.

This essay is an excerpt from a keynote address 'The Remains of Tomorrow's Past' to the 2004 conference of the ISEA (Inter-Society of the Electronic Arts) in Helsinki.

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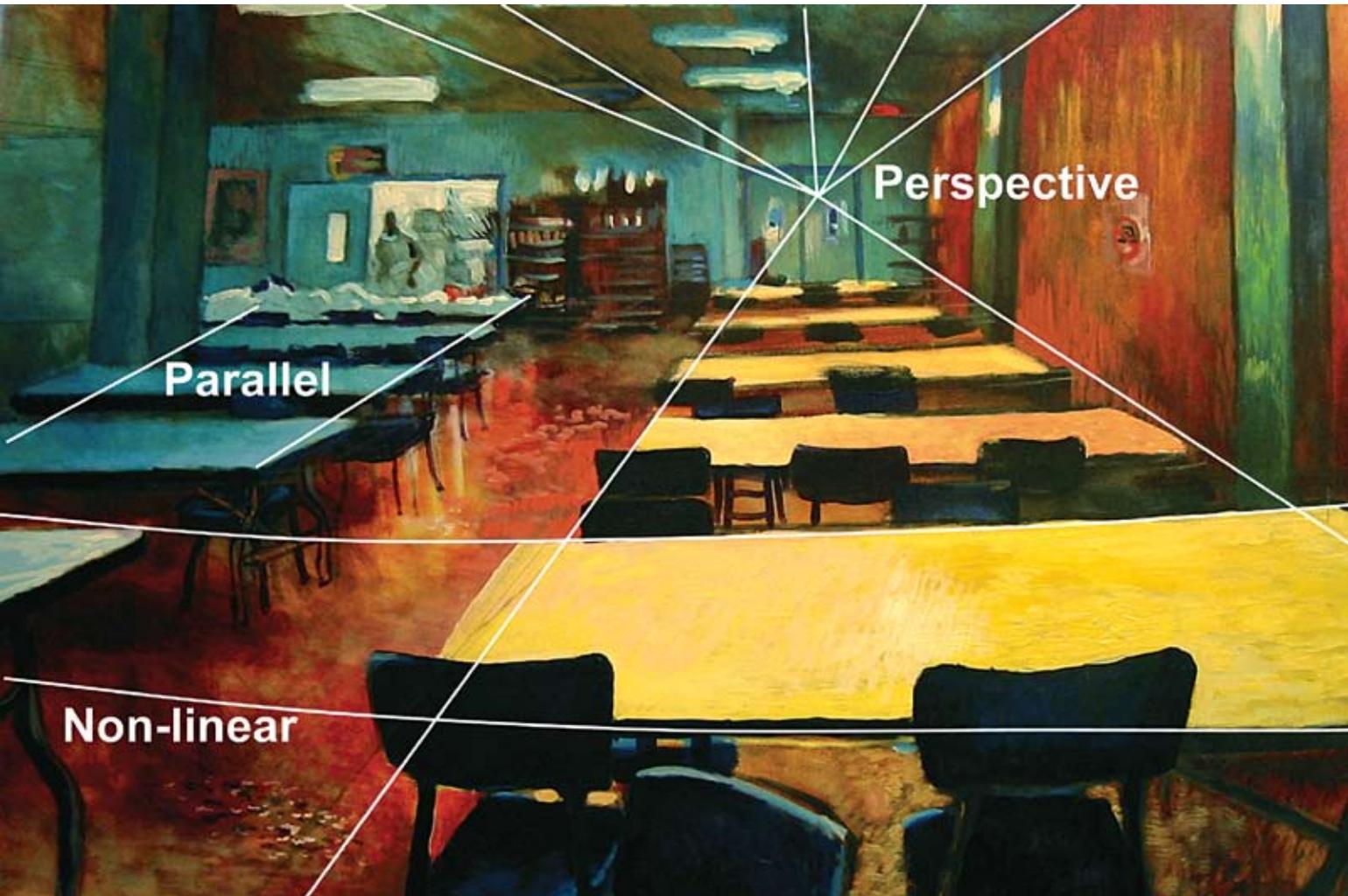
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<sup>5</sup> Concise Lexicon of/for the Digital Commons, by Raqs Media Collective <http://www.raqsmediacollective.net/texts4.html>



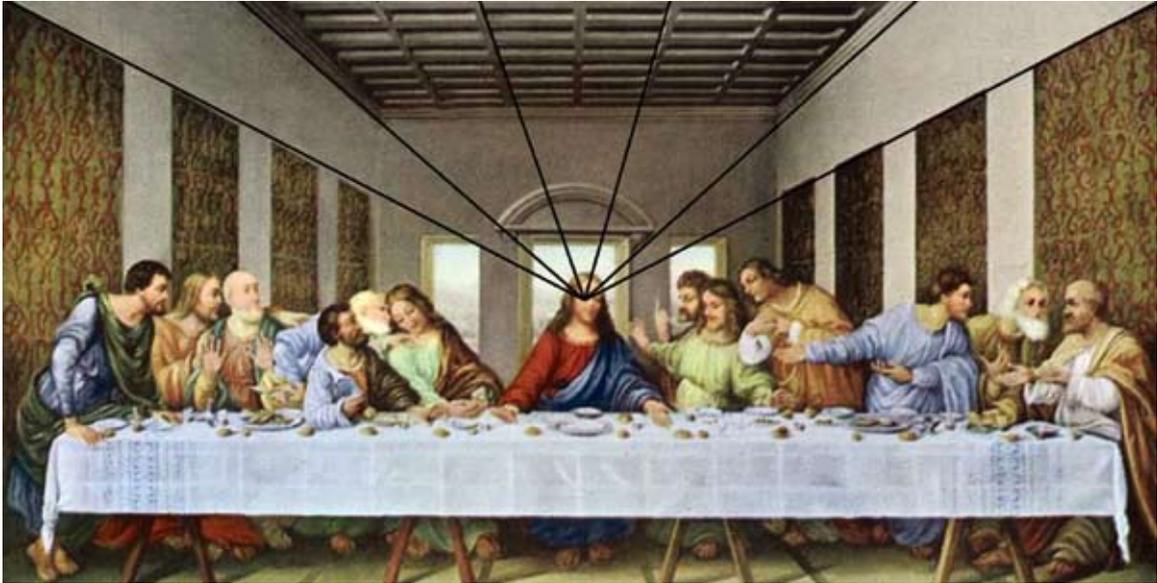
# A reflection on perspective in art, science and digital media

Karan Sher Singh



*Various forms of projective drawing can be seen in this pre-production sketch (Paul Cieniuch) from the animated short Ryan. Linear projections where parallel lines remain parallel or converge to a point in perspective, and non-linear projections where lines map to curves are highlighted.*

blindly painting what he saw,  
the artist staggered back in awe,  
am i absoblottolutely drunk,  
or has the back-door shrunk,  
and the ceiling collapsed onto the floor.



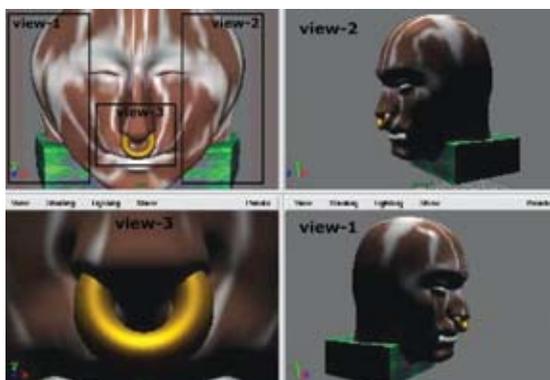
*The Last Supper (Leonardo da Vinci 1498), is a stellar example of precise one point perspective. The black lines traced over the picture show the focal point to be the eye of Jesus in the center of the painting.*

What the artist was blindly transcribing was his unfiltered retinal vision, devoid of any mental tampering by thought or experience. Staggering backwards, blind drunk or not, objects do indeed diminish with distance, vanishing into the horizon. Science calls this linear perspective, and it is a reasonable approximation to the way our eyes and cameras make two dimensional (2D) pictures of our three dimensional (3D) world. Perhaps the simplest illustration of perspective, nature's pin-hole cameras, are ethereal images cast by light streaming through gaps in foliage and cracks in walls. Ancient thinkers in China (Mo-Zhi 490-371 BC) and Greece (Aristotle 384-322 BC) observed this phenomenon, marveling at how the sun cast a circular image despite shining through a square hole. It was not until 1021AD though, that Alhazen took perspective from the domain of philosophy to science by constructing the first pin-hole camera, evocatively named Al-Bayt al-Muthlim (veiled room, or camera obscura in Latin). Vaguely cognizant but unfettered by the principles of perspective, art through the ages developed its own ways of seeing, until its glorious collision with science during the European renaissance around 1400AD.

Almost a millennium after Alhazen, the principle of the pin-hole camera drives 3D digital media. The phenomenon behind the stunningly photorealistic

digital imagery of today, Ray-tracing, is not a famous Sikh photographer called Raytray, but a computer graphics technique that follows rays of light, backwards, from a pin-hole through pixels in the image into a 3D scene: reflecting and refracting through objects, collecting information about the 3D environment to determine the color of each pixel.

An artist's task of depicting a 3D scene on a 2D canvas, however, is fraught with ambiguity. An infant's random scribble is arguably as honest a representation of reality as a tediously detailed drawing. Over the centuries, a number of drawing systems evolved, like languages of visual communication, to assist artists in expressing themselves and viewers in understanding their creations. These systems are sets of drawing principles, designed to help us mentally construct geometric forms and their relative spatial, temporal and even emotional relationships from their depiction on a flat plane. Image 1 shows examples of such systems in use today, each effective in their own way for visual communication. Engineering illustrations, aimed at conveying precise geometric attributes of a shape, employ parallel projections with lines preserving length and angle relationships between them. Linear perspective by contrast, foreshortens lines and distorts angles, parallel lines converging to vanishing points on the view horizon, causing objects



*A continuous non-linear projection (top-left) composed of three exploratory views in linear perspective.*

to diminish in size with increasing distance from the viewer. It is logical to then question why nature would have chosen such a distorted sensory view to help us navigate our world. The answer is depth: experience tells us that when viewing two lions in a jungle, we are likely to be eaten by the perceptually larger lion, not because it is bigger, but closer to us than the apparently smaller cat.

Linear perspective provides us with an all-important depth cue to mentally reconstruct the depth relationships between objects in an image. Despite having an intuitive feel for linear perspective, pre-renaissance artists never really had a principled system or the tools for drawing in correct perspective. Indeed, the lion's share of all drawings to date, from childish doodles to coveted masterpieces, whether executed by naïvete or planned intent, can be termed quasi-linear. Individual objects often exhibit a globally inconsistent but locally linear perspective. Sometimes object size is used as a depth cue but without a consistent correlation between size and distance. In general, there are hints of linear perspective sprinkled through the drawing with an overall spatial layout of objects comprising a coherent scene. Considerations other than depth, such as the importance of depicted subjects can determine their size, especially in art work commissioned or inspired by Gods, kings or parents. In this vein, even a reverse perspective, often seen in Byzantine art, has been used to magnify subjects with distance, with parallel lines diverging to defy the horizon.

Out of a quest for realism at the confluence of art and optics during the renaissance, rose the current system



*A perspective view of a keyboard (left) is distorted to provide a locally magnified view of central keys. The difference in the shadows cast by the same shape provides the perception of either a deformed object (middle) or a distorted view (right).*

for drawing in linear perspective. Around 1413, aided by mirrors and a hypothesis on vanishing points, Filippo Brunelleschi painted the Baptistry of San Giovanni. He then set up a demonstration in the unfinished doorway of the Duomo in Florence. Viewers, peering through a hole in the back of the painting would find their view of the Baptistry virtually indistinguishable from a reflection of the painting in a mirror facing them. Precise perspective in painting soon became a standard in art as artists explored its use not only to give realistic depth to their work but to compose and direct the visual flow in their scenes. A stellar example of this is none other than *The Last Supper* (Image 2) by the renaissance-man himself. Enchanted by the various urban legends and conspiracies surrounding the painting, few people actually appreciate it for its amazing composition of one-point perspective, with the parallel lines of the ceiling emanating like divine rays from the head of Jesus and simultaneously drawing all attention towards it, converging precisely at the center of his right eye.

So strong was the draw of linear perspective that it took western art centuries to break free from its vortex, feebly at first with mild impressionist deviations in perspective, to bolder variations seen in expressionism. In the 20<sup>th</sup> century, photography, which inherently captures a scene in linear perspective, began to develop as an art form. While photographers were experimenting with camera parameters of exposure, aperture and focus within the confines of perspective, their contemporaries such as Picasso, Hockney and Escher were skillfully manipulating and distorting perspective to serve their artistic vision. Cubism, while acknowledging perspective, combines various views of space over time into a single holistic composition. Marrying the spirit of cubism with photography, or perhaps intrigued by the mosaic vision of insects,



*A still from the animated short Ryan (NFB Canada 2004), shows extensive use of non-linear projection.*

David Hockney, composed dramatic collages of disjoint photographs composed into holistic scenes with a general sense of perspective. Grounded in science, Escher, sought to extend linear perspective in ways that had thus far only been used by cartographers to flatten a spherical world onto a planar map. He observed that in reality, train tracks or power lines converged on the horizon but with a gentle spindle-like curve rather than the straight lines one would expect with linear perspective. Such a phenomenon can be explained by noting that humans only have a limited field of vision and thus to see a view of panoramic proportions, one must roll ones eye or head. The principles of perspective remain the same but the image is no longer projected on a plane but onto the surface of a cylinder. Here lines map to sinusoidal curves that converge both above and below the horizon.

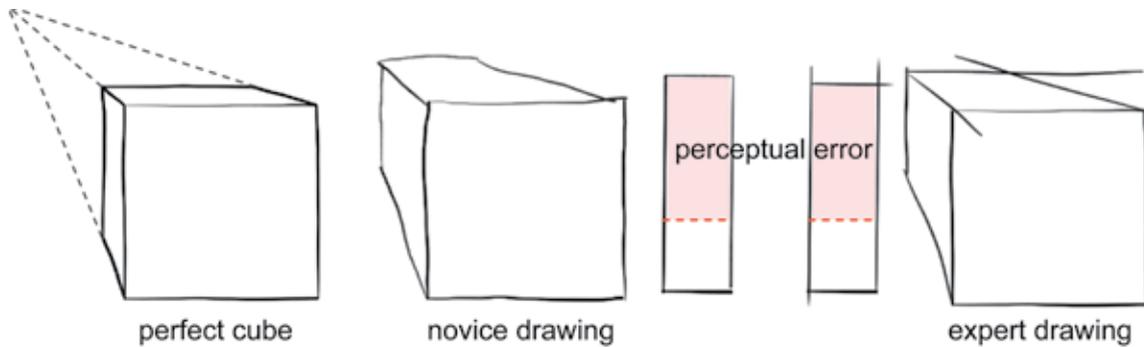
Mathematically, common operations like as translation, rotation, scaling and projections such as perspective, where lines map to lines, are known as linear transforms. For objects in a 3D world these transforms are represented compactly by a 4x4 matrix of numbers, the computation of which is hardwired on a chip called a GPU (Graphics Processing Unit) deep in the bowels of present day computers. What it has meant for the digital artist, like the photographer, that while they are spared the tedious pencil-paper-optic constructions of a renaissance artist to achieve proper perspective, they have to work equally hard, if not harder to transcend it. While the art world today seems to use and abuse the principles of linear perspective with abandon, 3D Computer Graphics has thus far constrained digital artists to a clinically precise linear perspective. Whether by matrices or ray-tracing, the

digital medium whose creative potential is limited only by human imagination, has been crippled by linear perspective lodged inextricably in its graphics processing pipeline.

In the past decade, however, there have been digital attempts at a fresh perspective. In a simulated digital world there is no physical requirement for the image to project on a flat plane. It is equally easy for a ray-tracer to fire rays out through any image surface and conceiving the image plane as a sheet of variable shape allows the ray-tracing of cylindrical panoramas, spherical fish-eye views and indeed any abstract surface upon which we might choose to project a scene. Manipulating the image surface to produce a desired look when flattened, sadly requires a degree of indirection and mathematical savvy that is beyond most artists.

A more intuitive metaphor is that of cubism or photo-mosaics, where the artist explores the scene and then uses a few compelling but disjoint perspective views to compose a final image [CS04]. Since modern graphics hardware forces us to see the final scene in linear perspective, one must thus deform the scene into something seemingly grotesque that only appears right when viewed from a particular viewpoint in linear perspective. A physical realization of this idea was perhaps first seen in 1920 with the distorted sets, constructed to convey an eerily warped perspective in the classic expressionist film *The Cabinet of Dr. Caligari*. Inspired by the film, director Chris Landreth sought to explore a non-linear perspective in his 2005 Oscar winning animated short film *Ryan*. The goal was to employ both subtle non-linearities aimed to subconsciously induce a sense of unease in the audience, and large deviations from perspective to convey the agitated and sometimes inebriated state of the protagonists (Image 5). The animation was authored with a conventional linear perspective view, with additional views added by the animators to cause non-linear distortions (Image 3) to the master view as and when needed. It is not sufficient to simply distort a scene for a given effect though, since other than the projected shape, our vision uses information such as lighting, shadow and texture to understand an image. The difference is illustrated in Image 4, where the identical projected shape of the keyboard with different shadows, appears either as bulbous space-





An experiment where participants were given the front square and the vanishing lines as shown (left) and simply asked to trace out the depth of what they perceived to be a perfect cube. Both novices (middle) and experts (right) alike significantly and consistently overestimated the lengths of the receding lines. A scaled view of the top face of the cuboids drawn by participants shows the magnitude of perceptual error.

age keyboard viewed in linear perspective, or as a normal keyboard with a local view magnification.

It is quite evident thus, that our visual system has mechanisms to process and parse what we see, perspective being but a small part of it. Understanding how we understand what we see is a holy grail for researchers in computer graphics, vision, perception, art and cognitive science alike. The experimentally proven tension between what-we-know and what-we-see, filters the perception of what-we-see and our ability to subsequently draw it. The knowledge that we are viewing a cube and implicit expectations of foreshortening in perspective causes children, adults and trained artists alike to consistently perceive and draw perfect cubes with a depth bias (Image 6) [R+09]. In other words, if we wish to communicate a perfect-cube using linear perspective, it should be drawn as an imperfect cuboid, which the viewer's biased visual system will then interpret as a perfect cube. While artists using traditional media must use their experience and experiment with proportions to communicate a desired shape, the digital medium has the capability to computationally model biases in

human perception and like a pair of spectacles correct the images before they are presented to our eyes. After all in the words of Anaïs Nin, "We don't see things as they are, we see things as we are".

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ten years of shiben celebrating with anti-coagulant  
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celebrating with anti-coagulants ten year

## **Celebrating with anti-coagulants Ten Years of SHIBEN**

**(Shatkhande Institute of Bleeding Edge New Media)**

Abhishek Hazra

01.0

Perpetual Haemorrhage the recently concluded group show held at the abandoned Wind Tunnel Laboratory was Pratyut Pannamati's first curatorial project in the country of his birth. Haemorrhage was a show in honour of his alma mater, SHIBEN The Shatkhande Institute of Bleeding Edge New Media. Although SHIBEN has now earned its art historical spurs as a breeding ground for innovation, it has always been a humble but dynamic coaching centre helping young aspirants get a toe-hold in the coveted new media art colleges. These colleges are famous for their tough entrance examinations and SHIBEN's rigorous coaching programme ensures that its students get through the required hoops. Fifteen years back when a Gartner Report predicted the increasing importance of 'future friendly' creative industries in the so-called BRIC (Brazil, Russia, India and China) countries, India witnessed a frenetic growth in SHIBEN like coaching centres. Many of them are still in operation, but none has been as successful as SHIBEN.

Although Pratyut has been recently criticised for being a bit too prolific, one has to acknowledge the novelty of his radical gesture for Haemorrhage. Rather than putting together an easy roster of Indian New Media stars, many of whom did enlist SHIBEN's services at one point, Pratyut chose to focus on those SHIBENites who had refused to be professional artists but had pursued their interest in media in ways that often fell outside the territorial markings of new media. Haemorrhage was simply an attempt to document the life work of ten such renegade minds. Among other things, many viewed the show as a comment

on the contradictions inherent in the relationship between 'art' and 'institutionality'. Some read Haemorrhage as an argument on how new media art fulfils its radical promise only when it ceases to be New Media Art that the moment of highest efficacy is also the moment of self-dissolution. And in case you are wondering, Haemorrhage was not about the 'artist-pioneer slogging it out in solitude' - Pratyut's curatorial statement had made that unequivocally clear. Considerations of space prevent me from exploring these questions further here. However, in the remainder of this essay I will attempt to offer an incomplete sketch of two artists who were featured in Haemorrhage. (It was a deliberate choice to select these two randomly. So, dear reader, please don't search for any hidden significance).

02.01

### **Naksharati Pandian: Tinkering with Retro-Algorithms**

After SHIBEN's meticulous coaching, Naksharati had sailed through her entrance tests at Maeda University. While her peers were busy sharpening their artistic preoccupations, Naksharati kept herself occupied as a lab assistant in the Special Effects Studio. Late one night a chance encounter with a file cabinet, stuffed with dead file formats and decaying programming languages, alerted Naksharati to the precarity of digital media. She soon realised that contrary to its appearance, the cabinet was used quite often as the Studio routinely accessed old archival material encoded in these dead formats. Having encountered archaeology in such a palpable way, Naksharati

wanted to explore more. However, during Naksharati's days at Maeda most Special Effects Studios were crippled by inane data regimens that enforced a file format obsolescence. Under the strict gaze of these data enforcers, digital archaeology was an illicit craft, a Gupta Shilpa practiced in obscure sub-folders. Favouring sunshine over darkness, Naksharati soon turned to a real, 'sand and stone' kind of archaeology. Although she had begun to show a special talent for resurrecting legacy image compression algorithms like RayTrace\_Grue she got hooked on the sand and didn't really miss her Studio days at Maeda.

A funny and ironic catastrophe brought her back to the Studio. Around seven years back, faced with an acute space crunch, the Department of Culture had decided to jettison its archive of video-tapes and films that chronicled the early days of television programming in the country. An enterprising software company, itching to get into the corridors of state power had volunteered to digitise the entire video and film collection for a nominal price. When samples of the digitised TV programmes were later broadcast on several prime-time spots, there was a general uproar of disapproval. Bristling with an unbearable clarity, the digitised videos looked shockingly new. The stutter and the grain that middle-aged citizens so lovingly remembered had been erased from these treasured artifacts of their adolescence. The loss was widely believed to be irreparable as the software company had promptly transformed the original film and video material into some new-fangled composite plastic waste, right after the day they

completed the digitisation process. It was at this point that Tarak Bakshi, an expert on dead media and one of Naksharati's professors at Maeda University, remembered her work on RayTrace\_Grue and realized that she alone had the algorithmic competence to somehow rescue these TV programmes. Bakshi was confident that Naksharati could algorithmically infect these dead pixels with their original imperfection and lovingly deteriorate them back to their flickering selves. When Naksharati finally received an official letter of invitation from Maeda, she was exhausted by the unrelenting brightness of the desert sun she longed to bury her face into the rancid whorls of the Studio carpet after a joyous night of uninterrupted coding.

Once back at the Studio, Naksharati realised that the algorithmic problem was exceedingly difficult. However, even though it took a while longer, eventually her obstinacy paid off and the solution did emerge. But the collective gaze of a viewing public is a fickle beast by the time the solution was implemented everyone had gotten used to the new, shiny avatar of the digitized programs. Although her algorithm was rendered irrelevant, Naksharati desperately hoped it would find some use and thus somehow avoid that dreaded filing cabinet of dead file formats and decaying programming languages. Mining her archaeology contacts, she got through to ShishuTimi, an archaeology professor who moonlighted as a doctor of manipulated video. In his last assignment, ShishuTimi had produced a set of fake CCTV crime videos for a gated community whose administrative

committee wanted to justify a higher density of CCTV cameras. Although he was more or less happy with the way he simulated lossy JPG artifacts onto his original High Definition Home Video (in which the source footage was initially shot) ShishuTimi was aware that his system could do with some improvement. Perhaps it was only apt that Naksharati's algorithm proved to be the perfect candidate for ShishuTimi's requirements.

02.02

### **PalongVeld Weejanu: Mechanisms of Dispersal**

Weejanu never had any Biennial fantasy he had always dreamt of becoming a successful cultural entrepreneur. In his first few months at SHIBEN he quickly realized that for all its celebration of cultural diversity as a bulwark against late capitalist homogeneity, the contemporary art world too was fixated on similitude rather than difference. Accordingly, he dropped out of SHIBEN and quickly figured out the following:

01. No amount of anti-hegemonic day dreaming can magically wipe off the very real power gradient between the Northern and Southern art worlds.

02. Relational Art<sup>[1]</sup> was a good candidate for a long shelf life on the curatorial racks.

Weejanu acted quickly and decided to float a secret franchise network for Relational Art that would draw its sustenance from the North-South power gradient.

Within weeks, Weejanu's start-up was cash-positive and had a fully functioning system in place. Northern artists started selling their Relational Art projects, succulent with the juice of critical praise, to a limited set of Southern franchisees. In any given deal, the Northern and Southern players remained anonymous to each other while Weejanu monitored the logistics and pocketed a modest brokerage fee. However, for the Southern franchisees of a given project, Weejanu strategically bundled in a customisation solution designed to make a Southern Relational Art project

look authentically local as if it were an organic response to a contextual need while simultaneously remaining attuned to the global cultural zeitgeist.

Weejanu's franchisee model worked well for the Northern artists too as it offered them an effective career path to become 'influential artists'. For a small additional price, they could even select their geography of influence. Instead of being revered as an influential artist among jaded hipsters in Shanghai, if you, as a conscientious Northern artist wanted to be more influential among Nicaraguan new media artists disillusioned with the Sandinista, you could definitely request Weejanu to sell your projects only within Nicaragua.

While the franchisee model was quite successful without any nasty surprises, there was one development that really amused Weejanu. Here, we have to keep in mind, that as a curatorial or theoretical idea, Relational Art enjoyed its massive success primarily because of its perceived ethical core. Moreover, since the Southern regions of the world have always had a privileged access to the inner chambers of morality and spirituality, at one point in its career, Relational Art decided to adopt the Southern world as its spiritual home. With this crucial geographic shift, the Northern art world began to view the Southern projects as the conceptual avant guard of the Relational idea. Smelling of the earth and rain, these projects were held up as the perfect embodiment of Relational ethics. In addition, in an inversion rarely witnessed in the art world, the Relational Art projects of the North were dismissed as 'also rans' limpid imitations of the morally superior Southern projects. Weejanu of course enjoyed this thoroughly and whenever he read a Northern curator's rapturous celebration of a given Southern project, he silently remembered how that very project had started its life as a franchisee of a Northern project.

03.01

I will try to wrap up this essay with a short description of Haemorrhage's opening night. For such an important

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[1] Here, please include a relevant footnote about Relational Art. Would you say that citing a Wikipedia link here in this footnote might make it look a bit too self-reflexive? Alternatively, will the reader understand my exasperation with word limits: that I had to delete an entire paragraph devoted to a nod-nod wink-wink about how Relational Art with its seductive leverage of free, unpaid labour served as the initial inspiration for Wikipedia and the Web 2.0. And now, in writing this I wonder if decades later, will some philosopher-historian dig up Wikipedia's "history" tab to craft a nocturne of amateur labour?



event, many were surprised to find the lack of alcohol, tasty snacks and other mandatory requirements for a decently tolerable party. Since an abbreviated version of the show was already published online two weeks before, it was the opening night that everybody was looking forward to. Instead, there was a giant unmanned and electronically controlled pushcart, which spewed out a seemingly unending stream of pink candyfloss. While the assembled art lovers did nibble on that sticky confection, they did so desultorily – without any curiosity on what could have been Pratyut's rationale for this conspicuous yet random presence of candyfloss. It took a couple of junior high school kids to figure out that each candyfloss was actually a 3D representation of the daily usage pattern of the Haemorrhage website. While fooling around

with the laptop mounted on top of the pushcart, these kids had stumbled onto the harmless bot installed in the Haemorrhage website. The bot recorded the mouse trails generated by every unique visitor to the site and every night, at 23:55 PST, it rendered out a composite image by superimposing the set of unique mouse trails generated for a given day. This composite image often resembled a dense filigree of jagged and swirling lines. The 3D printer, concealed beneath the pushcart, created a 3D version of each daily composite image and printed it out as a pink candyfloss. While many viewed this extended joke with candyfloss as a bit too juvenile and reeking of self-importance, there were others, who eager to display their critical apparatus, made learned observations on the infinite recursion of consumption and the synesthesia of tasting data.

*Abhishek Hazra is a visual artist based in Bangalore. His work explores the intersections between technology and culture through animated shorts and performance pieces that often integrate textual fragments drawn from real and fictional scenarios. He is also interested in the social history of scientific practices in colonial India. A brief overview of his works can be found here: <http://abhishekhazra.blogspot.com/>*



# Old Language in a New World

Alice Cicolini



*Empress's New Clothes* by Jane Harris, 2003  
3D CG, Mike Dawson  
Performer/Choreography, Ruth Gibson  
Supported by: Arts and Humanities Research Council

Digital media in fashion is a broad landscape; innovation in the use of technology in relation to dress has been extensive in the last fifteen years, but can mean anything from the prevalence of digital textile printing (a technique that is flourishing in British fashion currently) to the use of forms of technology as either inspiration or collaborator in the production or presentation of fashion (from McQueen's famous spray-painted dress worn by Shalom Harlow,

to Chalayan's Remote Control Dress and Simon Thorogood's Digital Runway'). Nor is inspiration from notions of what the "future" might hold in itself new; designers such as Elsa Schiaparelli in the 30s and Paco Rabanne in the "Space Age" of the late 60s were profoundly influenced by the modernity which research and innovation in science and technology encapsulated. But it was inspiration that was manifest on an aesthetic rather than integral level. Practitioners

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<sup>1</sup>Alexander McQueen SS 1999 <http://www.youtube.com/watch?v=reKOA1XljkA>; Hussein Chalayan 1999 [http://blog.metmuseum.org/blogmode/wp-content/uploads/2008/02/dp151363\\_mainl.jpg](http://blog.metmuseum.org/blogmode/wp-content/uploads/2008/02/dp151363_mainl.jpg); Simon Thorogood <http://www.fashion.arts.ac.uk/simon-thorogood.htm> and <http://www.translatingnature.org/about-spore/digital-runway/>



such as Suzanne Lee (author of *Fashioning the Future*<sup>2</sup>) and Jane Harris, Reader in Digital Textile Design & Media & UAL Director of Textile Futures Research Group at the University of the Arts, London, have been exploring this landscape for over a decade, looking at the multiplicity of ways in which the growing body of scientific knowledge, around biochemistry and technology, might impact on and embed themselves within the creative development and production techniques of the fashion and textiles industry. This article draws on excerpts of an interview with textile designer and 3D CG artist Jane Harris<sup>3</sup> in October of 2009.

*AC: Could you tell me a little bit about how the context for your work has changed over the last fifteen years?*

*JH:* Timing is crucial to understanding how significantly the landscape has altered. I started working in 1993. My previous work was in kinetics and the body in relation to textiles. The computer was looming but crude. The richness of the hand couldn't possibly be replicated, but digital could just about create pattern on the surface of textiles. Between 1995 and 2000, the pace of growth was massive. If you can imagine it now, *Toy Story*, released in 1995, marked a critical moment in contemporary animation technology; it was the *Snow White* of its day. If you look at the development of the technology across the *Toy Story* serials (1 & 2), there was another massive research shift again, as there will be when *Toy Story 3* is released. Disney / Pixar use short film projects to push the development of the technology that they feed back in to major budget features, but even so, story lines are basically developed to fit the algorithms (*Toy Story* was in essence defined by the fact that all they could create at this stage were relatively crude block shapes, so toys seemed a logical starting point).

All the while, the technology is being developed for representing fashion and clothing without input



*'Potential Beauty', by Jane Harris, 2003 /04  
3D CG, Mike Dawson (Performer/Choreography, Ruth Gibson  
Supported by: Arts and Humanities Research Council)*

from designers. In fact, *Bugs Life* is about the only animation where artists have been involved at all (all the leaves were hand-painted before being animated). What is available isn't intuitive, its producers having no understanding of material malleability. Textiles in animation, like textiles in the fashion industry itself, are at the bottom of the development food chain. Where there are thousands of different material processes available in textiles, textile in 3D CG just pales in comparison; you have the fader with a scale

<sup>2</sup> Lee, Suzanne *Fashioning The Future*. Thames & Hudson, London 2005

<sup>3</sup> Harris is now a Reader in Digital Textile Design & Media & UAL Director of Textile Futures Research Group at Central St Martins College of Art and Design. Her Ph.D. research at the Royal College of Art, 1995-2000, was entitled *Surface Tension: The Aesthetic Fabrication of Digital Textiles - The Design and Construction of 3D Computer Graphic Animation*, and built on an established background in textiles. Harris's multiple award winning practice led to an AHRB Innovation Award in 2002-03 supporting her enquiry into the 3D CG animation/ 'realtime' origination of contemporary, and simulation of historical, textile/ garment forms. This included collaboration with fashion designer Shelly Fox, recipient of the Jerwood Fashion Award, 3D CG computer graphic operator Mike Dawson and movement designer Ruth Gibson. As visiting lecturer, Harris has worked extensively in the UK and internationally; she has served as an advisor to the Scottish Arts Council, more recently to The Arts Council of England and the EPSRC/ AHRC. Harris will publish a book on the development of 3D CG exploration in fashion for Thames & Hudson in 2010 ([www.janeharris.org](http://www.janeharris.org)).

from silk to cotton, at best, but the silk is like cling film and the cotton is like cardboard. Today, although programmes like Optitex<sup>4</sup> are making it possible to design and market fashion collections virtually, the revolution in animated fashion hasn't really taken place in the way I imagined and the technology is still being developed without creative input.

Projects like Nick Knight's Sweet with stylist Jane How (2000)<sup>5</sup> were early experiments in the potential of 3D CG. How recreated Spring Summer 2000 catwalk looks in sweet wrappers that were transformed into 3D CG landscapes around 360° rotating busts. Knight, like many others working in this field including myself, found that there was something about the disruption or glitches of this developing technology that influenced, or made a space for, creative development<sup>6</sup>. As an example, it is often these glitches that are being ironed out with every new product development phase. If programmers worked more regularly with creatives, we might not find ourselves in a place where we have to try and build these creative side effects back in.

AC: There are three main questions that your work raises for me. The first is about the nature of collaboration in the development of your practice. Unlike many design collaborations, yours are clearly acknowledged and placed upfront.

You start by having to collaborate because of the nature of the technology. I worked with Mike Dawson, a computer graphic operator who could have been earning \$300,000 a year in the States. We digitally hand-structured and painted surfaces (lace, velvet and so on) using the midscale on the textile effects fader. It took us six months to render seconds of surfaces. During this period, Mike became a cloth expert, connecting with my design language; equally I developed a way of seeing programming code that could get us through stumbling blocks in the process. Our expertise started to mesh.

Other collaborations have been pivotal to the development process. We worked with designer

Shelley Fox as part of an AHRC research grant; the aim of the grant was to develop the artwork and answer technical questions arising from it. The intention was to open up the potential of this technology to the working process of a designer, and at the same time demonstrate its potential to address issues within a particular designer's work. For Fox, the issue was that the structural complexity of her work is difficult to visualise on a hanger. Working with 3D CG would bring her pieces palpably to life for an audience. What we didn't see coming was that the textile surface we had had to use, given the technological limitations, profoundly altered the nature of the garment as far as Shelley was concerned to the point that she didn't see it as her work. So a garment was brought to life, but it wasn't a Shelley Fox. We did work with Shelley again, but on a project with no textile element, animating a flat pattern to 3D garment form and back to flat pattern for the window at Selfridges. The technology is much closer now to being at the next step the virtual collection or a tangible manifestation of something that wouldn't have happened otherwise, the bit where Alexander McQueen or Chalayan step in a let their imaginations run wild.

*AC: You have spoken about 3D CG as affording the potential for a design of the "extraordinary", flights of the fantastical imagination. Do you think that perhaps the most radical application of this technology in fashion could be to absorb and satisfy our desire for consumption without actually having to produce anything?*

Something that drives many people working in this area is fashion's wastefulness; a lot of Suzanne Lee's work, for example, is about sustainable technology for future luxury. It has a different tone to the futurists like Paco Rabanne, whose work was predominantly an aesthetic treatment.

There are a few arguments here. What I am really talking about in my work is the value of an "old" language in a new world. Why should fashion engage?

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<sup>4</sup> [www.optitex.com](http://www.optitex.com)

<sup>5</sup> <http://www.showstudio.com/projects/sweet/>

<sup>6</sup> The SHOW STUDIO website, hosting the Sweet archive, acknowledges the creative importance of these glitches when it states that, "Knight's fascination with the scanner's inability to distinguish between reflections, shadows and solid matter, and between an object that is receding or advancing, also meant that he could partly relinquish control of the final image. Such opportunity for experimentation suggested that Artificial Intelligence could have an artistic bent." <http://www.showstudio.com/project/fashionrevolution/exhibits/process/sweet>



*'Bubble Top', by Jane Harris, 2003*  
*Fashion Design, Shelley Fox*  
*3D CG, Mike Dawson*  
*Supported by: (Arts and Humanities Research Council)*

Technology offers the potential for seamless fantasy, but it needs to look believable. How do you know when something is right? I think that fundamentally connects back to being a maker. I had imagined at this point today that there would be a queue of competitors behind me, a technological generation much more closely attuned to programming who would be able to develop faster and better responses; but it is also a generation with less and less material skill, and so I find that the queue just isn't there. Whilst amazing things could be done materially with this technology, the lack of making expertise

is preventing what could be a potentially knockout combination from moving forward. Fashion is, after all, three-dimensional not two-dimensional. I feel that creatively, this field does have the potential to allow designers to exceed their imaginations rather than mimic or replicate; to achieve that though I believe we need to keep emphasising the need for sustaining hand skill.

Another interesting argument is around the way in which people are changing their patterns of consumption. I know people are saying that audiences are turning away from virtual worlds like Second

Life, but actually Second Life's revenues are going up all the time with people buying clothes and other products for their avatars. It is one virtual space within which design has become really key. It's the same with Entropia. In fact, for some designers the revenue they generate from selling virtual collections is now a higher percentage of their annual turnover than physical objects. If we were to have to find a sustainable way to enable people to consume, then 3D CG could enable that. It is possible to make desirable things in that world, but maybe people would have to be prepared to live life vicariously; and perhaps it just transfers all the moral and ethical issues around desire to an alternative platform. The sense of envy and entitlement can simply transfer to access to the technology that creates the virtual object rather than to the object itself. As an example, Canadian artist Charlotte Davis's immersive piece *Osmose* (1995)<sup>7</sup> was made over 7 years of access to the technology of SoftImage, her partner's company of which she was also Vice President. *Osmose* was ground-breaking; seven layers or worlds through which the participants navigated through breath. When she spoke about the work at conferences, however, Davis was vilified by some members of the arts community. Many could only see the unlimited access to technology she had had by nature of her relationship, rather than wonder at the value her explorations of this technology might have for their own work.

*AC: I'm really interested in the project with the Museum of London, where you collaborated with the dress and textiles department to animate a historical dress that wasn't on display because of conservation issues. The digital acting as a facilitator to tangible understanding seems a really potent application of this technology.*

This was also part of the AHRC grant, which, broadly, enabled me to look at the application of 3D CG for historical and future fashion. Most dress and textile departments have a vast catalogue of objects that can either rarely or possibly never be shown because of the conservation issues. The internet has allowed these collections to become more widely available as photographs in digital archives, but wouldn't it be amazing to learn how it felt to wear these pieces as they were worn? Throughout the period of the

research, the curators at the Museum of London were particularly engaged in exploring a range of issues that the CG processes raised. These included poise and etiquette, and how they might define the character of the motion, which the curators based on written records relating to the period of the particular piece; and the use of props, accessories to enable the analysis human movement. The dancer wore a corset and hoops, and had her shoes stuffed to give a specific lean and constraint. I acted out several characters around her, giving her an eye-line. The result was a believable visual experience that operates alongside the physical object, function in the absence of dress that may be particularly fragile and no longer possible to exhibit and has the potential to reach new audiences through the internet. Humans have strong haptic perception; the digital can't beat physical but what we have as perceptions in our head is stronger than we imagine. The seductive nature of dress around the body, the connectivity and interaction between two attractive objects, is a quality my work has always explored; working with dress without a body but moving as if contained by one, one can ask whether dress can actually trigger desire on its own.

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<sup>7</sup> <http://www.immersence.com/>



## New Media Art and its Obsolete Present

Shukla Sawant

Given the fact that the tradition of newness is in fact rather old, any art practice today that stakes a claim to newness, solely based on innovative forms of applied technology, stands on rather flimsy ground. The term though is in wide circulation, applied arbitrarily to any work that makes use of photography, video technology, and the comparatively new interface environment of the internet. A close look at many of the works produced under the rubric of the new in fact reveals that, as the French like to put it, "plus ça change, plus c'est la même chose" - the more it changes, the more it's the same thing.

Yet, new technology engendered by forms of digital coding, has indeed radically altered many aspects of art making in recent times; in particular its distribution, circulation and forms of audience participation. As media theorists have pointed out, such radical departures have been few and far between, perhaps seen only thrice before - with the invention of paper in the 1<sup>st</sup> century AD, then fifteen hundred years later with the development of the printing press and later with the invention of photography in the nineteenth century. New media is therefore a relative term and one can only apply it to works by artists who have harnessed the potential for a radical departure from the past that lies embedded in new technologies of imaging and transmission, rather than simply harnessing their capacity to replicate the conditions of other art forms.

The New Media theorist, Lev Manovich in his influential book *The Language of New Media* outlines the constituent elements of New Media Art that extends the vocabulary of this practice beyond the formal visual elements of line, colour, form, mass and volume. Instead he has identified four attributes that define the language of Media Art: Numerical Representation

by which the image or object can be digitized and explained using a mathematical model, Modularity in which distinctive parts make up a whole, Automation in which user-friendly technology is harnessed for creative ends, Variability which underscores the importance of a multitude of choices, and Transcoding where the computer interface translates the image into a "cultural layer" which often exists in tandem with an earlier vocabulary of art.

It has often been pointed out that from the 19<sup>th</sup> century onwards, due to the swiftness with which new technologies spread across the world, practitioners using imaging means such as photography and later the computer, did not have to contend with the prehistory of the medium and its cultural location elsewhere. For example, the history of photography in India is almost as old as the history of photography in the west and in fact it was used by late 19<sup>th</sup> century artists like Raja Ravi Verma, as soon as it arrived in India, to achieve a synthesis of hyperrealism and fantasy. In effect, we see the emergence of a visual Esperanto whose codes could be read, by a wider community of people quite easily. Peter Zorn, the German Media Art Curator attributes this rapid proliferation of technology and the easy passage of its languages, to the invention of electricity. Transmission technologies such as the radio, later the television and now the internet were made possible by the harnessing of electricity for communicative ends. The far-reaching consequences of this development are too numerous to enumerate, but it suffices to say that it ushered in a new era of cultural formations that thrived on the possibilities of networked communities.

If one narrows down the focus within New Media practises to those that make use of image transmission technologies depending on the dematerialization



of the object and the coming together of sound, movement and image, then one would have to begin with the era of television. Film was far too expensive for artists to experiment with but with video, which was captured on magnetic tapes, artists could begin to work with kinetic images that also incorporate sound. Whether analog or digital, the process of taping was essentially a digital medium, but it took a while for video art to proliferate in India. In fact, the early history of this medium has not been mapped and extensive archival work is required to ascertain the nature of the experiments carried out in this medium. Due to strict government control over broadcast technologies and the expense involved in acquiring these modes of transmission, most early experiments were carried out within the environment of the Film and Television Institute set up in Pune, in 1960. Many filmmakers, among them Mani Kaul and Kumar Shahani had close connections with the visual arts community and a thorough study of the material available in the FTII archive is required to unearth this material.

Prior to this, artists found other means to experiment with the union of picture/sound/kinetics. Nancy Adajania in a recently published article *New Media Overtures Before New Media Practice in India*, has written at length on the early experiments by Krishen Khanna and Akbar Padamsee who explored the possibilities of an interface between diverse sensory experiences in the late 1960's. Krishen Khanna toyed with slide projections that were destabilised manually to create movement and then later turned into photographs. Akbar Padamsee made two experimental films at this point in time, *Syzygy* and *Events in a Cloud Chamber*. Both films depart radically from any narrative content and are instead an exploration of the possibilities of the medium itself in the modernist tradition.

A strong thrust for video as a medium came from a workshop organized by Max Mueller Bhavan in New Delhi in 1991. Among the participants were Rameshwar Broota and Vasundhara Tiwari who collaborated on a work *Shabash Bete*. Broota though had begun to work with video technology as early as 1985 and he made some experimental video art films that were shown at Shridharani Gallery in 1987.

With economic liberalization of the 1990's, the miniaturisation of technology and drop in prices that

resulted from this diminution, artists began to work extensively with this medium. While for some the interest was short-lived, artists like Nalini Malani, Vivian Sundaram, and Ranbir Kaleka, extended the parameters of painting by initially combining the material painted object with the intangible, fleeting moving image. Kaleka's celebrated work *Man Threading Needle*, done in 1998-99 is an example of how artists were trying to find overlaps between the video loop and easel painting. In this work, the intervention of movement introduced by the projected image was minimal, while the painting, propped on an easel, drew attention to its history as a portable medium, yet material form.

Likewise, Nalini Malani worked with kinesthetic elements and painting in her 1996 work *Memory: Record/Erase*. Based on Bertolt Brecht's *The Job*, the work is an animation, achieved through drawing and its erasure. The story of a woman who conceals her sexual identity and transforms herself into a man, in order to join the work force, is a ten-minute looped video with sound; an early work that led her to experiment further in her installations like *Remembering Toba Tek Singh* (1998) and *Unity in Diversity* (2003).

One aspect of Media Art that Lev Manovich underlines is the nature of collaboration which is quite often between the artist and the invisible presence of the author of the software which inhabits cameras and computers. While technology has become increasingly user friendly, it also limits choices to what is programmable and therefore preconditioned. Of the artists who emerged in the late 1990's, there were two distinct strands of thinking. One strand was represented by art school trained practitioners like Subba Ghosh, Sonia Khurana, Subodh Gupta, Baiju Parthan and Shilpa Gupta who harnessed the possibilities of software determined imaging language. The other strand was represented by collectives like the Raqs Media Collective, Camp and Desire Machine as well as individuals with a design school background; cultural practitioners who were conversant with debates about the anti-institutional possibilities of media arts and the manner in which networked environments could be used to channelise creative practices around barriers of censorship, institutional walls and national boundaries.



If for example one looks at works like *Bird* (1999) or *Hand/Head* (2004) by Sonia Khurana, one can discern how her language is shaped by software determined, toolbox effects, harnessed provocatively to make a strong declaration of a feminist agenda. A similar visual sleight of hand is carried out by Subodh Gupta in his video *Pure* (2000) where, by using the reverse function of the video camera, he induces the viewer to believe that he is slowly being immersed into a pile of dirt/dung. Through this simple mechanism, he is able to raise questions around issues of taboos and defilement that are used to create hierarchies and divisions in society.

Against the backdrop of this kind of practice that formed a continuum with painting and sculpture, emerged formations like the Raqs Media collective. Emerging from a documentary film-making background, Monica Narula, Jeebesh Bagchi and Shuddhabrata Sen developed a practice that could be termed as metamedia. With performance, text, social science research and images all woven together, they produced works collaboratively, often using the web as the public domain within which they wished to operate.

Standing on the border between these two distinct practices is the artist Shilpa Gupta. She trained as a sculptor from the J.J School of Art and subsequently began to work with video, and the web. Developing works with software programmers she designed interactive websites and virtual immersive environments that elicited an interactive response from viewers. Working as a web designer, after graduating from college, she made her first interactive work *Diamonds are forever* in 2000 – a disturbing work that looks at the underbelly of the diamond trade, by luring unsuspecting buyers to a fake web portal to purchase diamonds online. Subsequently she went on to produce several other works such as her well-known interactive work *Blessed Bandwidth* (2003) commissioned by Tate Online, the web-based space of the Tate Gallery in London.

In recent years, this has been a widespread phenomenon. New Media's challenge to institutions of art has been short-lived. With museums and galleries creating space for practices that were on the "cutting edge" of art, now commonplace, the long-standing tradition of co-option by institutions has been far swifter in the case of New Media than any other medium. But there

is a flip side to this. Dependent on latest technologies that often become redundant even before people have learnt to use them has meant that the historian of the medium is often grappling with conceptual frame works that are already old. In such a scenario one is left wondering if the term New Media has any validity at all in today's climate of constant change.

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# New Media interventions from Bangalore

Suresh Jayaram



*Between fire and sky- two channel video installation 2007*

New media art is a growing and vibrant sector of the Indian arts community. Visual artists have become increasingly skilled at adapting their mastery of new technologies to their diverse art backgrounds, creating new and exciting interventions for cross-cultural and cross-disciplinary practice.

In India "new media" divides the art community between the haves and have-nots. Technology separates us socially, politically and economically. The democratisation of media can be seen as a decisive tool for artistic exploration and cutting-edge practice. Academically new media is only embraced by a few institutions that move beyond the constraints of a traditional/colonial structure of education. Despite the democratic and affordable medium, in society it still has to become part of mainstream art practice and education.

As we witness the economical and technological revolution in India in the 90's affecting the practice of artist who had the courage to negotiate technology, we see artists extending their social and political concerns to address issues that affect them personally in this globalised and intricately networked world. The advent of "new media technology" in the third world context and the internet was a new aesthetic opportunity in India in the early 90's, this was also a time when exploring the idea of using "material as metaphor" had challenged established notions of the white cube. Socially, video and independent film-making was the new democratic and popular medium that was also used in context of the home and the formation of the nuclear family, especially weddings. The social engagement of independent documentary film-making was a catalyst. Conceptual strategies were explored by a number of practitioners to negotiate the ideas of identity, nation and the public domain in new media.

I wish to focus on the artists who have been using new media and with a connection to Bangalore in addressing issues that speak about the self and the human condition in general.

Ayesha Abraham has been collecting home movies over the last decade and has attempted to tell the stories of a few amateur film-makers in her series of films titled film tales. Her films include *The Lady with a Hat* (1995), *Alight at East Station* (1997), *Amnesia*

(2001), *Straight 8* (2005) and *One Way* which is part of a collective film project titled *The State of the World*, selected for the Directors' Fortnight at the Cannes Film Festival in 2007. *You are Here* (2008) and *You call it Dancing, I call it Rhythm* (video installation, 2009) are some of her other works. She curated the World Information City exhibition in 2005 and has worked with collectives of art practitioners over many years.

Ayesha Abraham has been concerned about local archival imagery, from the family album and its social and political replay. She recollects and relays found footage, and reclaims narratives of her ancestry (*Ends and Beginnings*) and tracks the life of a migrant worker a Nepali watchman, blurring the line of documentary and narratives of living in exile and on the edge. She tracks the private life of this security guard and his life in public domain. The fragile feelings of memory and nostalgia are relocated and made tangible in the present context. Her recent find has been the "found" footage from an amateur home film-maker living in the cantonment area of the city. He captures mundane movement of people and private situations with his new found equipment that focuses on local realities. The language and politics of the camera and the notion of the gaze are used to focus on location, the notions of public/ private and individual identities.

As a multi-media artist Surekha has been exploring the gendered self as a conscious choice. The works from the 1990's explored diverse materials as metaphors. She negotiates the public and private realm with ease, transcending genres and locating the body as a site of contestation and appropriation. Her feminist aesthetics and cutting edge strategies move beyond the confines of two-dimensionality into a multidisciplinary approach. She uses domestic skills like embroidery to explore an aesthetic way of living; and a craft with contemporary concerns relating to women's labour and life. Her recent body of work uses photography to archive and document, perform and masquerade. Images become memory and recollection of feminine spaces and gestures.

Triggered by the perpetual violence on young women and dowry deaths, she does not take an activist stance. Her video called "Communing with urban heroines" takes on the issues of women as survivors of domestic violence and moves away from the victim mode and celebrates the survivors. The mundane

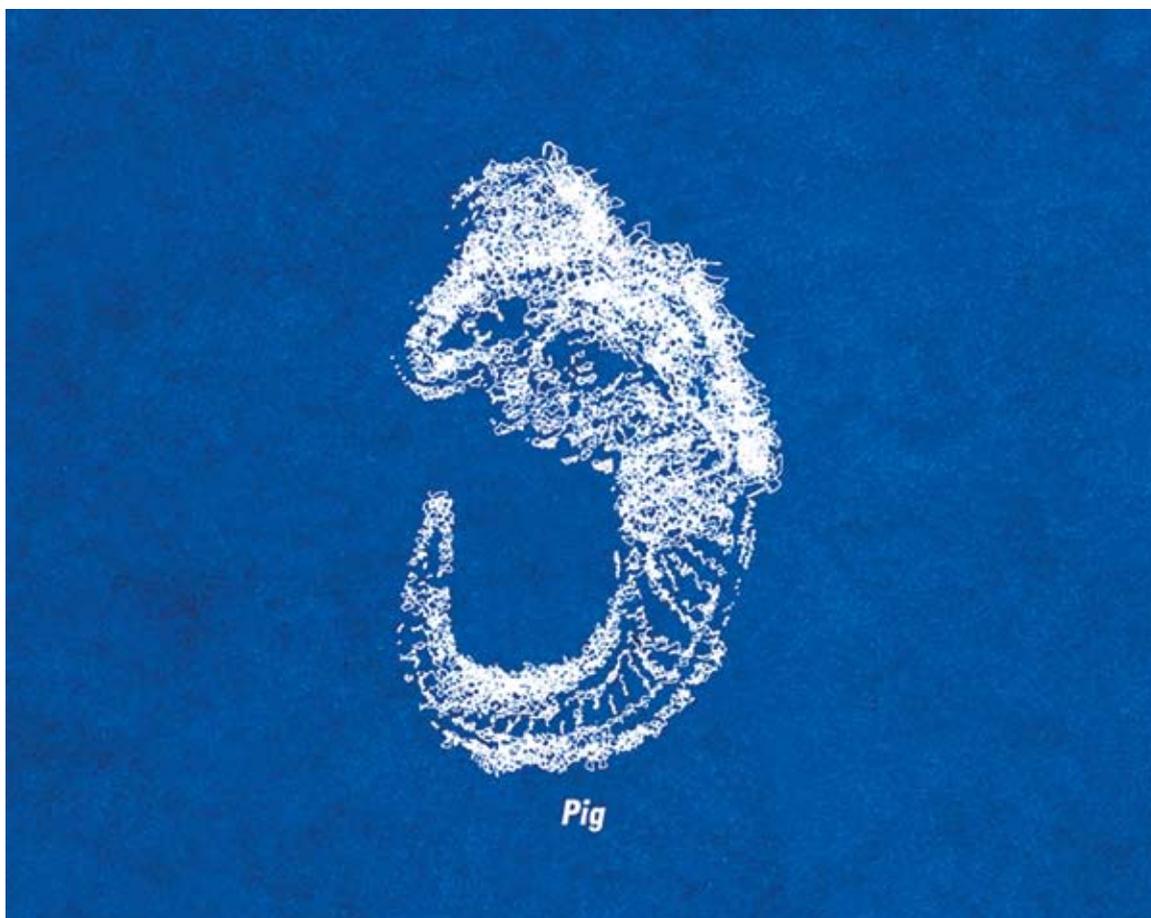




*Cooking concepts -installation view*



*Cooking concepts -detail*



*Single channel video work, Radio Jena, group show in New York (Bose Pacia)*

becomes magical and mythic. The simple game/ life becomes a poetic evocation of endurance and strength. Surekha has an ability to use material and media with conviction and like her own heroines she will endure. Among her most successful multi-channel videos is an image of a young girl playing hopscotch in the sky, this is juxtaposed with a line drawing of the hopscotch grid in flames.

The only way to describe Umesh Madanahalli is to call him a maverick, an artist who dares to dream large-scale, taking risks and living on the edge like a nomad in exile. His most ambitious project has been Earth Works in 1996, in which he collaborated on a large spatially articulated earthwork that was a large scale project funded by his friends. This, incidentally, launched him from anonymity to national recognition. He articulated his stance from this junction to work with unconventional material and in the public sphere.

Umesh's sensibilities are multi-dimensional, a carnival of absurd contradiction, his imagery is hybrid, and a marriage of the absurd with the nonsensical welded together in unholy union. He makes a public spectacle of a private desire, enlarges child's play in the sand into the expanded field of sculpture.

His current preoccupation has been the violence of our times, in "Riots/Rights 2005" he focuses on the state and the individual and the right to live. It is here that we are confronted by the self-image pitted against us. There is a re-take of the real, the self is represented upfront, and he confronts the viewer in the guise and voice of the other. He locates himself as the face of Ansari, an image from the post-Godhra carnage, the face of violence, used and abused by the state and the media when fear stalked the city. Dhananjaya Chatterjee, who was given a life sentence on 14 August 2004, for raping a dying girl, alternates

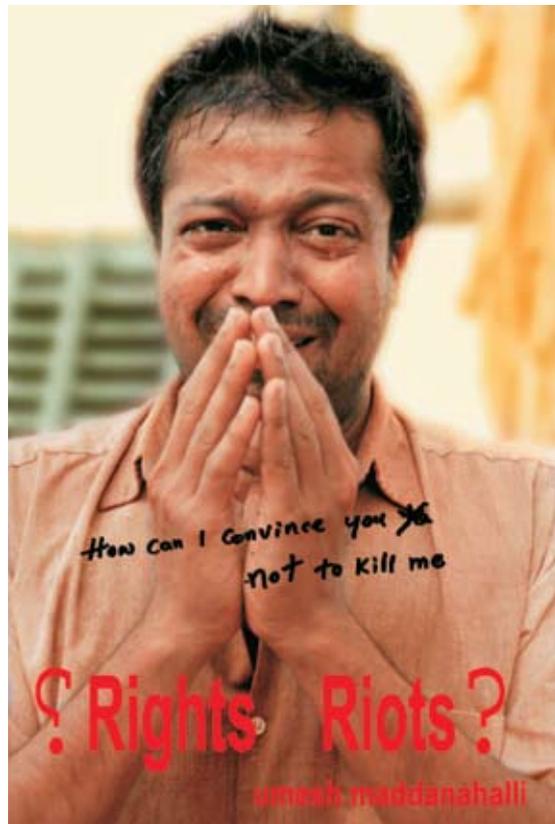


between threat and fear in the show. Umesh says: "I want to adopt the new media in aesthetic and cultural contexts instead of consumerism. I want to initiate a dialectic argument regarding the notions of threat and fear within democracy." He uses this image as an anchor to speak of other atrocities that confront us like capital punishment. He raises more questions than he answers about the judicial system. In the process of working on this collaborative project, he projects the helpless situation of victims of crime and violence. He invites the viewer to free or punish these victims.

His alternative art practice survives in the public domain and encourages art as a part of social space; his cutting edge strategies are inventive and dramatic. He proves himself a good collaborator working with fellow artists and technicians from different fields to achieve his aims. His choice of material and technology represents his shifting hybrid sensibility. He has always tried not to compromise on scale, material and technology, influenced by his multicultural interaction. His individual stance brings into focus self-consciousness about the subjectivity and the role of the self, in the social and historical narrative of the nation.

Archana Hande's artwork and creative practice has always extended into diverse modes, venues, concerns and forms. She has, with ease, slipped into the intersecting roles of activist, facilitator, interventionist, and maker all wrapped into one. Her interests have led her to draw upon a variety of resources, her projects having often taken on an engaged collaborative spirit. Archana Hande lives and works out of Bangalore, the city of her birth and focuses on creating a spectacle using tableaux and elaborate accessories that become part of the setting in her installations.

Archana creates a tactile space of objects, created to make the installation like a bazaar shop window. Her [arrangeurownmarriage.com](http://arrangeurownmarriage.com) is one such multimedia installation that uses all these tropes to involve the spectator. New media meets the tradition of the marriage-market. The intricately constructed web-page is uploaded to have a wider interaction; it mocks at the institute of arranged marriages and the new-age designer marriage-makers. Every single detail is tailor-made, astrological compatibility, invites, body-types and honeymoon packages with a variety of aphrodisiacs to choose from. The search



engine finds you the perfect life partner a la Bollywood style. The do-it-yourself process involves the most funny and bizarre results to construct the ideal man, women or other! The artist effectively chooses from the sensibility of bazaar kitsch and uses a handmade "cut and paste aesthetic" as the ultimate homage to the popular imagery abundant in India.

Abhishek Hazra's work blurs many genres and locates him in the context of an archivist, graphic designer while his work investigates cultural theory and technology. His interest in constructing narratives with documents and scientific theories makes him a maverick of sorts. He plays with his persona of theorist and scientist and his performative ability and sheer range makes him an original new voice on the contemporary art scene. It is interesting to locate him in Bangalore where his keen interest in the sociology of science in the city that nurtures academic establishments like the Indian Institute of Science while Hazra's work negotiates the edge of art, science and graphic design.



"I am interested in exploring a particular conceptual trajectory through the narrative device of the fable. Fables interest me, as they set in motion an interesting tension between the grainy-ness of the particular and the fuzzy smear of the general. Also because of their short narrative duration, they allow for a certain compaction of ideas while simultaneously retaining a porosity of interpretation. I should clarify that these specific attributes of fables have perhaps more to do with my subjective perhaps even idiosyncratic 'take' on fables than with any widely agreed definition of their narrative function. One could see this project as a reflection on the processes that stitch together the fabric of our reality - a reality that navigates both the 'small voice' of the everyday and the larger theoretical structures we create, to grasp the nature of lived experience. I am aware that a dichotomous formulation of 'theory' and 'experience' is deeply problematic. I cite this example merely to give an idea of the tensions and movements I am interested in.

How do I locate this body of work? I am interested in using the language of graphic design and typography to explore a terrain that is conceptually exciting. However, this conceptual exploration is not at the expense of formal/visual exuberance. In fact, the attempt is to arrive at an exuberance that is not merely vacuous or celebratory. I have borrowed from a whole range of visual and theoretical work, that do not easily fit the categories of high art or conventional academic disciplines. Technology, or rather the critical mediation of technology, also remains a central preoccupation in my work".

The elusive enfant terrible of the contemporary Indian art world, Kiran Subbaiah is a maverick and navigates the art world on his own terms. His inaccessibility and closely guarded lifestyle is part of his persona and makes him a mysterious entity in the social circuit of the alternative scene of Bangalore. He is part of the global residencies of artists who don't want to be

pinned down by the buoyant art scene or being part of any gallery system.

His formal training as sculptor was from M.S. University, Vadodara and his further exploration into conceptual tangents. Moving away from the conventional domain of sculpture, his conceptual objects fit his ideas, the idea comes first and the artist finds the appropriate "found object". They are intangible, absurd and anti-aesthetic - the object survives between a boyish prank and an absurd object.

Trained as a sculptor, over the years he has worked with several other mediums. He is firm in the belief that art does not have to serve any purpose. His irreverence is apparent in the objects, sculptural assemblages and installations he creates, loaded with humor, irony or enigma or rejoicing in their obvious and self-contained contradictions. It is also evident in his experimental videos and recent internet projects, some of which are collected under the name Pseudo Virus Archive. He is presently a participant in the Rijksakademie voor Beeldende Kunsten in Amsterdam. Kiran Subbaiah lives and works in Bangalore and Amsterdam.

In a recent show Analytical Engine curated by Heidi Fichtner "Kiran Subbaiah presents one of his net art works in the show: a computer virus, or rather a carefully constructed simulation of a virus attack on a personal computer. The basic material of the work, then, is the handcrafted code that produces this humorous simulation complete with a range of visual and sound effects triggered off by specific user interaction. This work, with its abstract blips, screeches and misleading visual commands would commonly

be perceived as unusually advanced technology and beyond an easy technical grasp by the lay viewer which indeed it is although it is not in fact mass reproduced. Consisting of hand-written code, in the context of this show it can be taken as an example of the way in which new media works may also be embedded with the human element of craft".

The use of the "self" as a subject has been an obsession for Kiran, his self-image locates him in the larger tradition of contemporary India artist's use of self portraiture. In "When your Mouth is Full" is an ironical take on table manners and the consumption of food and the colonial and civilisational discourse about the act of eating and etiquette associated with this gesture. The artist/actor doubles as the protagonist and antagonist and this becomes an issue with the social acceptability of table manners and loss of local living traditions in the globalised world. Another small video deals with the futility of climbing his bedroom wall hinting on ambition and aspiration and the gesture and the act of climbing and scaling to reach a desirable goal.

The inherent humor and satire dominates in another home production video called Suicide Note that questions the futility of every aspect of living life. By enacting all roles in the production he is at his ironical best.

It is strange but true that Bangalore's status as a cutting edge innovator for the IT world and the global backend office has yet to acknowledge or support the presence of their local talent in new media.

*Suresh Jayaram is a visual artist, writer and independent curator, and is the Director of an alternative art space called 1Shanthiroad studio/gallery and co-ordinates the KHOJ south Asian network initiatives from Bangalore.*  
[www.1shanthiroad.com](http://www.1shanthiroad.com)



# The New Music of New Media in India

Shankar Barua



*Lawrence Casserley & Bettina Wenzel in CeC 2008*

A few years ago, near the turn of millennia, I put several months of hard work into what was possibly the most exciting public creative incident that I ever eventually did not do.

It was called "View from the Cusp", and proceeded from the simple proposition that all of us in the world today are living through probably the most incredible before-and-after cusp to ever occur within the lifespan of any single generation in the entire history of the evolution of all humankind.

Within this vast canvas of incredibly rapid change, the one broad brushstroke that has most particularly turned me on ever since I got my first personal computer in the early 1990s, is quite simply just the unprecedented Creative Empowerment of Individuals that is being wrought everywhere around us today, across All Sorts of Streams of Human Endeavour, by the Burgeoning Evolution and Spread of Technology.

Tools of all sorts are suddenly being thrust into the hands of my fellow Indians and myself, as also





*Teddy Boy Kill sets up to play the Blue Frog club in Mumbai*

the hands of so many others just like us all over the world. Emergent everyday devices that are increasingly entering into everybody's homes and lives are empowering users, almost perforce, with vast collateral endowments of real and also virtual tools, way beyond what many of them might otherwise ever even think to seek out for themselves in the normal course of their entire lives.

Mobile phones are for example increasingly incorporating the abilities of entire desktop computers, and also televisions and other devices, whilst themselves converging into the never-ending spiral of evermore innovation, variation and production that the good old Age of Industrialization has in the meanwhile itself now become.

Personal computers are rushing pell-mell towards virtually fulfilling everyman's processing needs, way

beyond even everyman's possible greed, in a virtual tsunami of technological evolution and ever-widening accessibility that no one can stop, and that no one actually even wishes to ever stop.

It is already the case today that, for example, illiterates are learning to intuitively operate advanced systems and devices; the deaf are beginning to 'hear'; the blind are beginning to 'see'; the dumb are beginning to 'speak'. Interactive systems are allowing empowered individuals to literally span the globe and even inter-planetary space with their actions. Social lives, business lives, private lives and so much else of the real world is being increasingly driven, or at least paralleled, in virtual worlds. And, there seems to be no end to the wonders that are increasingly becoming possible across both the real as well as the virtual universes that so very many of us are so seamlessly now straddling, in our 'normal' everyday lives.



*Tatva Kundalini (Aditya Anand) plays out of Goa*

And, all of that obviously also then means that at least one tiny little iota of this mind-bendingly massive canvas of change has to do with music, and sound. And indeed, just coincidentally and also very conveniently, even as I write this, music-making tools have begun to make a bold appearance in new mobile phones.

The past 20 years or so today roughly encompasses 10 years just before and 10 years just after the actual turn of millennia, and also just happens to coincide very nearly here in India with, (1) the time since the so-called globalisation of our little world shifted into higher gear, with the first injection of international (satellite) television into our lives, (2) just about the length of time that it has taken to raise the generation of young Indians of all sorts that is hitting the streets today, and, (3) the introduction, evolution, and massive spread of personal computers and communications

technologies, including the internet, all across this land and the world.

At the beginning of those 20 years, about 1990, it was quite probably the case that I owned one of the only guitars in the entire South Delhi complex of 600 apartments that my little family and I then lived in. A few neighbours had a bit of a thing going with tuitions in Hindustani classical music, and/or dance, in the 'traditional' manner.

Today, if you tune your ears to such things, it sometimes seems almost as though there is endlessly original music being rendered on all sides by all sorts of people, with all sorts of instruments, influences and technologies, everywhere around the city and the entire country. Pianos and electronic keyboards plink and plonk around the occasional corner; singing classes warble out endless sargams; live bands regularly play

the malls; strumming guitars are commonplace in some spaces; occasionally, there's the booming horror of a learner-drummer, and; sometime there's the full blooming of mature musicians multi-tracking the latest global grooves, using anything and everything ranged all the way up from off-the-shelf laptops and desktop PCs through to entirely professional little digital home-studios.

'Electronica' of all sorts is playing clubs and bars almost every evening, in almost every Indian city. One club on the edge of Delhi actually occupies several floors of an entire building, and is globally rated as being one of the best in the world. A new club in Mumbai is rapidly emerging as one of the best platforms for live electronic music in that city, whilst simultaneously also functioning as a commercial sound-studio and music-publishing company.

Music is increasingly global everywhere, and all of the players involved with it are also increasingly global everywhere.

Much water has flown under many bridges since people of Indian origin in other countries, such as Karsh Kale and Talvin Singh in the USA and UK, first began to re-discover, reclaim and re-ignite their familial cultural heritage by remixing bits and parts of the original music of 'the old countries' into the evolving global music of the salad-bowl spaces that they happened to be growing up, living, and working in.

At one level, the first tide of this rising 'Asian Underground' had essentially transported to other countries a first 'new' wave of Indian instrumentation, classical music, cinema songs and folk refrains, stylishly and variously interleaved into the latest popular grooves, sounds and technologies at the cutting-edge of the evolving music of those 'other' milieus.

At the same time, here in India, the same thing was simultaneously also a stylish interleaving of the latest sounds and grooves from other countries into "our" own music. And simple tools were also simultaneously coming to hand, everywhere around the country, to empower us to actually do such things ourselves.

Globalisation is now always ongoing, and always 2-way. Big-name electronic musicians from all over the world now almost routinely perform special nights in top clubs and other venues across several cities

of India. At the same time, an increasing number of mainstream electronic musicians from India itself are also now flying all over the world to play clubs, festivals and other gigs in other countries. The Asian Underground thing has moved well beyond being driven by primarily just people of Asian origin living in the west. Indian instrumentation is turning up in culturally neutral and widely accessible new digital formats and frameworks. There's a burgeoning abundance of online audio-samples, and also an ongoing emergence and evolution of new tools specific to Indian music, such as the software modules produced by Swar Systems out of Switzerland, and also the hardware modules produced by Radel, in Bengaluru. Cutting-edge paradigms such as the electronically expanded Sitar and Dilruba of Curtis Bahn and Ajay Kapur in the USA, are meanwhile becoming openly accessible to the DIY sector everywhere.

Radical new work is now always happening in hidden corners all over the country, even though periodic paradigm shifts seem to sweep through the entire industry like huge tides, as for example with the number of practitioners currently riding the "Ableton Live" software; just as so many had earlier ridden the "Reason" software tide that was then sweeping through the community. But yes, a small but ever-increasing number of Indian practitioners have also at the same time begun to move on to deeper engagements with the inner blood and gore of electronic music, as with Vinny Bhagat and his SuperCollider explorations, now in Australia.

At front of stage meanwhile, where too many electronic musicians have so far been just looping and playing back special tracks and phrases recorded earlier in the studio, with perhaps a random live element or two sometimes thrown in here and there. There is also now a rising tide of young professionals who aggressively inject a far greater live element into their performances; as for example in the case of Ashaar Farooqui and Samrat Bhardwaj, performing together out of Delhi as "Toy Mob Kill".

At the experimental level, the most public manifestations of mainstream popular electronic music are now networked by fuzzy and flexible young entities, such as "Delhi Electronica Supply Unit" in the capital, that have separately and variously established weekly or monthly gig-venues and schedules in their





*Ajay Kapur, Curtis Bahn and the MahaDeviBot in CeC 2008*

respective cities, typically in smaller cafes/clubs, where amateurs and professionals can bag unpaid live-performance time to test out new ideas, sounds, rigs, line-ups and so on, on what is symbiotically and simultaneously coalescing into an increasingly informed, and involved, audience in each city. Also at the same time, experimental new agencies, music-publishers, event-makers and big dreamers are arising everywhere. And, from places and entities such as these, and also from the rats-nest of attendant grapevines of course, frontline event-makers such as "RSJ" are increasingly now picking up emerging new electronic musicians from all over India, to play paid gigs all over the country and the world.

At the level of more formalized cultural enterprise, the buzz of the moment as I write this is that Max Mueller Bhavan (Goethe Institut) is currently working towards what they claim will be, "the first electronic music festival & convention in India," scheduled to be held in New Delhi, December 2009, under the name "Global Groove".

However, international institutions such as this have actually been involved for many years at another related point of the cultural compass, where sounds,

visuals, technologies and multi-disciplinary skills often now converge together with keen creativity to produce new sorts of "art". Several of the local institutions that these entities have worked together with on such portfolios over the years, such as Sarai and Khoj at the forefront in Delhi, now actively network ever-expanding global constituencies of their own, spanning various streams in the very broad territory known collectively as creative "New Media". And in the process, key individual practitioners have obviously also emerged from within such institutions themselves, as with the "Raqs Media Collective" from Sarai, which can fairly be said to be globally regarded today as a good hunk of the cutting-edge of such creativity in this country.

And finally, speaking for myself, as Managing Trustee of The Academy of Electronic Arts, and therefore also a bit of a bit player on the fringe of the whole scene; all I can really say here is that the most important of our works that firmly touches upon electronic music amidst everything that we do, is an annual global incident called "The Carnival of e-Creativity". But, I'd need to write an entire book just to begin to explain that.

*Shankar Barua (born Shillong, India, 1956) has been and done many different things in life so far, amongst which he is presently also Managing Trustee of The Academy of Electronic Arts. He lives and works between an apartment in New Delhi and a little homemade home in the Lower Himalaya of Kumaon.*  
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# The Way Things Go

Vilém Flusser

I was requested by the magazine *European Photography*<sup>1</sup> to write something about the film that carries the same title as this article. I am both honoured and excited because the film made a deep impression on me. Unfortunately it has been a while since I saw it. I am therefore unable to write about the film itself but can only write about the impressions it created. In a way, "impression" and "information" are synonymous - both imply a form ("idea") that has been impressed upon something. This can be platonically interpreted: I will now try to describe the idea that emerged from this ephemeral film from the past and implanted itself in my ephemeral and flawed memory, where it still lingers.

The core of the idea is relatively easy to describe. Things happen one after another and are caused by each other because the filmmakers have programmed the film such that each and every thing causes the next thing to happen, as though it were all up to chance. Expressed in this relatively simple manner, the idea is positively breathtaking. It implies that the way things go is programmed, motivated by a purpose (to make a film), and corresponds to the idea of a transcending purpose, a "divine" purpose behind the way things go. From this perspective, the film illustrates a theological thesis. Yet the idea also implies that the way of things is causal, a cause and effect chain, corresponding to the idea of the world as a machine. From this perspective, the film illustrates the materialistic, mechanistic thesis. And finally, the idea also implies that a closer look will reveal the causal chain to be made up of pure chance occurrences; it winds and builds loops, and leads to completely unexpected situations. From this

perspective, the film illustrates the thesis currently debated, according to which the way things go is an interplay between chance and necessity, in which even the most improbable combinations must occur with time.

This is breathtaking because the three theses illustrated all at once by the film are contradictory and cannot be reconciled. Yet the film achieves this nevertheless, proving that a film can express something that cannot be articulated in words or figures because logical and mathematical codes can never harmonise paradoxes. Theological, mechanistic and probabilistic thinking is not possible in words and figures, but can be realised through images, as shown by the film. All this proves that today one must philosophise in images, no longer in words and figures - this is admittedly breathtaking.

Yet this is not all. The idea of the film is not just to illustrate theses but also to reproduce them in a specific atmosphere, which can be described with the words "shoddy" and "absurd". As far as I remember, *The Way Things Go* takes place in an abandoned factory warehouse and the objects themselves are shoddy things like rough planks, old watering cans and empty cans. In other words: the Divine Creator who appears in the first illustrated thesis is a bungler; the causal chain in the second illustrated thesis is a bungled and botched effort; and the creative game of chance in the third illustrated thesis is a game at best for mentally challenged children. In the film, the way things go is a wretched, stuttering and foolish cycle. And this leads us to the fourth thesis, which serves as a base for the three theses mentioned above: the way things go is

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<sup>1</sup> The text has been written for *European Photography* 45 (1991)





about the eternal cycle of the same things recurring again and again, yet the cycle is unreliable, as it can be interrupted.

The idea impressed me, not because I had repeatedly thought about all the parameters and from time to time thought about them anew, but because it had combined all the parameters into images and something that I had never thought possible was now conceivable - one can make fun of the wretchedness of the way things go without having to distort the theological, mechanistic, probabilistic and magical theses.

Perhaps the film imparted an idea that was already in my system; it follows that other ideas are imparted

to other members of the audience. But even if this were to be the case, even if the two Swiss filmmakers (whose names I can no longer remember)<sup>2</sup> had a different idea in their heads, even then, this is an extraordinarily impressive film. Virtually all the other films that I have seen in the recent past have either planted absolutely no ideas or, if they have, then the idea that watching films is a waste of time. And this is the reason for this essay that I have been requested to write: to suggest that one can do something with films that one does not normally do - impart ideas (philosophise).

Vilém Flusser (1920-1991) emigrated from Prague to São Paulo via London in 1939. He returned to Europe in 1972 where he started working as an independent author. Vilém Flusser has written on the philosophy of photography, the computer and communication, and has published in four languages. Since the 1980s his texts have helped define the discourse on media in the German-speaking world. The Vilém Flusser Archive provides researchers across the world with access to text, sound and image files. The editors would like to express their thanks to the Archive and Andreas Müller (European Photography).  
<http://www.flusser-archive.org>

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<sup>2</sup> Peter Fischli and David Weiss: *The way things go/Der Lauf der Dinge* (1987), 16mm, 30'.

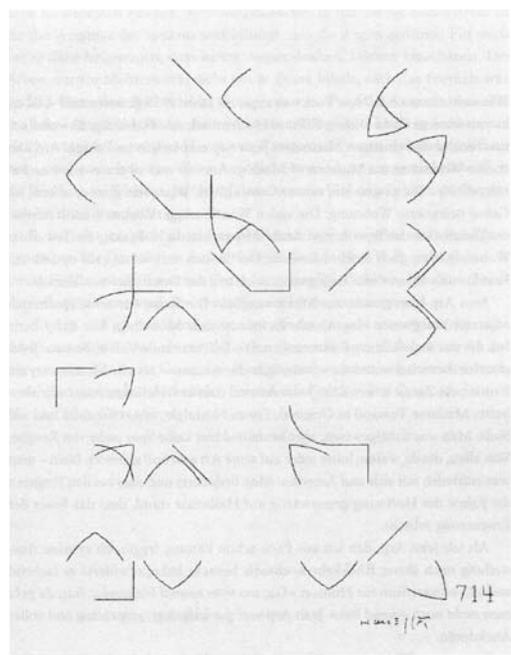
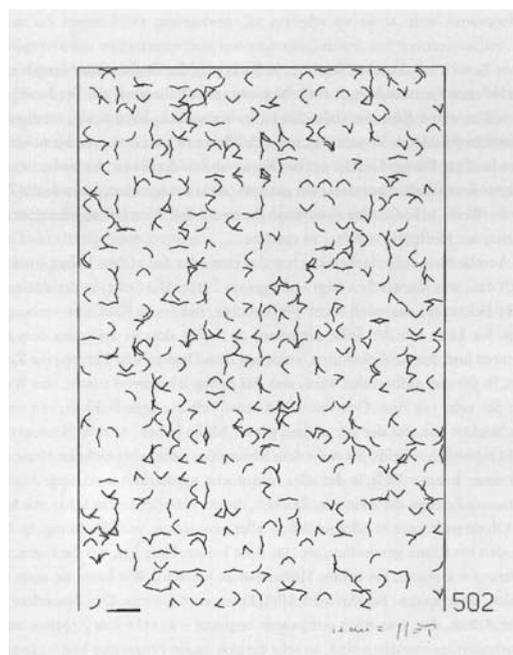
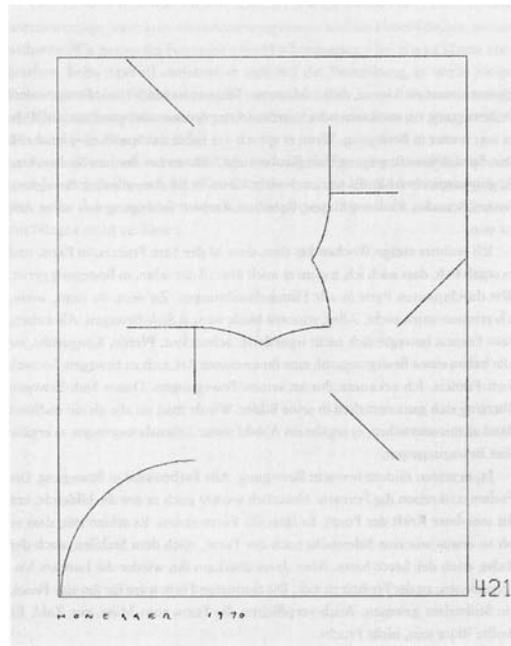
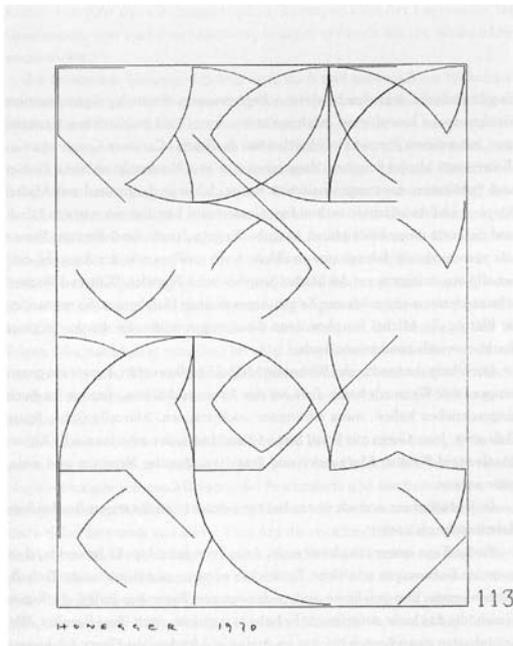


# Programmes as space for thought?

## Notes on the origins of Swiss computer art

Tabea Lurk

Gottfried Honegger



## Introduction

As is common with newly emerging art forms, the beginnings of computer art in Switzerland are blurred and somewhat obscure. For a number of reasons it is difficult to put an exact date. Even though most of the protagonists are still alive, the search – beyond the personal contacts – in the period before the mid-1980s is a challenging one. This can be explained in part by the relatively late arrival of digital technology in the private sphere – personal computers did not appear in Switzerland until the mid-1980s.

Additional intentional obstacles that are inherent in the specific format of early computer art initially hampered the popularity that we see more recently particularly as regards current computer and internet-based art. However, some of the aspects listed below continue to restrict the historical analysis. Few Swiss computer graphics dating from the 1970s were exhibited or published in the art context when they first appeared. Studies and aesthetic concepts in particular – presumably realised at the ETH or Swiss Federal Institute of Technology in Zurich, in the technical institutes across the country, or in research institutes such as CERN (Geneva) – that might help us draw an analogy to the well-known international computer art movements, have so far eluded systematic documentation. Computer art has always been bound by technical conventions, which are subject to constant change. Consequently these artworks are considered ephemeral, even though they are structurally reproducible. In the process, what has gone virtually unnoticed is the fact that computer art has developed a new type of originality whose principle of uniqueness is currently adding to its value. And finally there are the artists who have deliberately destroyed some of their earlier work or subjected it to self-censorship – at the time, at least, this was understood to be the logical consequence of disbanding the work concept.

Yet even the few concrete examples, from which the six following artistic approaches are outlined below, provide us with an initial idea of what computer art in Switzerland can mean, how wide the intentional anchorage is, and what the concrete, visual results can look like. Based on the heterogeneity of the

concepts, the following selection endeavours to present the aesthetic diversity inherent in the working methods of the artists. In the process, not only do the different artistic interpretations occasionally result in contrapuntal dynamics. It would of course also be interesting to take things further and trace artistic development within the framework of each individual oeuvre. Specific characteristics begin to take shape over time and their pithiness may well be lost in a cross-sectional overview. However, given the focus of the text, this second stage has been disregarded. Interested readers may glance through the monographic catalogues of the artists mentioned here to gain a better insight into the contexts that we have only briefly outlined.

## Examples of artworks

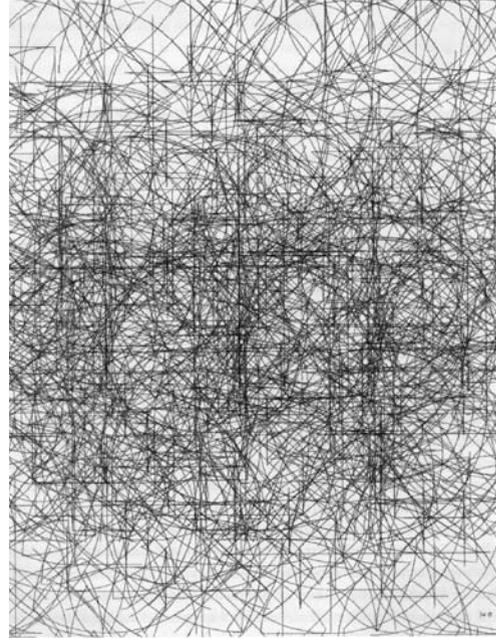
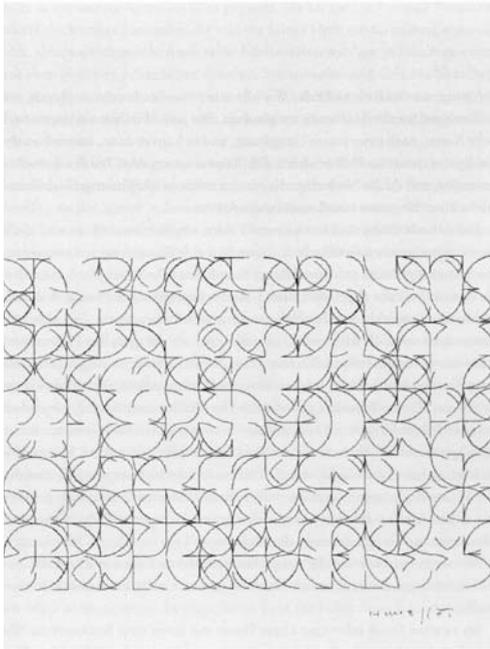
A historical analysis of the first generation of Swiss computer art depicts the 1970s as the 'lost generation'. Yet we have reason to believe that even at this early stage the available computers were not used exclusively for scientific research or for office automation but also for more playful experiments with games, art and design that were indulged in during an occasional break from work. We can list a selection of at least 14 computer graphics from 1970-71, which were realised in official capacity by Gottfried Honegger (\*1917 in collaboration with Professor Huber at the ETH Zurich. The illustrations were published at the end of the 1990s in the autobiographically inspired compilation of essays entitled *Dank dem Zufall* (Thanks to Chance)<sup>1</sup>, where they were inserted between the pages to enhance the design. As described by the artist, the illustrations were worked out on a CDC 1640-A computer:

*Computer-generated (pseudo) random numbers were used to simulate the throwing of dice. For each picture the FORTRAN programme at first produced a table of the picture elements to be drawn. This table was then transposed square by square into the sketch. It took a few seconds to calculate the dimensions for an image and about a minute to draw it (with a CALCOMP Plotter 565). Repetitions can be expected only after 1400 000 000 000 000 images.<sup>2</sup>*

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<sup>1</sup> Gottfried Honegger, *Dank dem Zufall. Eine zufällige Auswahl von zufälligen Begegnungen*, Zurich 1998.

<sup>2</sup> *Ibid.*, p. 126.



Computer-Zeichnungen [Computer drawings] (1979/71). Source: Gottfried Honegger, *Dank dem Zufall: eine zufällige Auswahl von zufälligen Begegnungen*, Zurich 1998, pp. 11, 43, 79, 59, 75, 103.

In general, however, these computer graphics feature only sporadically in catalogues of Gottfried Honegger's work - there are rarely more than two examples.<sup>3</sup> Chance is a key principle of form; one of Honegger's sources for the aesthetic concept of chance was the book *Chance and Necessity* by Jacques Monod (original: *Le hasard et la nécessité*, Paris 1970).<sup>4</sup> It is also known that Gottfried Honegger never really considered all the prints of a series to be an 'artwork' or a work sequence, but instead always selected individual prints according to aesthetic criteria, thus underscoring the deep-rooted relationship between the artist and the (abstract) interpretations of classic modern art. Moreover, the computer prints served primarily as a source of inspiration for sculptural work in the public space<sup>5</sup> and later for architectural surface designs<sup>6</sup>. According to Michael Gnehm, Honegger "simulated" chance even without a computer by "throwing dice according to a pre-defined programme and so deducing the elements to be used and their distribution on the 'screen' or in the 'spatial composition'".<sup>7</sup> However, in terms of the artistic concept and of the process from aesthetic design to technical computing, some things remain unclear for instance, the interaction between the selection of design forms or the parameterization of the vectors and (arithmetic) values.

When computers were still gigantic machines (Gerstner), or to be more exact, even much earlier, namely in 1963, two years before the official start of computer art,<sup>8</sup> the artist Karl Gerstner (\*1930) had brought out a slim volume on designing programmes, in which he had already drawn attention to the potential for designing something new through the iteration of formal and/or concrete<sup>9</sup> processes. In the 1970s Gerstner devoted himself more and more to the field of possibilities embodied by the computer. Even in the mid-1960s, computer engineers like Frieder Nake (\*1938) and Georg Nees (\*1926) actually had daily access to computing machines at the Institute of Technology (today University) in Stuttgart (Germany), where they could not only programme the computers themselves but were also able to evolve into 'computer artists' under the influence of the art historian Max Bense (1910-1990) and later Abraham Moles (1920-1992). For Swiss artists however it was the 'potential of the computer' that was initially more important and real than its actual availability.<sup>10</sup>

But Karl Gerstner had already had his first encounter with a computer centre in 1969 when he was invited to the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts, USA. Shortly thereafter he was able to realise his first works on *color forms* in collaboration with Klaus Thomas at IBM in Stuttgart.<sup>11</sup>

<sup>3</sup> Friedemann Malsch, Gottfried Honegger trotz allem: eine Rückschau, Vaduz 2002, p. 12; Gottfried Honegger, Kunst als Bekenntnis. Werkübersicht 1939-2006, Zurich 2006, p. 83; Michael Gnehm, Gottfried Honegger, Arbeiten im öffentlichen Raum, Zurich 2007, no page numbering, No. 14 and p. 141. All three publications carry one graphic each from the 1971 series.

<sup>4</sup> Honegger, Kunst als Bekenntnis, p. 82.

<sup>5</sup> Cf. Michael Gnehm, Kunst am Bau: Debatten um den öffentlichen Raum, in: *ibid.* (eds.), Gottfried Honegger, Arbeiten im öffentl. Raum, Zurich 2007, p. 135-159. Particularly the section on "Orte konkreter Kunst und Begegnungen mit dem Zufall", p. 138-145, in which Gnehm also mentions the works in ETH (p. 141).

<sup>6</sup> Cf. for example the manufacturing halls designed by Honegger for Renault in Cacia (Portugal) 1981/82.

<sup>7</sup> Gnehm, p. 141.

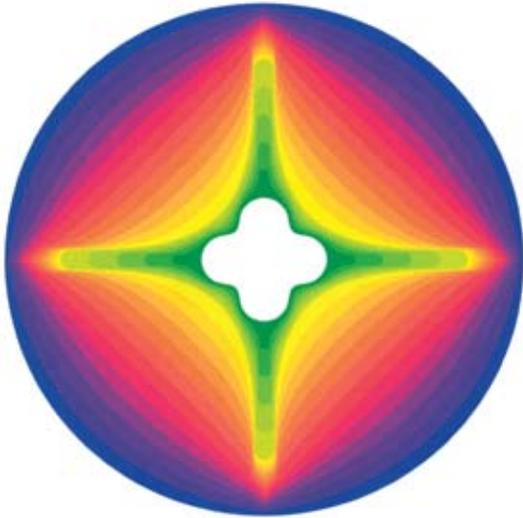
<sup>8</sup> At the international level, computer art starts in 1965 with exhibitions by Georg Nees (March 1965, Galerie des Studium Generale, Technische Hochschule, Stuttgart, Germany), Michael Noll and Bela Julesz (April 1965, Howard Wise Gallery, New York, USA), Georg Nees and Frieder Nake (November 1965, Galerie Niedlichs Bücherdienst Eggert, Stuttgart, Germany). These are followed in 1968 by *Cybernetic Serendipity* (Jasia Reichardt, Institute for Contemporary Art, London, UK) and fourth edition of *Nove tendencije* (Zagreb, CRO) that also display computer art. The exhibitions *Information* (Museum of Modern Art) and *Software. Information Technology: Its New Meaning for Art* (Jack Burnham, Jewish Museum) are held in New York in 1970.

<sup>9</sup> The history of exhibitions is not the only factor that substantiates the historical proximity between the first generation of computer art and what is known as Concrete Art, whereby the motive of programming is considered the unifying bond between the different genres and formats. Peter Weibel, the Austrian media artist and theorist even speaks of a mental and a *methodological* programming, but it is always about programmed art: "Only once with and once without a computer. Concrete Art is for instance programmed art without a computer, digital art is Concrete Art programmed with a computer." (Peter Weibel, Kunst als K hoch 8. Eine Korrektur, in: *bit international [Nove] tendencije. Computer und visuelle Forschung. Zagreb 1961-1973*, Weibel, (eds.), p. 9).

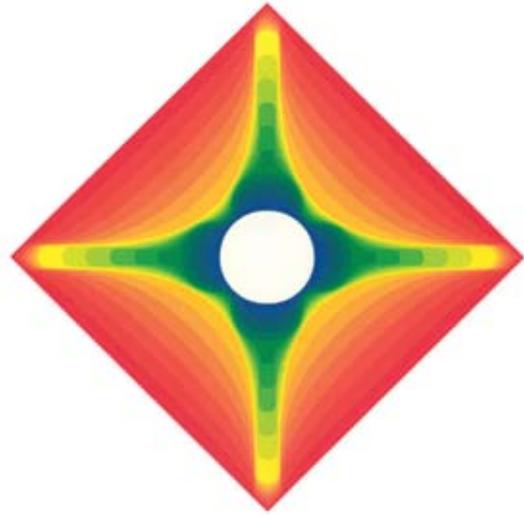
<sup>10</sup> Johannes Gfeller, Frühes Video in der Schweiz. Ein unbekannter Anfang und eine vergessene Geschichte, in: Helmut Brinker, Wolfgang Kersten et. al (eds.), *Georges-Bloch-Jahrbuch, Kunstgeschichtliches Seminar, University of Zurich 1997*, Zurich 1997, p. 223.



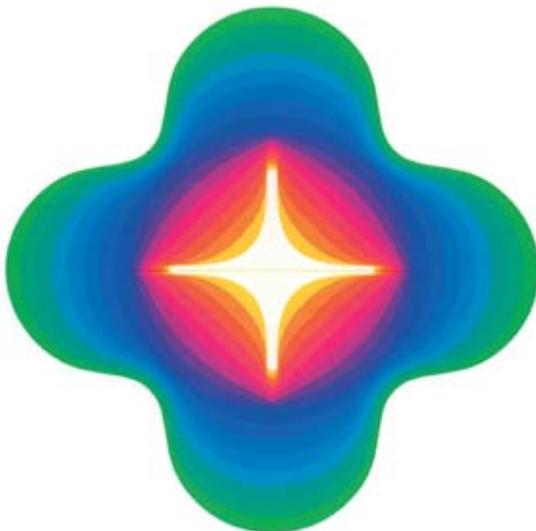
Karl Gerstner



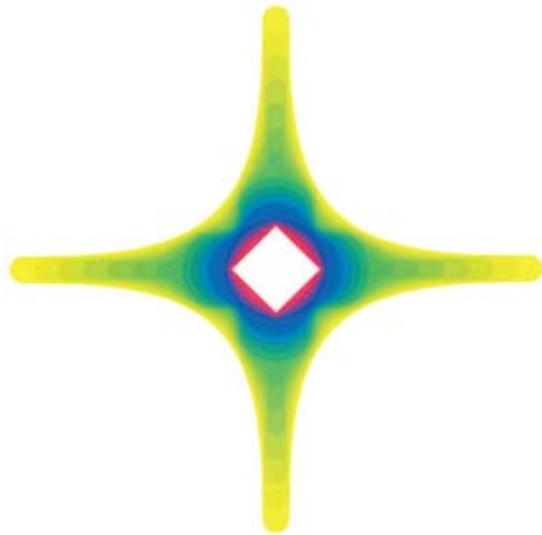
*Color form continuum blau [blue]. KonVision (1970). Relief in 18 layers (1982); 110 cm in diameter; depth: 5 cm.*



*Color form continuum rot [red]. Version without contours (1970). Relief in 19 layers (1982); 105 x 105 cm; depth: 5 cm.*



*Color form continuum grün [green]. Version without contours (1970).*



*Color form continuum gelb [yellow]. Version without contours (1970). Relief in 16 layers (1982); 160 x 160 cm; depth: 5 cm.*

*Color form (as of 1970). Continuous transition of the basic forms of circle and square, as well as the primary colours blue, yellow, red and green. The work was executed on a large computer system at IBM Stuttgart.*

The *color forms* are a "sensitivity-based harmonisation of primary colours and primary forms",<sup>12</sup> in which colour theory concepts play a vital role. In addition to the basic stock that Gerstner derived primarily from Kandinsky's synaesthetic approach from *On the Spiritual in Art* (1911), he also paid attention to form-related theories ranging from Plato to the present day. Based on the pattern of four primary colours and four basic forms, the logical inference of these elements (also inspired by Benoit Mandelbrot's Fractal Theory) quickly led to the understanding that this artistic iteration could be realised less with compass and ruler, and more with the computer. For Karl Gerstner, the Stuttgart result bordered on a miracle, as he reports:

*At the push of a button the figures appeared on the screen; sizes and dimensions could be adjusted at will, the number of steps chosen at will. And the machine made changes in a fraction of the time that the quickest draftsman would have required – until the result was one with my idea. The plotter used in those days then transferred to paper what could be seen electronically; each curve in the form of steps, but still something. The result was a series of eight computer drawings; four ConVersions and four DiVisions.<sup>13</sup>*

*Color forms* was then executed as coloured reliefs. Of importance here is however that "in the computer" Karl Gerstner had not, as suggested by Bense's approach, "seen the creator, but the implementer of ideas, the executor of the artist's ideas."<sup>14</sup>

An overview of Karl Gerstner's wide-ranging oeuvre to date provides us with an insight into his varied use of form, style and media technology to produce pieces that do not necessarily require a computer.

And yet the work on and with the computer is still a constant. The artist has always ensured that "the machine realises (only) what (the artist) has entered as input." And Karl Gerstner specifies that the work is "realised" in a manner that would not be possible by a "human worker".<sup>15</sup> This specific computer-based aspect is also highlighted by the later example of *color spiral icon 65b* (2008).

The St. Gallen artist Bernard Tagwerker (\*1942), is also primarily concerned with the use of the computer in a medium-specific or, more precisely, machine-specific manner.

*I wanted to use the computer<sup>16</sup> at exactly that level where its skills lie. In other words, computing. Not so much at the level of the drawing and illustration programmes available today. They have eased the work process on the computer in that they allow one to experiment with options.<sup>17</sup>*

In contrast to these programmes Tagwerker prefers the clinical use of the computer for information purposes, because for "operational, process-related systems an action is initiated, the outcome of which is unknown."<sup>18</sup> And chance, as the actual construction tool, is crucial yet again. However, while Roland Wäspe believes that dealing with the random distribution of defined graphic elements is founded principally on a deep-rooted "scepticism of the options available to an artist to explore something completely new,"<sup>19</sup> Marion Keiner comments that Bernard Tagwerker has come closer to the "disorder of chaos and chance" by dealing with law (legality) and order (.....).<sup>20</sup> This moment of tension between conceptual rigour (order) and aleatory is also expressed in *Konstellation* (1977/1) (reproduced here) that was created during Tagwerker's

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<sup>11</sup> Karl Gerstner, *Die color forms*, in: Eugen Gomringer (eds.), *Karl Gerstner. Rückblick auf sieben Kapitel konstruktive Bilder Etc.*, Ostfildern-Ruit 2003, p. 165.

<sup>12</sup> Karl Gerstner in a letter to Tabea Lurk, 14 September 2009, p. 2.

<sup>13</sup> Karl Gerstner, *Die color forms*, p. 165.

<sup>14</sup> Karl Gerstner in a letter to Tabea Lurk dated 14 September 2009, p. 2.

<sup>15</sup> *Ibid.* p. 3. The artist also notes that while the computer may be extremely good at calculating forms, it is completely inadequate when it comes to colours.

<sup>16</sup> Even today most of the works are realised on an IBM 2/86 computer in which a Dos system has been installed. The graphic programme used is VersaCAD.Version 7.02. The flat bed plotter is controlled by a special serial printer interface as interfaces such as HP-GL were still not a standard when the works were created.

<sup>17</sup> Bernard Tagwerker in an interview with Tabea Lurk on 14 September 2009, St. Gallen, Switzerland.

<sup>18</sup> Bernard Tagwerker, in: Zufall als Prinzip, Bernhard Holeczek (eds.), *Ludwigshafen: Wilhelm-Hack-Museum*, 1992, p. 208.

<sup>19</sup> *Katalog: Tagwerker. 3.10.–15.11.1987*. Kunstverein St. Gallen (eds.), St. Gallen 1987, p. 7.

<sup>20</sup> Marion Keiner, *Chaos und Zufall in den Arbeiten von Bernard Tagwerker*, in: Konrad Bitterli, *Bernard Tagwerker. 1969–1995*, Kunstverein St. Gallen, Ostfildern-Ruit 2007, p. 38.

ten-year stay in the US. While the print had not yet been created on a computer Tagwerker did not buy his first computer, a TI-99/4A, until 1984/85 in New York - the illustration was divided into squares by hand, then stamped (0 to 999), followed by a laborious series of 100 pencil and 100 chalk lines, resulting in an intricate web. Each line connects two number fields randomly drawn by the artist from a pool of numbers between 0 and 999.

Starting with *Konstellation*, Tagwerker still needed almost ten years before he was first able to develop work that had been devised on the computer. The first documented work is the six-figure collage *0°, 15°, 30°, 45°, 60°* (1986/1), in which a kind of master drawing was first drafted. The structure of the drawing is based on a square grid the density, margins and diagonals of which have been randomly selected by the computer. Five segments were then selected from the overall picture, enlarged and arranged in 15° steps in the form of an arc.<sup>21</sup> Brief series of other graphic work followed until *Arcs 1* (1989), also reproduced here, in which Bernard Tagwerker gradually iterated some aesthetic principles. The artist never deviated from the aesthetic programme even if it meant using extremely time-consuming and nerve-wracking procedures. An example is the 39-piece work titled *Verdopplung Horizontal Vertikal* (1988) that covered a wall. In this 'doubling horizontally vertically' the concentration of lines is continued randomly until a sheet of paper is completely covered with at least one layer of black. The procedure was conducted in four stages, each with a double border.

Where other artists would have considered certain prints or screens as rejects or would have interrupted some of the printing processes, for Tagwerker the creation process that he was engaged in at that very moment had to be completed before he could turn to another theme. The artist's method of work above all has more or less become the trade mark of his computer art. Tagwerker re-engineered an industrial flat bed plotter manufactured at the company Wild (later Leica) so that it could work directly on medium

to large-scale screens. Attachment units were first developed that still enable drawing and sketching tools to be fixed to the plotter head. Then the standard optimisation of the vectorial printing process was manipulated on the software and/or at the steering level of the over-sized sketching gadget such that the normal optimisation of printing methods for industrial plotters between a point A and a point B was avoided and the paintings could therefore be realised layer by layer, in any number of colour coats. That the perfection of the manufacturing process is of relevance is also reflected in the fact that for Bernard Tagwerker the results are "more mechanical than digital"<sup>22</sup> - to the extent that the painting process itself becomes a mechanical process. And precisely this difference between an understanding of digitality that exists in calculated operations through the use of chance and produces graphical patterns, and the mechanical perfection of the plotting process that actually adds to the quality of a work, is what lends a completely different charm to Tagwerker's computer art.

Bernard Tagwerker and Alexander Hahn (\*1954) have been friends since their time together in New York. Shortly before leaving the US Tagwerker acquired the three-part sequence *Simulation Piece 1-3* (1985) by Alexander Hahn, and allowed it to be published in this catalogue. Indeed, Alexander Hahn, who is known primarily as a video artist, is also one of the pioneers of Swiss computer art and has been using the computer in art since the first half of the 1980s. In this context it is particularly interesting that his artistic origins lie in electronic art, specifically video art.

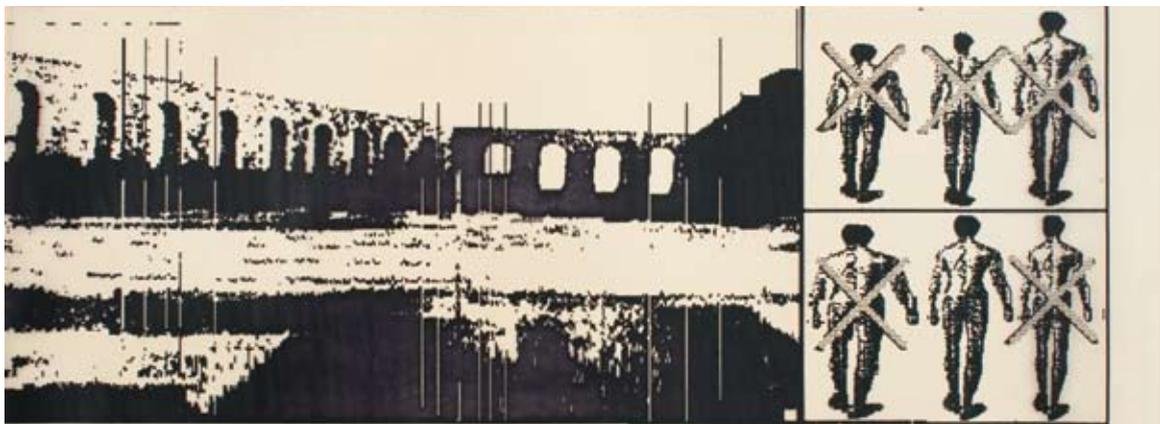
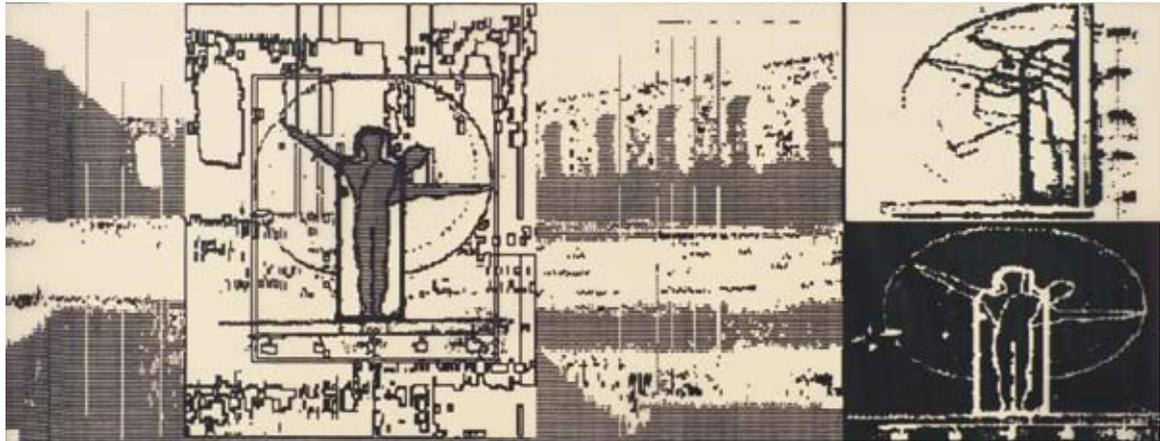
In contrast to the examples of artworks mentioned above, Alexander Hahn's computer-generated pieces present a graphic vocabulary that seizes not only on the visual fragments of everyday electronic culture but sometimes also on digital readymade sound and picture forms, and places them the context of art. One of the very first works to be written exclusively in code and on the legendary TI-99/4A (Texas Instruments Extended BASIC) is *A Young Person's Guide to Walking*

<sup>21</sup> Konrad Bitterli, *Werkverzeichnis*, in: Bernard Tagwerker. 1969-1995, p. 148.

<sup>22</sup> Bernard Tagwerker in an interview with Tabea Lurk on 14 September 2009, St. Gallen, Switzerland.

<sup>23</sup> Alexander Hahn has published an animated video version of earlier work on the internet: <http://www.alexanderhahn.com/Video/YoungPerson.html> (12 September 2009).





*Simulation Piece I III (1985), 38.3 x 67.5 cm. Computer drawing realised on a 128 KB Macintosh. The video images were digitalised with MacVision, edited with MacPaint, printed and copied on transparent foil. Photos: Johannes Gfeller.*

*Outside the City* (1983).<sup>23</sup> For one, the aesthetic of the piece draws attention to video games such as *Space Invaders* (figures) and *Pacman* (animation pattern); for another, it resorts to the 'found code' (recycling), or graphic software designs such as colourful fish, the programming (code source text) of which was taken from a computer magazine.<sup>24</sup> Prior to this the artist himself had already graphically programmed the game of chess on TI99 and integrated it into the installation titled *It that once beat the Masters*, created in 1982–83. The graphic material here seemed to be embedded in a system of Fresnel lenses that caused holographic distortions to the image.

Alexander Hahn had started rather early to use the video camera as a source of pictures for processing or developing computer artwork. With the aid of a hardware-based video interface (MacVision), a Sony Video 8 camera<sup>25</sup> was attached to the computer and the graphic material was either played back on the camera, as was the case with the video tape *Aviation Memories* (1986), or was printed, as in the three *Simulation Pieces*.<sup>26</sup> Once the illustrations had been digitally composed, they were first printed in black and white on fanfold paper and then enlarged to the desired size (38.3 x 67.5 cm) with a photocopier.<sup>27</sup> The result is drawings with a unique materiality, printed as they are on transparent film. The sequence reproduced here, *Simulation Piece*, combines three different graphic elements: a view of New York from the roof of a building on 817 Broadway, like a cut-out in the background with arched windows reminiscent of antique ruins. There is also a male nude seen from the back (proportion study) in which the artist schematizes himself, and finally a view of the moon where one can choose from different lunar phases. The graphic material in combination is a repeated motive in other work of that period. In *Simulation Piece I*, one of the figures has been placed in a circle in such a manner that we cannot help but recall Leonardo da Vinci's famous proportion study of Vitruve (1505). In addition to the use of different contexts

for the graphic elements, the format and form are particularly striking. On the one hand, Alexander Hahn highlights the process of selection during composition by reproducing the different graphic elements to choose from on the right-hand border of the picture. The unused objects are crossed out and the template used is easily recognisable. On the other, the pixel structure is obvious once the image is enlarged, and we find ourselves agreeing with Robert A. Fischer (1942–2001), one of the most important theorists of the Swiss media art scene as of the 1970s, when he says that Alexander Hahn (works) "only with the tools of the digital age, like a painter with an easel."<sup>28</sup>

Much like Alexander Hahn, Hervé Graumann's (\*1963) computer works also have their origins in electronic culture, whereby Graumann's roots lie in electronic music. The synthesizer, sequencer and sampler play a central role and have facilitated experimental manipulation of electronic information, for instance audio and later video signals. In terms of form, the artists are also similar in the way they present their pieces – Hervé Graumann's work is also frequently or almost exclusively in the form of installations. However, the work of the Geneva artist is underpinned by an understanding of art that differs from the examples mentioned above and is highlighted by *Couleur Minute* (1989), Graumann's very first computer-based installation. This piece places an Amiga 500 computer on the floor of the display room; monochrome colour fields appeared on the monitor minute by minute. The colours shown are randomly chosen from the spectrum of the 4096 colours that can be used, and appear as plain, solid colour fields. The recourse to chance results in an endless, unpredictable colour film that can only be computed in real time on the computer. Mention can also be made of Graumann's interactive painter *Raoul Pictor cherche son style...* (1993) that has also become something of an icon. A slightly updated version has been available on the internet since 1997<sup>29</sup> and since 2009 can be downloaded as an iPhone application.<sup>30</sup>

<sup>24</sup> Other video works and computer video plays such as *Dream of Zanzibar* (1985) can be cited here, in which Alexander Hahn uses diverse methods to design the media-technical transitions between the worlds of art videos, electronic games and computers. Cf. <http://www.vimeo.com/user439168/videos> (29 September 2009).

<sup>26</sup> Other dot matrix prints such as *Computed Sunset II* (1985) are on display in the Solothurn monographs; cf. *ibid.* p. 89f.

<sup>27</sup> Large Format Xerographics is still in existence.

<sup>28</sup> Robert Fischer: Alexander Hahn. Electronic Media, Zurich 1989, p. 7.

<sup>29</sup> <http://www.raoulpictor.com/> (12 September 2009)

<sup>30</sup> <http://itunes.apple.com/WebObjects/MZStore.woa/wa/viewSoftware?id=328337770> (20 September 2009)

Hervé Graumann



**Composition  
verticale/horizontale  
à 3 éléments  
1993-94**

**Hervé Graumann**

Elément # 1\_  
nom: horizontale black+  
Longueur: 63.9 mm  
Epaisseur: 4.6 mm  
Distance du bord gauche  
de l'élément avec le  
bord de page: 108.4 mm  
Distance du bord supérieur  
de l'élément avec le  
bord de page: 118.6 mm

Elément # 2\_  
nom: horizontale medium  
Longueur: 104.8 mm  
Epaisseur: 2.5 mm  
Distance du bord gauche  
de l'élément avec le  
bord de page: 58.6 mm  
Distance du bord supérieur  
de l'élément avec le  
bord de page: 121.1 mm

Elément # 3\_  
nom: verticale black-medium  
Longueur: 187.1 mm  
Epaisseur: 2.8 mm  
Distance du bord gauche  
de l'élément avec le  
bord de page: 121.1 mm  
Distance du bord supérieur  
de l'élément avec le  
bord de page: 18.7 mm



Composition verticale/horizontale à 3 éléments (1993-94).

These works have been influenced by what is known as the 'paint box era', which starts with the Apple II computer and categorises these pieces under the (second-)generation of computer art that stopped producing vector-based picture elements, but were able to resort to graphic user surfaces and tools. However, the excerpts from the series *Composition verticale/ horizontale à 3 éléments* (1993/94) reproduced here are a later recollection of classic first-generation computer art: the structure of its composition is written down word for word on paper. In contrast to Graumann's installations that may be extremely ironical when addressing the computer and its environment,<sup>31</sup> the illustrations reproduced here, despite their special status in the overall work, can be associated with what the artist says about his beginnings:

*At the time, I was making engravings, doing linocuts, a typographic technique. I tried to reproduce the point the pixel by taking as my model the screen with its vertical and horizontal axes. Taking two sheets of linoleum of the same size, I cut a vertical line into the first and a horizontal one into the other. The first sheet was printed and it shows a white vertical line on a black ground. Then I took this same sheet of paper and printed on it with the second line, which produced a horizontal line which now was not white because it was printed on black. The result was a double layer of black over the whole sheet, except in the horizontal and vertical lines, where there was only one coat of ink and a white dot. The white dot was where the two lines intersected.*<sup>32</sup>

This completes the examples of computer art that had emerged only slightly earlier. In the case of Hervé Graumann, while a direct connection can be established in terms of style, form and, above all, intention, to the more recent computer-based art forms described in this year book, the work of Roland Jung (\*1941) finally allows Swiss computer art to be metaphorically (re-)coupled with the historical precursor of the computer: the Joseph-Marie Jacquard

(1752-1834) loom of which Charles Babbage (1791-1871) is supposed to have said:

*The fact is that with a Jacquard loom one can weave any conceivable pattern. In the factories there are artists who design such patterns. Based on their designs, a special machine is then used to punch holes in pasteboard cards. By combining these cards, the loom weaves an exact reproduction of the pattern. Even if the colour or shade of the threads is different, the designs on the fabric remain the same, distinguished only by colour.*<sup>33</sup>

In fact Roland Jung first learned weaving not on a Jacquard loom but from scratch, before establishing contact in 1985 with the integrated gallery belonging to the NOKIA office (previously Riccho) in Zurich. NOKIA immediately recognised the potential for design not only in the computer but also in the artist and supported Roland Jung by allowing him to use some of the technical infrastructure for project purposes. The artist, in collaboration with an engineer and prospective computer scientists, was therefore able to expand his visions of structure-based art by using his own computer programme. A 'Jung programme' was developed which for years facilitated the creation of vastly different illustrations that were printed on medium-sized paper, examples being *Mixed6* (1993) and *Random3*. *Initial1* (1993) that are displayed here. They have been created with a 1986 programme version. Or the programme was used as a basis for sculptural objects, reflected in *Spiraltrichter/Cone spirale* (1985/86), also reproduced here.

In contrast to Gottfried Honegger's monolithic sculptures in the 1970s and 1980s, Roland Jung's sculpture stands on thin metal and steel plates or industrially manufactured grills in which precisely calculated imperfections have been cut or lasered before being fully mounted. Fitted into the setting, objects emerge that seem to be light, almost transparent, despite the heavy materials used. The lines worked out on the computer are recognisable as sections or vacant forms. The range of forms

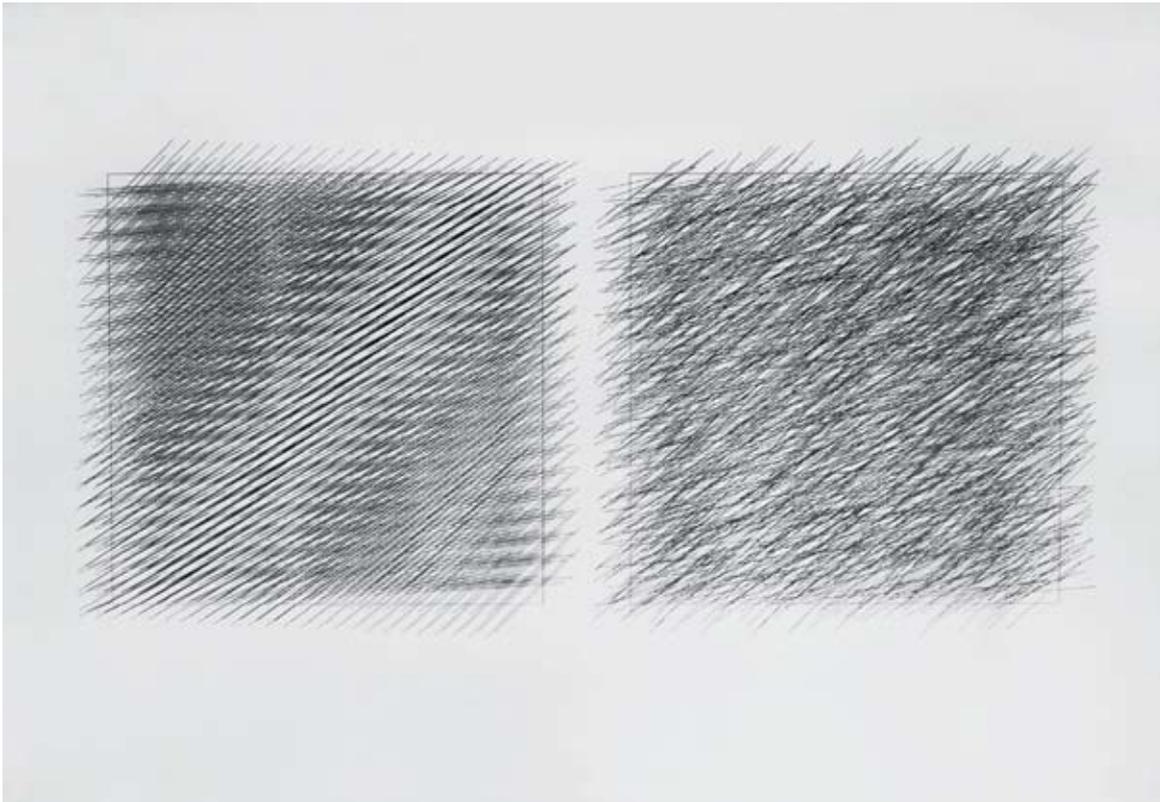
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<sup>31</sup> For instance, in *Hard on Soft* (1993) Hervé Graumann placed an ink jet printer on a sponge pedestal so that the movements of the print button during the print process caused the entire installation to shake.

<sup>32</sup> Laurence Dreyfus, interview with Hervé Graumann, in: Herve Graumann, Baertschi-Salomon (eds.), Geneva 2005, p. 51.

<sup>33</sup> Charles Babbage, quoted in: Irene Meichsner, Vom Webstuhl zum Computer, in: Deutschlandfunk, Kalenderblatt 7 August 2009, <http://www.dradio.de/dlf/sendungen/kalenderblatt/1007887/>.

Roland Jung



Mixed 6 (1993) and Random 3 (1993). Both works were created by the Jung Programme and printed on paper as drawings.



Spiraltrichter/Spiral cone (1985/86), reinforced iron, laser cut.



Detail of sliding door designed for the institute of musicology at the University of Zurich. Photo: Cristina Urchueguía.

has expanded over the years as has the spectrum of materials used which now include glass used for instance for facades or interiors.<sup>34</sup>

## Conclusion

If we again pose the question of the visibility or presence of first-generation computer graphics in Switzerland, we encounter some extremely interesting aspects. An impressive array of art forms has developed in the country in which graphic computer art continues to exist. In addition to work that is graphically plotted on paper, there are manifold innovations in the field of sculpture, ranging from plotted paintings to architectural surface design.<sup>35</sup> Besides the forms of expression outlined here that belong either to the abstract tradition (classical modern) and Concrete

Art, or are committed to electronic art (music and video), there are additional sources of inspiration that produce hybrid forms, particularly in later work, after 1990 to be precise. Work of this period is shown to increasingly integrate aspects of everyday culture as well as narrative elements. This computer art rests on a basic, ambivalent stance that falls somewhere between euphoria and criticism, enchantment and disenchantment. It is not uncommon for what artists perceive as the conflict potential of the computer, to be expressed in or compensated for in the production of artwork, giving rise to an associative, cybernetic self-indulgence in which computer art addresses, processes, and articulates not only the technical and economic aspects of the media, but also social concerns. And perhaps this is where the particular charm of this form of art is to be found.

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<http://www.aktivearchive.ch>

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<sup>34</sup> By way of example we can cite the large glass plates in the institute of musicology at the University of Zurich which function as a sliding door dividing a room into two parts and one plate at the entry to the seminar room. Both are decorated with geometric patterns; or door elements in the renovated interiors of the ETH observatory.

<sup>35</sup> Examples that can be cited include the HRS office building in St. Gallen, Switzerland and the facade of the school complex in Halden, both designed by Bernard Tagwerker.



## Variantology and Archaeology of the Media

**On deep time relations between the arts, technology and science**

Siegfried Zielinski

We were researching the media even before it came into being. These words attributed to Dai Nianzu, an expert in the history of mechanics at the Beijing Academy of the Sciences, provide us with a telegrammatic summary of the overarching line of inquiry into our work on variantology. However, paring the inquiry down to the essentials contains a methodological trap. The conceptual generalisation of the term 'media' is an invention of the twentieth century. The individual techniques of communicating, visionizing, and generating knowledge and amusement are considerably older. To avoid the trap of historicalisation, they will not for the moment be subsumed under the collective term of media. They are unique as concrete artefacts or concepts and should therefore be seen as resistant to generalisation. Approaches to research these techniques need to be other than those that are applied in the established ways of writing media history.

The research into the deep time interplay between art, science and technology does not seek to re-invent the concept of media or that of the arts. The aim is to open up media and art productively through their interaction with scientific and technological processes. Experts researching media should be encouraged to extend the boundaries of their fields of study and themes that have hitherto been excluded from the pertinent discourse (for example theology, Latin or Arabic studies, large parts of the history of natural science and technology) should be questioned in terms of being understood as media. With media studies being established as an academic subject, we question it as a clearly defined discipline, and try to allow media to unfold as particularly inter-discursive events, from the historical point of view too.

The vertical sounding of history and excursions into unfamiliar academic territory are coupled with a massive geographical re-orientation. Deep-time cultures such as those of China, India, Arab and Islamic countries, Latin America or southern Europe play, if only for a while, a more important role as historical processes than the cultures of central Europe. One of the objectives of our work is to set up an Institute for Southern Modernities (ISMs). This had already been announced in Naples in November 2008.

The work processes for variantology and archaeology of the media try to make a naive response to the culture of block building and programmatic standardisation. The term variantology is a neologism that has the advantage of not lending itself well to the purpose of standardisation, yet is original enough to open up a qualitatively new and interesting field of research. This obviously contains a paradox, one that we are familiar with in other semantic coinages, in Georges Bataille's 'heterology' or Michel Foucault's 'heterotopias'. Phenomena that are contradictory and divergent, that rub against each other or even repel each other are collected under a provisional umbrella such that they can always drift away from each other and move independently. It is about mixtures where 'de-mixing' is always conceivable and possible a thought that we are familiar with from the time of the fathers of the chaos theory, the pre-Socratic philosophers Anaximander and Anaxagoras.

In contrast to the heterogeneous or the heterotopic with strong vibrations of ontology and biology, the variant is important to us in methodological and epistemological terms as a mode of lightness. In this form it is equally comfortable in experimental natural sciences and engineering, and in diverse artistic and



media-related practices, most pronounced in music. As different forms, or as divergent interpretations of source material, for the composer or the interpreter variations are part of normal vocabulary and of everyday life. In a narrower sense, the variant describes the change of mode of tonic triads from major to minor (and the reverse), namely by diminishing or augmenting the third.

For us, the semantic field to which the concept belongs has, in principle, a positive connotation. To be different, deviate, change, alternate, transform are the options for translating the Latin verb *variare*. They take on negative connotations only when the person speaking or writing these words uses them to discriminate, something that in our eyes the word does not endure; quite the contrary: To modify given characteristics is an alternative to the destruction of an object. As a tactic this has played an extremely crucial role in diverse twentieth century avant-garde movements, playing itself out, I believe, against the backdrop of the destruction in the real world that we are compelled to witness on a daily basis.

Research not motivated by desire and hope amounts to an academic hades, it lacks vitality. For the future of the media, variantology, the experimental field of research, would like to open up a *spielraum*, in the truest sense of the word, a realm of possibility for the interfaces between art, technology and science. This has nothing to do with arbitrariness. Similar to the successful finds of the 'an-archaeological' search<sup>1</sup> the variantological attitude is to rely on a few constants that must be re-created again and again.

In order to create relations that can be so diverse and consistent that they are able to unfold at the horizontal level, one must move vertically. The researchers who come together for a brief while under our roof share a passionate quest to delve into the origins and development of phenomena to be found in the layered relations between science, philosophy, technology and art. Media archaeology with its scattered genealogies is just one of several *modus operandi*. Together with researchers such as Lev Manovich and Norman Klein from the USA or Erkki Huhtamo from Finland, we initiated this direction in research in the early 1990s. In the past years it has

produced a plethora of archaeologies of individual forms of media and media-related phenomena. It is now urgent that this research is subjected to critical review and, more importantly, fine-tuned. Targeted attempts must also be made to include subjects that have either been relegated to the periphery of the discourse or been disregarded altogether. A classical philology that is aware of the media-like nature of poetic formats and of the technical content is as much of a valuable variant, as is a history of science and technology that reflects on the cultural significance of the experiment, or a philosophical argument that dares to attempt the risky balancing act between ancient and contemporary mythologies.

The expertise desired for in-depth studies of the issues presupposes a way of working that can be interpreted from the perspective of the media too. The codes underlying these forms of expression at different points in time can be interpreted or emulated only if we are aware of what it is that makes them unique or original an awareness of what was originally said, if we have it in print or handwritten. To be able to manoeuvre into the deep times of the constellations of interest here, one needs to be able to read, interpret and translate into our thought process the sources purported to be original. A machine cannot translate. It is telling that half a century of concerted effort notwithstanding, the computer programmes that exist still fail miserably as soon as a language becomes more complex.

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<http://www.egs.edu/faculty/zielinski.html>

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<sup>1</sup> See chapter on methodology, in: Zielinski, Siegfried: *Deep Time of the Media*, Cambridge/London: MIT Press, 2006.



# The Myth is the Message

Adrian Notz

## Preamble

Cabaret Voltaire today deals with two aspects of Dada: Dadalogy and post-Dada. While Dadalogy questions the significance of Dada in today's world and teams up with international contemporary artists to engage with historical issues, post-Dada poses questions in a local context as to what Dadaists would do today. In this text, the director of the department of Dadalogy provides a historical perspective on post-Dada.



Hugo Ball in a costume of the time © Hugo-Ball Estate, Zurich

## Cabaret Voltaire

Cabaret Voltaire was inaugurated on 5 February 1916 by Hugo Ball and Emmy Hennings in the Meierei restaurant, located at Spiegelgasse 1 in Zurich. Also present that evening were Sophie Taeuber Arp, the painters Hans Arp and Marcel Janco, and the poet Tristan Tzara. Six days later they were joined by Richard Huelsenbeck from Berlin. With and within Cabaret Voltaire this group wanted to protest against the culture and society of the time, which, with its economic fatalism and mania for technology had brought on the First World War. They did this by attacking and deconstructing the culture and art of the time with countless manifestos. Their instruments were provocative sound poems that picked the words to pieces, leaving them as mere sounds without the dirt of war propaganda clinging to them; simultaneous poems recited in several voices to create a real-world situation where several things are always perceived at the same time; collages and readymades that derived their materials directly from the real world of media and therefore included mundane objects such as a newspaper cutting or a urinal.

The term 'Dada' was coined in April 1916. Thanks to Tristan Tzara's passionate PR work, and to innumerable manifestos and declarations, Dada spread like wildfire from Zurich to Geneva, Paris, Berlin, New York, Hanover, Cologne, Tirol, Brussels, Holland, and even to Tokyo.

Dada in its original form started life in Cabaret Voltaire; a myth emerged on which all subsequent Dada events tried to base themselves. Dada was not a style, to say nothing of an art movement, but was more of a gesture, as noted by Hugo Ball in his diary *Flight Out of Time*. This is to say, Dada functions primarily through language – it is a declaration and a message.

### Temporary cultural use

On 5 February 2002, artists occupied the building where Cabaret Voltaire had been founded 87 years earlier and for three months put it to "temporary cultural use", as Mark Divo, the ringleader and spokesperson of the neo-Dadaists likes to express it. Thanks to this temporary use, described by the neo-Dadaists as a revival of Dada, and thanks to the reports that went far beyond the borders of Switzerland, the attention of the public, the residents and the politicians of the city of Zurich was drawn to the fact that here, in the heart of Zurich, they had a place of high historical and cultural value – the birthplace of Dada. A support group, the *Pro-Dada-Haus* committee was formed, comprising over 2000 Swiss artists and cultural workers who wanted to campaign for a Dada house. At some point the watch company Swatch jumped in and pledged funds for five years, if the city assumed the rental cost of the space.

### Metastar: Poseur et provocateur

In early 2004, the landscape gardener Philipp Meier, was appointed director of Cabaret Voltaire shortly before its inauguration. By appointing Meier as director, the founders of the new Cabaret Voltaire had elected an exponent in Zurich who had a pronounced sense of self. As club curator, Meier called himself "metastar", recalling the Dada Baroness who as early as 1913 had said: "I am art." Meier's self-portrayal, nurtured with the help of a stylist, is combined with coquetry when he proclaims that he is "only" a landscape gardener and provokes the Zurich cultural scene with polarising statements. In the summer of 2007 the mayor of Zurich called for Meier's dismissal. The response was a less radical decision to appoint a co-director as supervisor, namely the aforementioned department director and author of this article. On 4 September 2009 another article about Cabaret Voltaire appears in which Meier emerges as co-director and

claims that he always wants to provoke through Cabaret Voltaire. The article carries a photograph of him in which, as always, he is unsmiling and perhaps a trifle arrogant, virtually forcing the readers to conclude that Meier must be an extremely disagreeable person or, as mentioned in the interview, "immature". Meier's criticism of the media is thus both implicit and intuitive. He intervenes in the real world with nothing (Richard Huelsenbeck: "Dada means nothing. We want



Stefan M Seydel  
from *rebell.tv* in  
conversation with  
Hans Ulrich Obrist,  
Zoo Art Fair 2008  
©*rebell.tv*, 2008

to change the world with nothing!") because several politicians and people still believe in the newspaper as a reliable source of information.

### The Form of Unrest: rebell.tv

Since 2006 *rebell.tv* has been Cabaret Voltaire's media partner. The company is run by Stefan M. Seydel and Tina Piazzi and has a website with blogs, as well as television, print media, radio and an interactive magazine. The two people behind *rebell.tv* are social workers. Although they often deal with cultural issues, their primary interest is sociological, which is why we describe their work on and with Cabaret Voltaire as Social Worker in Residence (abbreviated to S.W.i.R.). As the team profiled above, *rebell.tv* analyses *The Metamorphosis of the Social Question* (Robert Castel), covering the entire spectrum of social life: art, science, politics and business. In the manner of an intervening observer, Seydel also appears in bright orange trousers and encounters people face to face to collect interviews in the form of podcasts or videos. Seydel is constantly aware that by making an appearance he cannot pose or observe questions from a neutral standpoint – he must intervene repeatedly with the questions. The face-to-face encounters are contextualised in a blog. The daily 10 o'clock news and the Wednesday weekly commentary by Tina Piazzi and Hanspeter Spörri are to be understood as stopovers and moments of reflection in this ongoing process. Another somewhat broader product in chronological terms is the *rebell.tv* magazine. *rebell.tv* processes content according to the principle of 'radical transparency' – value, attitude and opinion are not the primary



The Myth is the Message  
The Myth is the Message



Installation Opera Calling at Cabaret Voltaire © Mediengruppe Bitnik, Zurich 2007

factors in assessing content. More recently, rebell. tv has also dared to venture out of virtual space by publishing a 512-page catalogue raisonné and holding an exhibition in the crypt of Cabaret Voltaire where it presents work that could qualify as art.

### **Appropriate, Manipulate, Feedback: Opera Calling**

On 12 March 2007, the media group Bitnik placed audio bugs in the Zurich Opera House. The bugs transmitted the Opera House programme live to a

computer in Cabaret Voltaire from where all the telephones in the city of Zurich were called in succession. The residents of the city were given the opportunity to listen to opera free of charge. The best part was that the opera management reacted exactly as one would have hoped for and threatened to sue Cabaret Voltaire for infringement of copyright if they were unable to find out where the bugs had been placed. A tongue-in-cheek report on Swiss television – indeed it seemed as though Cabaret Voltaire and the Opera House had joined hands to organise the



*Marilyn Manson and Evan Rachel Wood at Cabaret Voltaire © rebell.tv, 2007*

event - swung the mood at the Opera House and the incident even culminated in a happy end when the Opera House management returned one of the audio bugs to Cabaret Voltaire.

### **Marilyn Manson**

In winter 2007, Marilyn Manson exhibited his watercolour paintings in Cabaret Voltaire. He was personally present at the inauguration along with his lover Evan Rachel Wood. They did a round of the room after which Manson spoke in front of the rebell.tv camera: "It is maybe my most favourite exhibition because it is in the birthplace of Dada. I am very honored. I am such a great fan of Tristan Tzara and everything that is Dada. And this is the place where it started. It is an honor to be here."

The video was put out on YouTube and viewed more than 150,000 times. A couple of thousand Manson fans must certainly have asked about Dada, and must have googled the term. This was a rather unconventional way of bringing art to the public and using the figure of Manson as messenger.

From the post-Dada side one heard that the event had helped recharge the myth of Cabaret Voltaire; the Dadalogy side claimed that Manson had used the myth of Cabaret Voltaire to recharge himself, acquiring the Dada blessing in the process, so to speak.



*Robydog sold for CHF 3.50 to Eva Camenzind, © Spillmann / Felser / Leo Burnett, Zurich 2008*

### **Referendum: Everything is Art**

A Swiss People's Party (SVP) referendum called for a public vote for or against Dada to be held in Zurich on 29 September 2008. Dada won with 65.1% of the votes cast. For the first time in history Dada had been put to a democratic test. To raise awareness of the referendum, Cabaret Voltaire and the advertising agency Spillmann/Felser/Leo Burnett launched a campaign under the slogan Everything is Art. The idea was to put everything in the city of Zurich up for sale as artwork. One could buy a simple hydrant, a garbage bin, a zebra crossing, a bridge or even the Grossmünster Cathedral, a Zurich landmark. All the artwork could be viewed on a website and bought at a self-determined price. The Cathedral was sold for CHF 30. Each object sold was marked with a large red dot. A total of 400 works of art were sold in Zurich and the campaign was awarded the 2009 Gold PR Lion in Cannes.



*Arthur (Iluminación), Kerim Seiler and Caroline Pachoud, 2008*

## Cravan

In an effort to understand Oscar Wilde's nephew, the boxer and poet Arthur Cravan, the director of the department of Dadalogy and the artist Kerim Seiler travelled to all the places where Cravan had lived: Lausanne, where he was born; Berlin, from where he was thrown out because of his outlandish behaviour; Paris, where he started as a boxer and where he brought out the magazine *Maintenant* for four years; in the magazine he wrote such a credible article about a 1913 meeting with Oscar Wilde that a journalist from the New York Times travelled to Paris especially to interview Cravan about the meeting; he also reported on the *Première Exposition de la Société des Artistes Indépendants* where he was highly insulting of all the participating artists, including Marie Laurencin, Guillaume Apollinaire's lover, of whom Cravan said that here was an artist whose skirt should be aired and a — inserted under it to impress on her that

art is not only about posing in front of the mirror; Barcelona, where he boxed seven rounds against Jack Johnson, the first black world heavyweight champion; New York where he was celebrated as the epitome of Dada by Marcel Duchamp and Francis Picabia and where he fell in love with Mina Loy, the American poet; New Haven, New London, Boston, Portland (Maine), Bangor, Meductic (New Brunswick), where he went swimming in the Saint John River; North Sydney, Port Aux-Basques, Curling in Newfoundland, where he signed up on a Danish fishing vessel and travelled towards Mexico; Nuevo Laredo, where he crossed the border; Monterrey, Mexico City, where he boxed at 15 Calle Tacuba; Salina Cruz, where Mina Loy travelled to Buenos Aires on a Japanese freighter and he wanted to follow her on his own ship; and Pochutla, where he disappeared in 1918. The research culminated in a sculpture Artùr (Pochutla) and an artist's book in which all the research material can be found.





MacGhillie on escalator © Knowbotic Research, 2008

### MacGhillie

Knowbotic Research, a group of artists, created the figure of MacGhillie based on Cravan, who was in the habit of using new names and identities to camouflage himself and once described himself in *Maintenant* as follows: "I am all things, all people and all animals." With the project they studied "the phenomenon of simultaneous visibility/invisibility/non-visibility on the peripheries of urban perception." MacGhillie camouflaged himself with the 'ghillie suit' and spent five days drifting aimlessly through Zurich. The ghillie suit has its origins in hunting and today is known primarily as military camouflage in natural surroundings. In the Knowbotic Research project, the figure tried to camouflage himself to fit seamlessly into the surrounding concrete, asphalt and the little wasteland that remains. He often succeeded but was on occasion exposed as a strange alien. Nevertheless, despite surveillance cameras and passers-by, nobody reacted to this strange intruder and one that could move to boot. Perhaps his invisibility was so unusual that nobody knew how to react to him. Only on a website (<http://macghillie.krcf.org/>) could one find cryptic notes on MacGhillie.



Roland Wagner as 50m freestyle champion © Sophie Jung, Zurich 2009

### Bearing the brunt of the barbs: Roland Wagner

In his review of the exhibition of Independent Artists, written in 1914 for the magazine *Maintenant*, the boxer and poet Cravan said: "The first condition an artist must fulfil is learn to swim."

Roland Wagner, IBM manager and swimmer took this to heart in his attempt to become an artist and announced that he would break the 50m world freestyle record on 22 March 2009. The 44-year-old former Swiss swimming champion intended to achieve this feat through special mental training and with a technologically advanced swimsuit.

Like Cravan, Roland Wagner used the press to write things about himself that were completely contradictory. He built a large fan club on Facebook with special fan articles in pink and produced videos about himself, his surroundings and his training methods. He signed autographs, appeared in talent shows and posed for photo spreads.

Setting a world record was Wagner's way of criticising the achievement-oriented society. He joined all the other swimmers at the National Swimming

Championships, swam to the middle of the stretch, turned around abruptly and swam back to the start. A world record in 00:00:00.

There was uproar and aggression in the pool. Wagner was disqualified for his unsporting behaviour; some swimmers threatened to physically assault him so much so that the police had to be called. Many fan club members, the press and television were at a loss to explain what had happened - they were outraged and deeply disappointed by the "fraud".

From the dadalogical point of view, Roland Wagner should of course have been beaten up and sent to prison, the way Cravan had been sent to prison by Appollinaire. For Dadalogy, the referendum of 28 September 2008 takes on a historical dimension, as this was when the entire city had been besieged by

Dada. The dadalogical stance means taking a look at Dada after a gap of between 50-90 years, when one is aware of all that the movement triggered and of what exactly it influenced. A sense of history is therefore vital.

The post-Dadaist activities take place in Here and Now through the new, universally accessible media. Dada is imparted through all channels of communication, be they blogs, free newspapers, the daily papers, YouTube or Facebook, just as newspapers, tickets, advertisements and urinals were used for collages in the past. In comparison to Dada between 1916 and 1923, today things are being produced and processed without end, resulting in a dynamic system with a constant feedback loop, just like the Merzbau.

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<http://www.cabaretvoltaire.ch>



# Media authorship

Giacco Schiesser

Before going into the details of the concept of *media author* that I introduced to the discourse in 1998 and helped implement<sup>1</sup>, it seems expedient to briefly outline the structure and history of the two terms on which the concept of the media author is built and through which it is transformed.

## Authorship before and after the death of the author

From the historical perspective, the term "author" in European cultures is intrinsically linked to the moment when composers and writers broke free of their feudal bonds as court musicians or court writers in the 18th century.<sup>2</sup> From the very start, the author figure pursued the goal of establishing an independent and individual existence as an independent producer.<sup>3</sup> This encompassed then and still does an economic, legal and artistic level: economically, one had to be able to live off one's occupation as an author; legally, the compositions and literary texts had to be recognised as intellectual property; and artistically, one had to ensure that a series of artefacts could be identified as the original "artworks" executed by an individual with a name.

This arrangement remained stable for a good 200 years. In 1968 two texts emerged that sought to bring

about a fundamental change, and which developed a long-term (if unintended) impact: *The Death of the Author* by Roland Barthes (1968) and *What is an Author?* by Michel Foucault (1969). For the first time thought is given here to changing the function of authorship and to the possibility of reconfiguring the figure of the author. Foucault is particularly clear about the fact that his "plan" is a far-reaching one. What is up for discussion here is the entire dispositive of traditional European thought and way of life; the term author is quite simply *the* pivotal point for the European concept of the individual or the subject.<sup>4</sup> The theses put forward by Barthes and Foucault were before their time, and evoked an appropriate response: harsh and dismissive, which continues to be the case today. The response so far has overlooked the fact that Foucault's sketch of a new author dispositive in particular against the background of the digitisation of modern society and the related crises of authorship stands for an unsettled enterprise into which a contemporary dispositive of authorship can tie in profitably after the death of the author.

## The mediality of the media

*Media and the mediality of the media* are a tricky matter. It is generally agreed that media and mediality

<sup>1</sup> During the process of designing a course on New Media (today: Media Arts) at the University of the Arts in Zurich (ZHdK). The term is now established and has several different meanings. In Germany for instance one can obtain a master's degree in Media Author studies. In the English-speaking world, the term media author is taken for granted and there is software called Media Author.

<sup>2</sup> In respect of authorship in the visual and performing arts, the term "artist" is still used instead of "author"; the film world speaks of the "director". For a few years now there has been a trend to use "author" as an overarching term for all art. For example, the authoritative German handbook on basic aesthetic terms (*Ästhetische Grundbegriffe/2001*) lists the terms artist and author under the keyword "author/artist".

<sup>3</sup> The difficult development of the composer into an author is impressively described by the German author Wolfgang Hildesheimer in his book *Mozart* where he uses the example of Wolfgang Mozart (1974).

<sup>4</sup> Because of constrictions of space I refer to my detailed contextualisation and discussion of Barthes' and Foucault's suggestions and their meaning for contemporary art and art education. See: *Autorschaft nach dem Tod des Autors. Barthes und Foucault revisited*. In: *Autorschaft in den Künsten, Konzepte - Praktiken Medien*. Edited by Hans-Peter Schwarz (= Zürcher Jahrbuch der Künste, Bd. 4), Zurich: Museum für Gestaltung (Museum of Design), Zurich 2007.

are difficult to understand. In the context of artistic procedures and authorships, there are two situations of particular significance today.

Firstly, *media* as media, in other words media as an independent object of knowledge has been in existence since the beginning of the 20<sup>th</sup> century. Of course there was media even before this, but neither was it considered media, nor were its impacts analysed.

According to what we know today, media is not only made up of *instruments* with which things are produced for practical purposes (for instance a computer on which I am writing this text that I will later print out and read, but media as *media* have an *Eigensinn*, or mind of their own (Giaco Schiesser) or there is the "mediality of the media" (Christoph Tholen) to be reflected on and experimented with.<sup>5</sup> In a paradoxical process, an artist or a media author is subject to the *Eigensinn* that is inherent in the media while, as a strong-minded author, he tries relentlessly to subject himself to the *Eigensinn* of the media for his own purposes.

Secondly, if one studies the development of the relationship between art and media in the 20<sup>th</sup> and 21<sup>st</sup> centuries, one can agree with the media theorist Siegfried Zielinski when he says:

"art *before* media art *with* media art *through* media art *after* media."

Art *before* media is still unaware of the mediality of the media as the corresponding social consciousness is lacking. Art *with* media uses the media and experiments with it (for example all avant-garde art movements such as Dadaism, écriture automatique, first and second French avant-garde in film). Art *through* media addresses mediality in artistic terms (an early example would be Michelangelo Antonioni's *Zabriskie Point* in 1970; a contemporary one would be Pedro Almodóvar's *Los Abrazos Rotos* in 2009). Finally, art *after* media. This refers to a generation of artists growing up today in a fully mediatised environment for whom the mediality of the media and therefore experimenting with media as media is a matter of course (example: the younger generation of media artists and some of those engaged in the creative industry).

For the modern era, Peter Weibel, director of the Centre for Art and Media Technology (ZKM) in Karlsruhe, Germany, has recently brought into play the term "post-media condition" with explicit reference to the arts.<sup>6</sup> In his manifesto he writes that, from the perspective of art, the new post-media situation is defined by two phases: "1. the equivalence of the media and 2. the mixing of the media." We are living today in the second phase in which "in an artistic and epistemological sense, the new second phase is about mixing the media-specific idiosyncratic worlds of the media." He describes the upheaval in the media that has been evident for twenty years and concludes that

<sup>5</sup> Cf. Medien|Kunst|Ausbildung. Über den Eigensinn als künstlerische Produktivkraft. In: *SchnittStellen*. Edited by S. Schade, Th. Sieber, G.Ch. Tholen. (= Basler Beiträge zur Medienwissenschaft, BBM, Bd. 1). Basel: Schwabe 2005. And: Georg Christoph Tholen: Dazwischen Die Medialität der Medien. Eine Skizze in vier Abschnitten. In: Adam, H./Fehrmann, G./Jäger, L. (ed.): *Medienbewegungen*. Munich 2008.

<sup>6</sup> Peter Weibel: Postmediale Kondition. In: *Postmediale Kondition*. Edited by E. Fiedler, Chr. Steinle, P. Weibel. Graz 2005. Quoted in: [http://www.snm-hgkz.ch/flz/postmediale\\_kondition\\_weibel.pdf](http://www.snm-hgkz.ch/flz/postmediale_kondition_weibel.pdf). The following quotes have also been taken from this text.

"nowadays all of art practice keeps to the script of the media and the rules of the media: in art today there is no longer anything beyond the media." Weibel makes it clear that the mediality of the media in the arts under the post-media condition does not lose in significance but, on the contrary, stands to gain.

### **Diversity of authorship - media authorship**

Against the background of the continuities, caesura and transformations outlined here that cover the last two hundred or last seventy years, and in the middle of this digital and post-media era, the concept of the media author that we have before us is an attempt to accommodate the developments and transformations of authorship and media/mediality that are described. The figuration of the media author is the attempt to create space for an authorship that is not identical to that of the "classical" artist, writer, filmmaker or musician but is open and fluid in all these directions. It serves the self-perception of a new generation of authors for whom wilful experiments with artistic procedures and methods are paramount. In other words: "Art as Technique" (Viktor Sklovskij) is the focus, not art as the production of artwork. Students or graduates of media arts, members of the "art-after-media" generation see themselves sometimes or partly as artists, sometimes or partly not, while others reject the term artist for themselves. But they all combine artistic skills, hybridity, an interest in current issues, the urge to experiment and the execution of hybrid authorship functions. They all intervene with their work, in several different places and of course in those fields of art which are usually still extremely well sealed from each other such as the art system, the concert hall, the public space, film, literature (theatre has been an exception for a few years).

"...only, as far as the concepts [...] are handles with which one can move things, things and not concepts again." (Bertolt Brecht).

The concept of media authorship aims to facilitate an understanding of authorship that is serious about

the fact that what was once a clear demarcation between the art(space) from non-art(spaces) is now blurred and more fluid. It is serious about the fact that an authorship, without thinking about and without experimenting with the mediality of the media is more unlikely than ever before; it is serious about the fact that the interlinking of art/technology/science is a seminal field of art; it is serious about the pluralising and co-existence of authorship that we can observe and that is familiar with and equally supports individual, collective and collaborative, classical and hybrid formats; it is serious about the knowledge that artistic authorship is found not only where it has been tried, tested and refined for several years.

Media authors are interested in artistic techniques and methods, they have their own specific themes and lines of enquiry. What unites them is knowing that they want to create artefacts in a post-media world, artefacts that intervene or are needed in many places in different social spaces in museums and galleries, clubs and discotheques, in the art system and theatre halls, in concert halls and in public spaces, in mass media and other fields of creative industry.

Even the configuration of the students and graduates of media art that has been offered as an immersion course at the University of the Arts Zurich for a good ten years now (space constrictions prevent me from including their presentations) makes it clear that they - as artists? or media authors? - address these issues in extremely diverse ways and in equally diverse forms - much like the world around us, which is being increasingly built on digital technology and media and is being transformed by the very same media and technology.

The current and future developments of authorship will show whether Foucault's hunch and hopes will be fulfilled, that someday the "author function will disappear" and be replaced as the "source of meaning" by another far-reaching configuration that "has yet to be identified or perhaps experienced."

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# HOME MADE and do-it-yourself

Dominik Landwehr

Do-it-yourself can refer to any kind of work undertaken in the house. When used in the context of artwork, however, the term takes on a broader meaning and implies that everyone is capable of being productive, creative and artistic. This also holds true for electronic art, long considered highly specialised, complex, cumbersome and expensive. However, this is no longer the case today, as demonstrated here by artists who pursue diverse approaches: some find sources of inspiration and material in junkyards and discover new ways of reassembling old pieces; others buy cheap appliances in a store and draw attention to ways of using the appliance that are not mentioned in the instruction manual; and some play on the original purpose of a device while actually creating something new, which is only indirectly related to the initial function.

Do-it-yourself is based on the principle of participation: participation in an increasingly complex world and in increasingly complex technology. Participation and personal experience are also forms of critical reflection. Engagement and critical reflection constitute the guiding principles of Migros-Kulturprozent the organisation that gave birth to the project HOME MADE. The book *Home Made Sound Electronics* that dealt primarily with projects in the field of audio electronics was published in 2006 followed by *Home Made Electronic Arts* in 2009.



## The institution of Migros Culture Percentage

Migros Culture Percentage is a household name in Switzerland. The Swiss company Migros undertook a voluntary commitment to culture, society, education, leisure and business for which it earmarked an annual budget of CHF 100 million (US\$ 95 million or EUR 75 million). Migros Culture Percentage is part of the Migros group, a unique corporate with a cooperative and decentralised structure. Total sales in 2008 amounted to CHF 25 billion (US\$ 18 billion/EUR 15 billion). The company embodies the vision of its founder Gottlieb Duttweiler (1888-1962) who from the very outset stated the advancement of culture and education to be a company objective and set aside a certain amount of the company's annual turnover for this purpose.

Migros Culture Percentage is the largest private promoter of culture in Switzerland. It supports cultural initiatives and projects, promotes artists through grant programmes, has its own institutions, and organises festivals: these include the Migros Museum of

Contemporary Art, the dance festival Steps, the club festival m4music or the cultural offices that offer support and assistance to up-and-coming artists.

Since 1998, Migros Culture Percentage has been increasingly involved in the fields of technology, society and electronic art. The projects launched include the event platform digital brainstorming ([www.digitalbrainstorming.ch](http://www.digitalbrainstorming.ch)), the youth competition bugnplay.ch ([www.bugnplay.ch](http://www.bugnplay.ch)), and the do-it-yourself project HOME MADE ([www.homemade-labor.ch](http://www.homemade-labor.ch)).



[www.kulturprozent.ch](http://www.kulturprozent.ch)

#### **Daniel Imboden and the VIBRA ROBOT**

Daniel Imboden (\*1970) recently completed the music robot duo PETROL and SUPERMAX. PETROL rhythmically taps his fingers on his belly, an empty gasoline can, while SUPERMAX plucks a string stretched across his vacuum cleaner stomach. Whenever possible, Daniel Imboden uses materials from the junkyard. Similarly, his robot project VIBRA-ROBOT can be assembled in a very short time.



[www.dim-tech.ch](http://www.dim-tech.ch)

#### **Swiss Mechatronic Art Society**

The Swiss Mechatronic Art Society is a young association that seeks to promote research, know-how and the exchange of ideas: one of their projects, MICRO\_NOISE, is offered in workshops designed for children and adults. MICRO\_NOISE is a small synthesizer capable of producing a large variety of sounds. It can be assembled in two hours, using simple and cheap parts.





[www.mechatronicart.ch](http://www.mechatronicart.ch), [www.diyfestival.ch](http://www.diyfestival.ch)

### Tangible video art - the ideas of [ a n y m a ]

Tangible video art and do-it-yourself video art artists Michael Egger (\*1974) and Maité Colin (\*1958), members of the collective [ a n y m a ], have their own unique style when using this medium to make music or when taking it to the street. To play as visual improvisers in a music band, they develop their own video instruments, an example being the videobass, which is an electric bass that produces and processes images instead of sound.



[www.anyma.ch](http://www.anyma.ch)

### !Mediengruppe bitnik: Hacking as Art

Wherever they appear they infiltrate systems, causing annoyance and irritation: in one of their projects they installed bugging devices in the Zurich Opera House. In the project CCTV SNIFFER !Mediengruppe Bitnik demonstrate how minor alterations can transform a commercial surveillance camera into a detector capable of perceiving signals in a public space.

[www.bitnik.org](http://www.bitnik.org)

*Dominik Landwehr (\*1958) has always been fascinated by the inner life of electronic gadgets and machines and by the surrounding stories and myths. He holds a master's degree from the University of Zurich in German literature and cultural studies and a Ph. D. in media studies from the University of Basel. He has worked abroad for the International Committee of the Red Cross (ICRC) and has been part of missions in various conflict zones, including Afghanistan. He is head of the pop and new media department of Migros Culture Percentage in Zurich and regularly publishes articles on the history of computers and technology. He is married and has two grown-up children.*  
<http://www.peshawar.ch/>

# The *DACollection/DASStore* project

Annette Schindler and Reinhard Storz

A collection of digital media art with an integrated art store is coming into being in Basel under the name of *DACollection* and *DASStore*. As local space for the collection is not yet available, the *DA*initiative uses its website as an electronic display room and catalogue.



*The website functions as the display room and catalogue for the *DACollection**

*DACollection* collects international, national and local works that illustrate the development of digital media art. It also sees itself as a national archive that documents the history of Swiss media art and the net art scene and is available for use by diverse study projects. Lines of enquiry and texts that have emerged within the framework of a research project, parallel to the development of the collection, will also be used for this purpose.

There are few collections of digital media art in the world today. *DACollection* is therefore seen as a model that presents a range of possibilities for owning, archiving and conserving digital art. The stock collection includes work owned privately by the two founders (the authors of this article), work loaned by artists and work from the archive of the Swiss cultural server Xcult. For the time being, *DACollection* will have its own display room where, in

addition to its own permanent collection, it will also regularly display larger pieces on loan from artists and museums. Besides setting up the collection, the focus will be on developing restoration techniques and strategies with the aim of preserving media art. We are therefore looking to collaborate with experts from Switzerland or from parts of Germany and France that border Basel.

The *DASStore* is the second pillar of the *DA* project. Here we offer a growing selection of digital artworks for sale, including objects and installations, internet-based productions and computer-generated animation. In the interests of collectors of digital art, we have combined with the artists to identify work packages for the *DASStore*, which engage with the issues of ownership, reproduction and restoration. The revenue from the *DASStore* is used to run *DACollection* and to acquire new work.

*DACollection/DASStore* sees itself as a pioneer project that extends beyond the borders of Switzerland. There have for instance been few practical answers to the question of how internet art can be collected. Such artwork is contrary to the traditional understanding of ownership in art and challenges fundamental categories such as the concept and reception of the work, as well as its permanence. The *DASStore* endeavours to motivate collectors to include art projects that are universally accessible via the World Wide Web and, being interactive, can be influenced by the observer. As we often do not know how long these works will survive, we offer conservation and restoration know-how and services or provide suggestions on how work can continue to exist in documented form.

In contemporary art, similar questions are already being asked of other formats such as photographic imaging techniques, art videos, land art and performance art. Like digital media art, work in these media is also

part of our cultural heritage. Public collections, in particular, are entrusted with the task of preserving this heritage and are therefore under increasing pressure to turn their attention to the aspect of conservation as well. In the process, *DACollection/DASStore* seeks to support the rationale and to provide practical assistance.

One of the motives for launching the *DASStore/DACollection* project is the observation that although there is always an interest in buying media art for example on the part of municipal purchasing commissions - it is considered risky because of the many uncertainties involved. Museum curators also appear reluctant to display media art because of apparently insurmountable technical hurdles. Yet digitalisation has radically changed most of the techniques of production, culture and imaging in our society to an extent that is perhaps comparable only with the impact of the invention of photography. Internet usage continues to soar. Digital media is shaping the cultural practice of a new generation just as television and cinema shaped earlier generations. Art - often digital art - explores the means and strategies of imaging in society and reflects on their limits.

To learn more about the conditions required to introduce net art in the art market, we have teamed up with the Institute of Art at the Basel School of Design to launch the research project *Owning online Art. Study for a Netart-Gallery*. In collaboration with various Swiss colleges and universities, a discussion on the commercialisation and collectibility of net art was conducted in the form of a dialogue with an interdisciplinary team. The aim of the study was to promote the *DASStore* in its nascent phase and to support it with research.

*Owning online Art* debates various economies, such as the economy of the market, of innovation and of recognition, or aspects of the economy for free, immaterial commodities. Art historians draw up lines of enquiry based on media history regarding the relationship between internet art and the market, and analyse the aesthetic context of selected works of net art. The past and present development of the commercial offer and the collection of net art are examined and models developed for the restoration of net-based work. A conference with scientists and artists and interviews with museums and collection curators and with international and Swiss artists experienced in

net art reinforce the empirical basis of the study.

The *DASStore* made its first public appearance only recently in September 2009. With the works of six artists from our commercial programme we were invited to Shanghai to participate in *eARTS BEYOND - International Gallery Exhibition of Media Art*. That the first public appearance of *DASStore* should be in a city with a population three times the size of Switzerland bodes well for the future of the project.

[www.digital-art-store.com](http://www.digital-art-store.com)



*The DASStore at the exhibition eARTS BEYOND in Shanghai. In the picture a work by Jodi*

*Annette Schindler is an art historian. She was director of Kunsthau s Glarus from 1992-1997 followed by the Swiss Institute New York from 1997-2000. Since 2000 she has been director of art and new media [plug.in] in Basel and was part of a joint venture that founded the Shift Festival of Electronic Arts in Basel in 2007. Annette Schindler regularly curates exhibitions, events, and seminars on media art and digital culture. Besides her activities abroad, the most recent being coordinating the Swiss projects in the exhibition Synthetic Times Media Art China 2008 in Beijing 2008, Annette Schindler, as a new media expert, is a frequent member of national and international juries and commissions.*  
<http://www.iplugin.org>

*Art historian Reinhard Storz lectures on art and media history at the Basel School of Design/University of Applied Sciences Northwestern Switzerland. He also publishes the online platform [xcult.org](http://www.xcult.org) that has been promoting digital culture and the production of internet-based art since 1995. In co-production with various Swiss cultural institutes, Storz has curated several online art projects that have included contributions from international artists and authors. Storz also publishes texts on art critique and heads a research project titled *Owning online Art Study for a Netart Gallery*.*  
<http://www.xcult.org>

# Building bridges

Peter Schneider

The psychoanalyst Peter Schneider is much in demand for interviews by the Swiss media. Schneider, who is believed to be a cautious cultural optimist, received an award for applied psychology, which underscored his ability to 'build bridges'. The following 'conversation' developed into a written game of ping pong with the playing surface comprising quotes from the media theorists Vilém Flusser and Marshall McLuhan.

**How does a psychoanalyst build bridges today? Today, as against the time of Freud when there was no computer and no digital network?**

*Bridges can be built with diverse technical tools. To speak in the words of Levi-Strauss – it is a kind of bricolage: one may and must use the materials that happen to be available. This is what distinguishes it from the art of engineering that is used in bridge construction. In contrast to constructed bridges, bridges that are built are always makeshift. They create points of contact just where one needs them for a particular reason; they can be dismantled and then used to create completely new links. The act of bridge building is not an end in itself but a means to achieve vastly differing goals. To put it a little less metaphorically: when one builds bridges between psychoanalysis and philosophy or business or whatever, one does not set up a common 'interdisciplinary' structure, but experiments with venturing into another field to discover something there that can be used for one's own thought processes, or to test the usefulness of familiar figures of thought on unknown ground.*

**Are we today in the process of destroying our ability to make history yet again by putting too much information about ourselves on the internet, on CDs and on hard disks?**

*Nothing is being destroyed here. But something is certainly being changed. Where nothing written is handed down, the lines separating the past, present*

*and future are softer. Oral tradition builds on repetition, the past does not deposit sediment, as does written tradition. Book printing and the internet are creating new time structures. Archives are possible; on the internet, the option of building an archive is giving way to widespread simultaneity. This makes old pictures, for instance from the subconscious which is an inaccessible archive within which the elements are arranged in timeless simultaneity, less plausible. This timelessness is, after all, a characteristic of internet consciousness, yet in which it is no longer a product of suppression.*

**When is there a change in the talk about consciousness?**

*For instance, when new options in technology come up with new metaphors and comparisons that are more plausible, make more powerful statements, or are simply more elegant. Or to address something new that could only be poorly formulated in the old images, if at all.*

**Can one go so far as to say that the computer and the net are changing the way in which countries such as Switzerland perceive themselves? How would such a change be described?**

*Firstly, the future cannot be predicted. Of course computer networks transcend national borders, but they do not destroy them. Differing systems global and national are not mutually exclusive per se; but as shown by the attempts to control the internet with regard to the laws of a country they can come into conflict.*

**Is a co-existence of different forms of time and consciousness with reference to states and subjects conceivable?**

*Yes. This kind of co-existence is not only conceivable, it is reality. And goes back as far as our written history itself. One can only speak of culture (and history) when*





Vilém Flusser claimed that "art and science must be seen as political disciplines." Do science and art resemble each other? Is a scientific study of the soul conceivable without art?

*Of course they are similar. Ever since the philosophy of science bid farewell to the paradigm of the ideal language and we turned our attention to the history and sociology of science, this has become commonplace. And psychoanalysis has always been not only the science of the soul but also rhetoric and the art of interpretation.*

**Has writing changed at all?**

*Yes. Wikipedia for instance has led to the emergence of a new form of lexicography, not only as regards the new manner of referring to something through hyper links (a dynamic reference that is undergoing constant change) but also with regard to the position of the 'expert'. There is a new 'author function'. But now one must beware of being anthropologically intimidated by such statements and take care not to announce the death of the author.*

**What do you mean by anthropologically intimidated?**

*With this expression I mean that when we know that new techniques and practices do not remain extrinsic, we should not always conclude that a major technological innovation automatically results in humankind reinventing itself from scratch.*

**"For me this is a model of future ethics: to be aware of one's limitations and to be compelled by my limitations to be able to recognise others" (Vilém Flusser). How can one be aware of one's limitations today when one can send an inconceivable number of mails and messages and so communicate with others?**

Quite simple: try to retrieve an email that you have already sent; or to delete a photograph of yourself on

the internet. And you will soon be very aware of your limitations.

*Let us move from Flusser to McLuhan: "Instead of crawling into a corner and whinging about what the media does with us, one should sound the bugle for an attack and kick them in the electrodes."*

**Have you ever kicked the media in the electrodes? What would constitute an attack on the media today?**

*For example the hard disk recorder than allows one to fast forward the commercials.*

**"Every new technology calls for a new war" (Marshall McLuhan). What do the wars required by mobile phones look like?**

*The misery of 'Kulturkritik' starts when one would like to use a good aphorism to derive prophecies about the future of human society.*

*"In a culture like ours that has long been used to fragmenting and dividing everything in order to bring it under control, it is a minor shock to be reminded that in function as well as practical application, the medium is the message." (Marshall McLuhan).*

**Which habits does the internet change and which the mobile phone? How do you explain the sentence: the medium is the message?**

*One of the usual complaints about the mobile phone is that the people whom one listens to when making a call have nothing important to say. This charge completely misjudges the performative aspect of language. The complaint about the 'message-lessness' of the medium is the media-theory version of whinging about meaningless mobile phones. One can counter this argument by saying that the grooming of monkeys is not just a hygienic act but a social one too, which is not rendered pointless by the fact that there may be no lice at all in the animal's fur.*

*Peter Schneider was born in 1957 in Dorsten, Germany and now lives in Zurich, Switzerland. He studied philosophy, German literature and some psychology in Bochum, Münster and Zurich, and graduated in 1983 with an M.A. in philosophy. He subsequently studied psychoanalysis at the department of psychoanalysis in Zurich, obtained his doctorate in psychology in 1987, and completed his post-doctoral thesis in 2004. Schneider teaches at various universities and is a lecturer in psychoanalytic psychotherapy at the University of Zurich. Since 2004 he has been an associate professor for psychoanalysis at the University of Bremen, Germany. He has had his own practice since 1988. Peter Schneider is also a satirist and columnist (he appears every day on Swiss radio DRS3 and has a weekly column in the Swiss newspapers Sonntagszeitung and the Tages-Anzeiger). Professor Schneider has published several books and, in collaboration with Bruno Deckert, brings out Sphèressays.*  
<http://www.peterschneider.info>



## Interview with Bob Bishop - A trend of computing

Nils Röller: Would you like to share with us some insights into the Geneva Lake Region where you are now based? (It seems to be in no way comparable with Silicon Valley, but nevertheless a region which will influence the history of computing).

*The region is a delightful part of the world and at the crossroads of international policy making, science, medicine, technology, fine engineering and private banking. The United Nations (UN), World Intellectual Property Organization (WIPO), International Telecommunication Union (ITU), World Trade Organization (WTO), World Health Organization (WHO), World Meteorological Organization (WMO), International Committee of the Red Cross (CICR), World Wildlife Fund (WWF), World Economic Fund (WEF) and numerous Non-Governmental Organizations all bring vast amounts of intellectual capital to the region. Research into high-energy particle physics is conducted at CERN, the European Centre for Nuclear Research, and from this establishment the World Wide Web infrastructure and HTTP protocol emerged. From the Ecole Polytechnique Fédérale de Lausanne (EPFL) we saw the successful design of the Swiss yacht 'Alinghi', the two times America's Cup winner, a combined fete of human leadership, technology and scientific computing. In addition, the well known global leader in computer peripherals Logitech emerged from EPFL.*

*The Geneva Lake Region has for many years been a crucible for precision engineering. Today it is applying nano-technology and IT knowledge to the mix, and moving rapidly into med-tech and green-tech applications.*

NR: Computing Pioneer Alan Turing saved the life of many people in the Second World War due to his genius at cracking the Enigma code. What is the situation today? What is the leading edge in the computer world of today? Are there chances

that pioneering computer research will enable us to save lives in the future?

*Information Technology within medical and life science applications is where the greatest long-term opportunity exists to improve human health and save lives. From drug discovery to non-invasive surgery to brain simulation and stimulation, IT is driving great improvements on the medical paradigm of the past. We will all benefit from the coming wave of pioneering IT activities in this field, but it takes time to change the practices and processes that have been in place for many years.*

*Saving lives in the short term however, is best done by accelerating the engagement of IT in the environmental, climate and Earth sciences. Read the local newspapers to see the increasingly common occurrence of natural disasters and the concomitant loss of human life: Earthquakes, tsunamis, floods, mudslides, droughts, dust-storms and wildfires. It is obvious that we do not yet fully understand the complex dynamics of our home planet, but I believe that it is high time for us to apply our very best IT instruments to this task.*

NR: Are there different approaches between building, programming and using computers in Switzerland and in the US?

*Historically there has been a significant difference: the US is the leader in developing fundamental aspects of computing, such as operating systems, languages, compilers, middleware, and the like. Switzerland, on the other hand (and the same can be said for most of Europe), has been a champion in applying IT to its own areas of specialization-precision engineering, pharmaceuticals, food processing, medical devices, robotics, banking, etc., at the application level.*



*Progressively however, the Internet, 'cloud computing' and G3/G4 mobile phone technology are blurring the difference as to where IT developments take place. And we should keep in mind that India and East Asia are rapidly contributing to the entire IT industry spectrum from manufacturing, Research and Development (R&D) and system integration out through full commercial and scientific application deployments. We should therefore consider that the IT industry is now truly global, and that any aspect of it can be carried out in any geography.*

**NR:** You have a dream in which computational simulations and experiments are running simultaneously. Please share your general ideas with us: do you think that simulation and experimentation will converge?

*I think that theory, experiment and simulation go hand-in-glove. In fact, we can say that computational simulation is becoming the third branch of science after theory and simulation and it is accelerating all aspects of scientific discovery.*

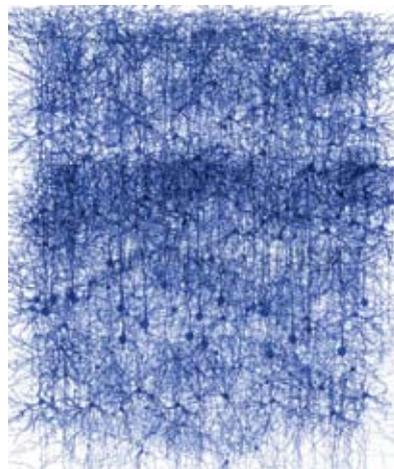
*Essentially, simulation enables us to ask 'what if' questions in the computer, and check out the consequences quickly, with minimal expense, and without safety concerns. Simulation assumes that we have successfully modeled the situation accurately into the computer as a starting point. If the model is correct, then the simulation essentially allows the model to 'run', which will then predict outcomes that can be confirmed experimentally. If these outcomes are not confirmed experimentally, then the model is in some way not correct and will therefore need to be modified. By asking 'what if' certain changes are made to the model, and then re-running the simulation, we can explore the necessary changes to ultimately arrive at congruence between the model and the experimental results.*

*My belief is that by tightly coordinating experimental activities with modeling and simulation activities in near real-time, one can let experimental observations guide the modeling and simulations, and vice versa, thereby iterating onto a correct understanding and formulation of the underlying physical phenomenon rather quickly. 'Mutually steering ourselves into the unknown', so to speak.*

*We should keep in mind that scientific discovery requires not only a conceptual understanding of a problem, but a detailed modeling and predictive capability as well.*

**NR:** CERN has made the WWW popular. What will be the benefits and the pay-offs of the research you are currently engaged with for the global community?

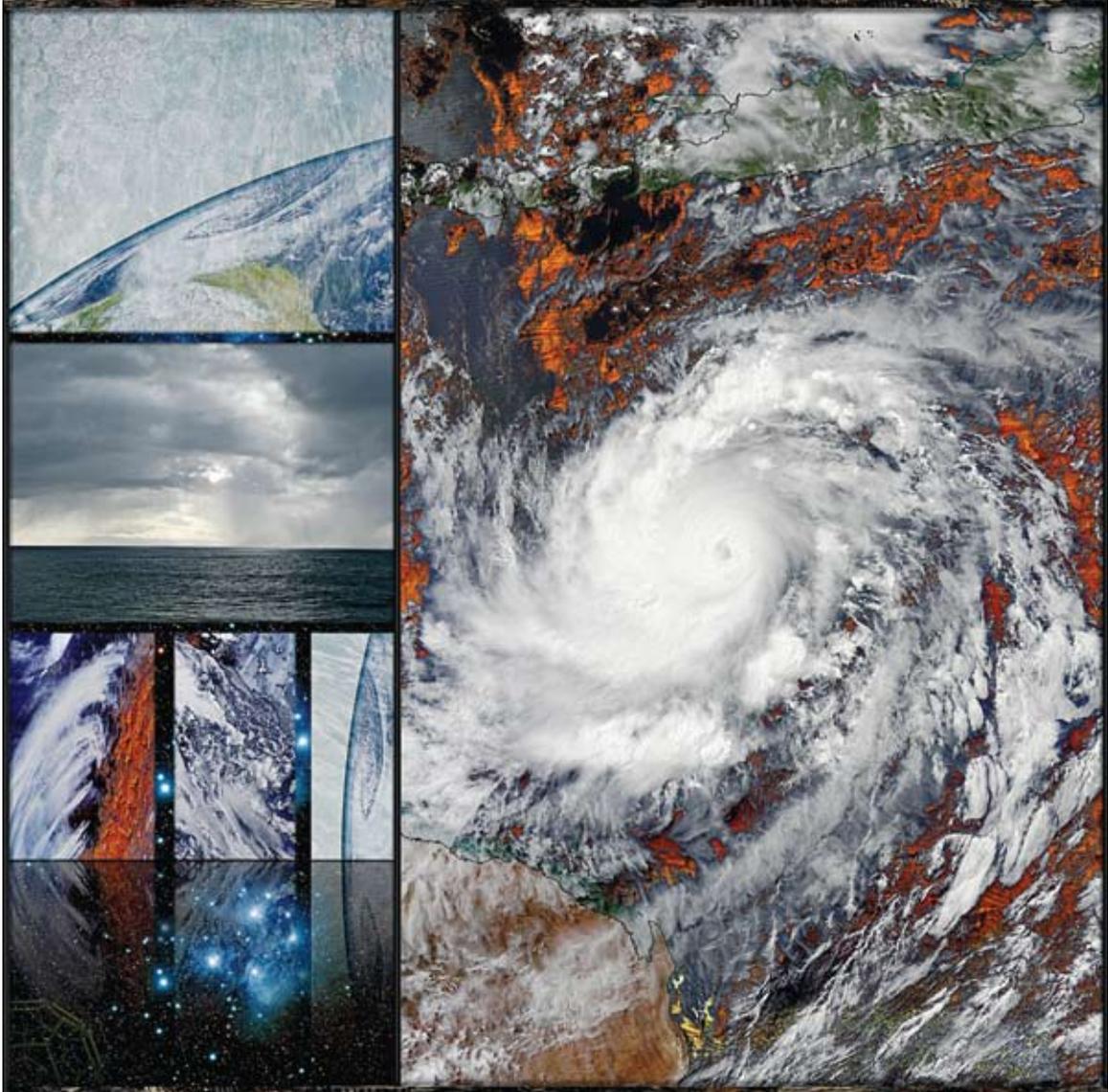
*From successful brain science simulation work, the pay-offs will be enormous: The World Health organization (WHO) estimates that the social cost of brain dysfunction for all of humanity exceeds \$1 trillion US dollars per year. We would hope to relieve some of this cost and help sufferers along the way.*



*A forest of neurons. A dye is injected into each neuron and then developed in order to reveal the morphology. This image shows a minute fraction of the cells and connections within the microcircuitry of the neocortex. This picture is taken from: [www.bluebrain.epfl.com](http://www.bluebrain.epfl.com).*

*For successful Earth science simulation work, we would produce earlier warnings of extreme weather events, such as tornadoes, typhoons, hurricanes, tropical storms, and heat-waves. We would foresee a non-normal Monsoon season. We would have some chance to adapt to and mitigate the development mistakes of past eras that have put most of our cities in the flood plain of certain rivers or on coastlines with rising sea-levels. We could plan a low-carbon future with more confidence of the outcome than we can at present, and we could more accurately foresee the global consequences of geo-engineering projects that are currently being contemplated. With some luck, we could also achieve more accuracy in Earthquake forecasting, both location and timing.*





*ICES Digital Photography Montage. Dimensions: w 24" x h 24". Artist Concept created by Tony DeVarco and Bonnie DeVarco. © 2009 Tony and Bonnie DeVarco, Bob Bishop and the International Centre for Earth Simulation. Some of the source imagery used to make this work is courtesy of NASA.*

*Bob Bishop began his scientific life as a physicist, earning a first class Hons. B.Sc. in mathematical physics from the University of Adelaide, an M.Sc. from the Courant Institute of Mathematical Sciences at New York University and his Dr.Sc. honoris causa from the University of Queensland. He joined Digital Equipment Corporation in 1968 at its headquarters in Maynard, Massachusetts. In 1982 he became the international vice-president for Apollo Computer Inc, and then joined Silicon Graphics Inc in 1986 as founding president of the SGI World Trade Corporation. He was chair and CEO of Silicon Graphics, Inc., from 1999 to 2005. Today, he is involved in a broad range of global initiatives. Among these, two projects stand out: The Blue Brain Project and an Earth Science Project. The first has the ambitious goal of attempting to reverse-engineer the mammalian brain in order to understand human brain function and dysfunction through detailed simulations. The second is about creating an International Centre for Earth Simulation (ICES), specifically designed to provide input to guide the successful transformation of human society in an era of rapid climate change and frequent natural disasters.*

# Xcult.org - the Swiss internet platform

Reinhard Storz

Based in Basel, Xcult is an independent and curated art platform in the World Wide Web. The aim of the project is to promote net-based art and the online publication of texts on art and media theory. Xcult is privately operated and has a limited budget. It requires nothing more than a laptop and a server, the curatorial work is unpaid, and no long-term pledges are made to the public. The first ten years of Xcult's existence could be described as a Swiss community project; today it is a launch pad for the development of larger offshoot projects.

## Xcult - the parent project

Xcult was launched in 1995 under the name of thing.ch, and was intended to be the Swiss hub for the international art network thing.net. The platform continued under the name of xcult.org two years later and offered certain artists the opportunity to publish their online works or texts under the Xcult address. Several artists initially needed our support because they either lacked computer experience or were not well versed in web publication. The core idea of Xcult took shape in this initial phase and was reflected in the following programme: a select group of artists will realise their new online works on the server, using the Xcult address. Not only does this give them public exposure to the users of the platform, but they are also provided with a curated project environment. The quality of the contributions and the ongoing expansion boost demand for the Xcult address and keep the platform alive. As there is no money involved in the interaction between authors, the public and the platform, the objective and monetary value lie in the attention accorded to an author's work and to Xcult for its role as intermediary. The public is offered an address where one can learn more about the online work of Swiss and international artists. Over the last 15 years, more than 150 artists and authors, two thirds

of whom live in Switzerland, have contributed to the Xcult programme.

## The Xcult offshoot projects

The Xcult concept includes regular offshoot projects in which artists and authors are invited to work on a common theme. Six larger projects have emerged since 1995. We seek financial assistance for these projects and we enter into production partnerships with public institutions. Xcult's reputation is mobilised in order to pay project participants somewhat realistic production costs. Our work in the global network is also influenced by local economic conditions. In our more recent projects, the remuneration for artists from low-income countries can help them get by for several weeks; for artists from Tokyo or New York it barely covers a month's salary.

The manner in which such art and text projects are published on the internet has yet to be fully explored. It can be compared with a virtual art exhibition, an online television channel or an e-newspaper. Yet such comparisons with older channels of communication prove above all that the quality of the recent media - the internet with its multimedia formats - must first be discovered and explored further.

From the very outset, the selection of topics for the Xcult offshoot projects has dealt with the issues of understanding reality and use of the media in the information society. The internet as a new means of publishing images (*Schnittselle Netzhaut, 1995/96*), WWW commercialisation (*shopping mall, 1998*), a collective hyper text narration of identity issues (*The Ram Show, 1999*), miniatures of the attention economy (*shrink to fit, 2001/02*), and our web television *bastard* channel (*2004/05*) our projects to date have dealt with themes that fall within this spectrum. In our experience, the preparatory phase



or concept development, fund raising and interacting with artists and authors is just as lengthy as the stimulating phase of project realisation.

### Beam Me Up - the ongoing offshoot project

Our new project Beam Me Up is based on the assumption that the understanding of space in the information society is subject to increasing change. In the digital age we use terms such as cyberspace, globalisation and World Wide Web, even though we had barely grasped the dimensions of electricity and communication specific to the power network, the telephone and the radio. With audio-visual means we conquer a new space for communication that presents itself as a space for images and action, for symbols and real presences.

For the online project Beam Me Up we invite artists and authors from different disciplines and different countries to deal with the concept of space in art-related contributions and essays. The concept is thus interpreted according to images and texts, artistic and philosophical models as well as scientific experience. Artists from North and South America, Europe, India, China and Japan are involved in the project.

Within the framework of Beam Me Up, we are interested in phenomena such as Second Life, international call centres, the understanding of space in astronomy, nano technology and the theatre stage, as well as mythological and religious spaces, and the cyberspace of the internet. For the project, the Zurich media artist Marc Lee developed the search engine pic-me.com that searches for names beyond the internet and uses associated data to draw up new profiles of people. The result is hybrid characters that are sometimes closer to reality on this side while at other times they appear to be pure constructs, crossbreeds between completely alien identities.

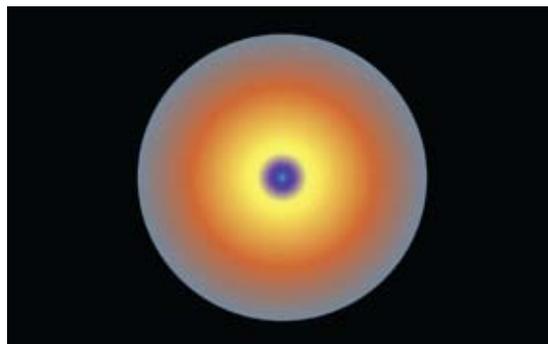


The contribution pic-me.com of Zurich artist Marc Lee

Other artistic and scientific contributions deal with the cosmos, with the search for the dark material and the difficulty of creating meaningful images of outer space. One of the works shows fictitious images of the Phoenix lander, encased in ice on Mars; in actual fact these are real webcam images of a frozen toaster in a freezer in the New York studio of the artist. For another contribution, artists and visitors from three continents were invited to a Second Life performance. With the use of digital and conceptual art, spaces in time, sound, image and colour are opened up, the experience of which is not tied directly to the architectural and topographical space. Thus the psychedelic colour canals in the work of Monica Studer and Christoph van den Berg lead us on a virtual journey through transcendental spaces, a journey that relies on a scientific base and produces strong psychological and emotional overtones.

[www.xcult.org](http://www.xcult.org)

[www.beam-me.net](http://www.beam-me.net)



Art historian Reinhard Storz lectures on art and media history at the Basel School of Design/University of Applied Sciences Northwestern Switzerland. He also publishes the online platform [xcult.org](http://xcult.org) that has been promoting digital culture and the production of internet-based art since 1995. In co-production with various Swiss cultural institutes, Storz has curated several online art projects that have included contributions from international artists and authors. Storz also publishes texts on art critique and heads a research project titled Owning online Art Study for a Netart Gallery.

<http://www.xcult.org>

# Public Art, Sociology, and the Theory of Art: Some Preliminary Remarks

Christoph Schenker

Helga Nowotny, who specialises in the study of science and technology, has defined the spreading of a new mode of producing knowledge, which she claims is undermining traditional innovation based on specific disciplines and linear in form.<sup>1</sup> This change is linked to the rapid multiplication of knowledge production, and its causes and effects are manifold. The background of this new principle of organisation is formed, on the one hand, by the globalisation of science and research, and, on the other, by the expansion of the level of education and, hence, the increasing distribution of knowledge within society. It also includes the increasing complexity of issues relevant to society, the steadily growing pressure of problems as well as the fact that, for basic research, concrete and extremely varied areas of application are beginning to play a greater role than generalised situations confined to the field of science.

This perspective reaches beyond the sciences and can be applied to the art system. The rapid multiplication of novelty in art is a consequence of the increasingly numerous and diverse means of production and marketing that can be activated within and outside the art system. It has become self-evident for art to encroach upon other fields of knowledge, competence and activities in many different ways, and the scope of action is no longer restricted to the post-industrial countries of the West. This expanded scope of action

in all its aspects goes hand-in-hand with the steadily accelerating speed of ever new developments. Helga Nowotny speaks of the "knowledge explosion" that has been triggered by innumerable scientists scattered all over the world and mutually connected in a closely knit network of research institutes. Similarly, new work is created with greater and greater speed in the art system as well. This accelerating momentum increasingly curtails the half-life not only of the market value of artworks but also of their artistic and social relevance.

It is impossible for any single scientist or artist to take in, let alone master, the wealth of knowledge and innovation in art and science that is available in today's highly developed civilisations. Traditionally, specialised disciplines and organisations attempt to cope with the rapidly rising flood of knowledge and innovation and to define manageable domains by introducing additional classifications and hierarchies. These correspond to the differentiation and specialisation that underlie modern civilisation's social, economic and political achievements. Functional differentiation is illustrated, for example, by the institutional specialisation of universities, art academies and higher institutes of education, by distinguishing basic research, applied research and the development of marketable products, or indeed by distinguishing scientists, artists, intellectuals,<sup>2</sup> appreciators<sup>3</sup> and lay

<sup>1</sup> Helga Nowotny, "Transdisziplinäre Wissensproduktion eine Antwort auf die Wissensexplosion?" in: Friedrich Stadler (ed.), *Wissenschaft als Kultur. Österreichs Beitrag zur Moderne* (Vienna: Springer, 1997), 177195; "Grenzen und Grenzenlosigkeit: Kreativität und Wissensdistribution" in: Jörg Huber and Martin Heller (eds.), *Konturen des Unentschiedenen* (Basel: Stroemfeld, 1997), 151172; et. al., *Wissenschaft neu denken. Wissen und Gesellschaft in einem Zeitalter der Ungewissheit* (Weilerswist: Velbrück Wissenschaft, 2004); "Wissenschaft neu denken. Vom verlässlichen Wissen zum gesellschaftlich robusten Wissen" in: Heinrich-Böll-Stiftung (ed.), *Die Verfasstheit der Wissensgesellschaft* (Münster: Westfälisches Dampfboot, 2006), 2442.

<sup>2</sup> On the concept of the intellectual, see Jean-François Lyotard, "Tomb of the Intellectual" (French 1983) in: *Political Writings* (Minneapolis: University of Minnesota Press, 1993).

<sup>3</sup> On appreciation and appreciators, see Ludwig Wittgenstein, "Lectures on Aesthetics" (1938) in: *Lectures and Conversations on Aesthetics, Psychology and Religious Belief* (California: University of California Press, 1966), 140.

<sup>4</sup> On the relationship of science and public, see Priska Gisler, Michael Guggenheim, et. al., *Imaginierte Laien. Die Macht der Vorstellung in wissenschaftlichen Expertisen* (Weilerswist: Velbrück Wissenschaft, 2004).



experts.<sup>4</sup> Within the art system, such differentiation may involve the distinction between art *intra muros* and art *extra muros*<sup>5</sup> as well as the classification of art by material, technique, medium, extension in space and time, function and context. But it may also be expressed in the "art world community"<sup>6</sup> and the workings of its institutions through the social and cultural hierarchy's educational capital, information capital and economic capital. Within the context of the ideal whole of contemporary art, artists are becoming increasingly more specialised, and now beginning to work as "micrologies".<sup>7</sup> On the other hand, however, they address a range of issues and concerns in the interests of making a successful contribution that goes beyond conventional borders and no longer defers to traditional classifications by media, discipline and discourse, nor by function, type of use, principle, subject matter or style.<sup>8</sup> Between micro and macro, customary categories are eroding in both art and academia; their boundaries are becoming blurred, soft and permeable. Even such firmly established social categories as state, market, culture and science have become fuzzy and unclear.

The new form of knowledge production, which Helga Nowotny calls "mode 2" in contrast to its conventional predecessor, "mode 1", is characterised by elements that also largely apply to art projects in public space. These include transdisciplinarity as a privileged form of knowledge production and the attendant site-specific

production of knowledge, in other words, knowledge produced for a specific context. The new mode prevails primarily in non-hierarchical undertakings staffed by a heterogeneous combination of people. Research groups are frequently formed for a limited period of time and transcend established institutional boundaries in selecting their members. Moreover, the involvement of different agents and stakeholders increases the commitment to instituting a dialogue in the public sphere. One far-reaching consequence of this new form of knowledge production has been to extend the spectrum of traditional scientific criteria to include "context-sensitive" criteria, in other words to expand "reliable knowledge" through the addition of "socially robust knowledge". The process of knowledge production has become more open and reflective. The diffusion of this mode has led Helga Nowotny to rethink the epistemological foundations of science. Similarly one might inquire whether art *extra muros*, which explicitly engages in dialogue with the public, forms a field within the system of art that could serve as a point of departure for rethinking the concept of art.

Art projects in the public sphere are currently caught up in an extremely complex situation. This situation is determined not only by spatial, architectural and aesthetic concerns but equally by social and economic, political, cultural and historical factors. In fact, the relations are so complex and the demands of the situation so exacting that they cannot be resolved

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<sup>5</sup> Daniel Buren, "Kann die Kunst die Strasse erobern?" in: Klaus Bussmann, et. al. (eds.), *Skulptur. Projekte in Münster 1997* (Ostfildern-Ruit: Gerd Hatje, 1997), 482-507.

<sup>6</sup> Ulf Wuggenig, "Soziale und kulturelle Differenz. Die Segmentierung des Publikums der Kunst" in: Heinz Schütz (ed.), *Stadt Kunst* (Regensburg: Lindinger + Schmid, 2001), 33-59.

<sup>7</sup> Jean-François Lyotard, *The Sublime and the Avant-Garde* (French 1985) in: , *The Inhuman* (Cambridge: Polity Press, 2004), 89-107.

<sup>8</sup> Cf. Rosalind Krauss, "Sculpture in the Expanded Field" (1979) in: , *The Originality of the Avant-Garde and Other Modernist Myths* (Massachusetts: The MIT Press, 1986), 276-290. Krauss introduces new concepts for postmodern art forms to which the term sculpture no longer applies.

<sup>9</sup> Buren 1997 (see note 5).



by the artist alone. Artists must therefore rely on the expertise of other specialists in order to take appropriate action.<sup>9</sup> And since there is no longer any consensus on generally binding knowledge and basic values in our pluralistic, fragmented world, knowledge has to be tailor-made from case to case and artistic projects have to be developed for the specific local context. In addition, artists no longer treat context as a framework to which they respond in creating their works of art; instead, it has become the very medium of their work. They intervene in a situation and interact directly with its stakeholders. Art in dialogue with the public sphere has a working tradition of its

own, whose objective is not only to be artistically right but also socially relevant. Context, society and public obviously play a role in all art, even art *intra muros*, functioning as a stronger or weaker factor, as a more or less reflecting background phenomenon or as the implicit or explicit subject matter. This applies especially to long-term art projects that tie in with living experience. Here, all of these mutually interacting relations to context, society and public become more explicit, complex and conflict-prone. Exposed as a problem, they form an integral part of the artwork's concept. The laboratory of art is its context; its partner is the public.<sup>10</sup>

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<sup>10</sup> Max Frisch, "Öffentlichkeit als Partner" (1958) in: *Öffentlichkeit als Partner* (Frankfurt a. M.: Suhrkamp, 1967), 5667.



# Not everything is predictable

The Journal for Art, Sex and Mathematics

Verena Kuni



Barbara Ellmerer: hallocenogenic 2006. Source: [www.journal fuer kunst sex und mathematik.ch](http://www.journal fuer kunst sex und mathematik.ch)

Not everything is predictable  
Not everything is predictable  
Not everything is predictable

What do art, sex and mathematics have in common? A fair amount it seems, if one is to go by what the journal of the same name suggests. Put online as E-Zine in late 2006, the journal offers new contributions virtually every day. And it certainly knows how to spring a few surprises in the process.

By way of example: a day before Christmas 2006 one saw a small, black, lonely figure huddled by a swimming pool. To witness a scene like this on that particular date is so rare that one is almost forced to conclude that this has to be art. However, it is not quite so conclusive, because this amounts to a classical conditioning of perception. After all, the point in question here is not just an image, but an entry in a blog, which can actually be entered under the specific subject category, as is the case in online journals such as this. If one knows a little bit about the scene, one would have immediately recognised the author of the work: Yves Netzhammer, a Swiss artist and expert in digital drawing. That mathematics is inherent in his hybrid worlds, which may be created with rigid lines yet mushroom into infinite transformations and metamorphoses, is obvious not only because the work is computer generated.

In contrast, the neighbourhood in which his works crop up here appears infinitely stranger. In addition to the works of two colleagues Barbara Ellmerer and Daniela Keiser - one is also surrounded by all kinds of texts to read. However, these texts are by no means dedicated solely to art, but also deal with what at a glance seem to be rather obscure themes such as the idea of a "female seed", similar to the male seed, that was prevalent in the Middle Ages, or Abyssinian Farmers' Multiplication. Barbara Ellmerer's lucid water colours, in particular, provide for poetic breaks in the rigid mathematics of the blog format: with sensually flowing forms that seem to be the forbidden fruit of analytical thought when placed alongside Netzhammer's constructs; with colour gradients and delicate dabs that settle on the lines of the screen like flower dust from Novalis's fragments and are yet as precise as the thoughts on science that the Romantic poet expressed in verbal images.

It is precisely this blend that constitutes the programme of the project. Besides Netzhammer, Ellmerer and Keiser, the project team includes the media theorist Nils Röller and the author Urs Faes.

It is not for nothing that the magazine is called the *Journal for Art, Sex and Mathematics* and what could be better suited for an exploratory stroll through the territory that spans these terms than a blog, quite simply the current medium of the data dandy, both male and female. Thoughts, finds, quotes, be they texts or pictures: whatever can be arranged within this system of coordinates finds a place, the individual location reflecting the date of the entry, provided we momentarily ignore the criteria determining selection: beyond values and hierarchies. It is concurrently linked to several other entries, through chronological texts and by being assigned to one or more categories next to "Art", it would logically be "Sex" and "Mathematics", and the column titled "Uncategorized" where Netzhammer prefers to file his images.

In terms of perspective, an increasingly close-knit fabric is thus woven, but one that is also increasingly frayed at the edges and will probably never turn out to be congruent with what other people would imagine now or at any other time as a web in which these very terms are closely interlinked.

In fact everyone who reads the magazine will gain a different impression of the area handled, depending on how she or he researches the blog: Preferably linear, day after day retracing the path that the authors tread? Or perhaps still choosing to start with art? Or is it sex that is most alluring? If yes, how do we take it further if we perhaps unexpectedly initially encounter abstract and pastose close-ups of paintings: real and extremely sensual, but in no way similar to what is otherwise concealed under this keyword in pertinent online offers.

There is no doubt that the journal is the rage not only because it uses modern media technology. While the beauty of mathematics is one of the classical reference values in our culture - at least since the Renaissance invoked the *artes liberales* and made antique science useful for art and art history, sex and art also seem to have belonged together since time immemorial, as can easily be borne out by a visit to the nearest good museum. And prominent precedents can be found for what perhaps at first sight seems to be the rather unusual *ménage à trois* of art, sex and mathematics - examples include Alfred Jarry or surrealism, within the context of





Yves Netzhammer: no title 2009. Source: [www.journal fuer kunst sex und mathematik.ch](http://www.journal fuer kunst sex und mathematik.ch)

which Man Ray photographed the mathematical models of a Henri Poincaré as erotic sculptures and Max Ernst occasionally used graphs from textbooks as inventory for unequivocally ambiguous scenes in his collages.

It cannot however be overlooked that this field is experiencing a renewed boom. It may also have something to do with the visibly heightened interest in the aesthetics of scientific pictures and models in the arts and, with reference to the artists in whose work even mathematics can then acquire a new erotic aspect. It is probably the digital media that we have to thank more than anything else for the fact that computer art is popular not only with those who for all intents and purposes have to struggle with the legacy of Charles Babbage's *Difference Engine* namely the computers that are considered historical computers *avant la lettre*: Projects announcing a new obsession with "information aesthetics" have sprung up across the internet, more than anywhere else. For the time being one can only guess that there is more behind their intensity than love for the beauty of proportion, numbers and codes; we will probably not have to wait much longer for further reflections on these ramifications by cultural theory experts such as Friedrich Kittler who was quick to understand how to make calculators sexy even for those who would otherwise fight shy of figures.

For a start however, the *Journal for Art, Sex and Mathematics* with its loosely connected and growing collection can help out - and it provides a solid surplus not only because of the inspiring heterogeneity of its entries but also with an eye on the aesthetic level of the artistic contributions. Although the texts are usually in German, the journal has, in the geographical sense, now opened a window on the wider world. In early 2008, it carried a series of contributions by Amir Alexander, the mathematics historian; in the winter of 2008, Barbara Ellmerer and Nils Röller travelled to India where they invited the Baroda artist Abir Karmakar to publish his paintings in the journal; works by the poet Sampurna Chattarji were included in summer 2009. To establish a direct link with the country that invented the zero, one of the most fascinating numbers in mathematics, may seem to

be particularly logical, from the perspective of poetry too. Whether this link will strengthen with time? Who knows. Not everything is predictable.

### Not everything is predictable (II): art zines from Switzerland

Not everything is predictable: this could also be applied as a general motto to the field which should include the *Journal for Art, Sex and Mathematics* as a project. It is a small field that we are dealing with here, one in which the crop is constantly changing and not a single plant resembles the other: art projects in magazine format - in international jargon abbreviated to "art zines". In Switzerland, the field is being enthusiastically cultivated by vastly diverse actors ranging from artists to art promoters and fans of zine culture. There is no doubt that its diversity owes much to a Swiss tradition too: Switzerland is known not only for its high-quality paper products, good typography and excellence in book design, but especially also for its productivity as regards art books, magazines and editions. With particular reference to what is known as the "small press" artist publications in small and micro editions there have been some interesting recent developments. By itself, this is not a national phenomenon, and not only because one is almost always treading on international terrain when it comes to the art and culture scene. While across the world the advertisement-dependent newspaper and magazine market is moaning about the competition from the internet and struggling to cope with a drop in circulation, small magazines and fanzines are virtually booming, not only in blog or other online formats, but also in print. In contrast to the large publications, they appear to be benefiting from a development in which well-networked communities have gained in significance. Beyond the large majorities, there is a mutual sharing of interests, aesthetic preferences and specialist knowledge; the situation is local but exchanges global, at least in metaphorical terms. This is precisely what is reflected clearly in the Swiss scene and in its diversity of art zines, of which only a small selection can be presented here. They are on the World Wide Web and can be read by anyone anywhere in the world.



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<http://www.000x.ch>  
Each issue is a little artist's book devoted to a theme chosen by the editor's collective.

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embryo  
<http://www.embryografik.ch>  
Magazine for words and images. Four editions now available as pdf.

Fahrt  
<http://www.hallofahrt.ch/>  
The fancyful art paper. Free, but you have to catch your issue at place.

GRRRR  
<http://www.grrrr.net/>  
Issue by issue drawn by the Zurich based artist Ingo Giezendanner.

Der Kunstabwart  
<http://www.kunstabwart.ch>  
Der Kunstabwart is dead? Long liveth Der Kunstabwart. Edited by Ulrich Binder, each issue collected a selection of artist's work.

Laser Magazin  
<http://www.lasermagazin.ch/>  
Art zine with drawings and collages from St. Gallen, published by Beni Bischof.

Used Future  
<http://www.usedfuture.net/>  
Artzine and/as edition based in Basel.

Turbo Magazine  
<http://www.turbomag.ch>  
All drawn art zine from Biel/Bienne.

Fucking Good Art The Swiss Issue  
<http://www.fuckinggoodart.nl/fga20.html>  
Special Swiss Edition published by the Netherlands based art zine.

Nieves  
<http://www.nieves.ch>  
Started in 2001 and highly active since: The most wonderful artist's books'n'zines publisher in Switzerland.

Motto Distribution  
<http://www.mottodistribution.com>  
2007 started in Switzerland; now with a store in Berlin, yet still bringing international mags and art zines to bookshops its home country and to readers all over the world.

*Journal for Art, Sex and Mathematics*  
URL: <http://www.journalfuerkunstsexundmathematik.ch/>  
In addition to the online journal, there is a print edition in the form of a portfolio with illustrations by the artists involved and with one or several written contributions. You can contact us through our website or by sending an email to [journal@ellmerer.com](mailto:journal@ellmerer.com)  
An earlier version of this text appeared in January 2007 in the online journal [www.clickhere.ch](http://www.clickhere.ch). It has been updated and expanded for this edition. V.K.

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Not everything is predictable  
Not everything is predictable

# Copyright and Freedom of Art in the 21st Century

## Swiss Experiences in a Global Context

Felix Stalder

On 29 September 2006, twenty-five of Switzerland's leading artists, curators and critics sent an open letter\* to the Minister of Justice and to members of the legislature's judicial committee who were drafting a revision of the country's copyright law. The revision had become necessary because Switzerland, like India, is a signatory to the *Copyright Treaty*, adopted by the World Intellectual Property Organization (WIPO) in 1996. This treaty mandates stronger copyright protection. Most controversially it grants special protection to "technical measures", that is "Digital Restrictions Management" (DRM), which can limit the way users can handle digital files, even if their use were legal (for example, extracting fragments to be used in new art works). In their letter, the artists demanded that the revision should start with the interests of the current generation of artists, and that, in particular, a simple expansion copyright would be detrimental to their practice. Rather, the new law should reduce legal uncertainties and lower the hurdles for using existing works to create new ones. This would be necessary to strengthen "freedom of the arts", guaranteed by the Swiss constitution. This letter was later to be signed by several hundred artists and professional cultural producers.

At first sight, it may seem surprising that copyright which was developed in 18th/19th century Europe to protect the interests of artists eager to free themselves from the dependency of wealthy patrons and who wished to survive as autonomous producers should conflict with the freedom of art - which arose out of the same historical processes, protecting newly independent artists against censorship from the church and the state. Yet, if we look at the issue from the point of view contemporary cultural practice, rather than 19th century legal concepts, things look very different. In the course of some 125 years (if we

take the first international copyright treaty, the 1886 *Berne Convention*, as the starting point) the practice enabled by copyright came to favour, increasingly, commercial exploiters of artistic production, rather than the artists themselves. To some degree, this has always been the case. Even Dennis Diderot's famous defence of author's rights (1763) "what form of wealth *could* belong to a man, if not a work of the mind" was written on behalf of the publisher's guild. The tension between interests of the authors and the publishers become apparent right away. The guild published the essay in a mutilated form and without identifying its author. Historically, the interests of the artists and those of the publishers have always found a tenuous balance. This is increasingly less so. If we look today at sectors of cultural production that are heavily dependent on copyright, say literary production, we can see that a vast majority of professional authors make little or no money from copyright, while some (very few) earn very significant incomes (see, Kretschmer & Hardwick, 2007). Copyright produces a star-system, favouring a small number of authors closely aligned with powerful exploiters who control the means to create such global stars. This also reflects the fact that ever larger parts of publishing industries are part of large multinational media corporations which are very aggressive in protecting their property against what they interpret as unauthorised use. The days when publishing literature was a gentlemanly business are long gone, and the pressure on remaining niches is increasing. And not just publishing houses, all commercial players are now actively managing their intellectual property portfolio. Andy Warhol's approach - using images from the current media environment as a basis for his work would be much more complicated today than it was at his time. Characteristically, the Warhol Foundation was sued



in 1996, 30 years after the fact, by Life Inc. and the photographer Henri Dauman (whose son is now CEO of Viacom, a major media corporation) for copyright infringement for using their photo as a basis for his work *16 Jackies* (1966). The case was settled out of court.

While Warhol's approach would be much more difficult to apply for legal reasons, it has lost none of its appeal. On the contrary, even more than in Warhol's day, we live in a culturally oversaturated world and working creatively within the contemporary condition inevitably brings up the issue of how to engage with other people's work, trivial or high-minded. While some uses are protected by fair use rights (in the US) or statutory limitations (in continental Europe) most forms of transformation, appropriation and remixing are not. For these uses, it has become necessary to ask for prior permission. In 1992, the American artist Mike Bidlo was forced to close his exhibition in Switzerland. He showed his paintings, which were closely based on Fernand Léger's, but signed as "Bidlo, not Léger". They were copies, but unmistakably different from the originals. The signature highlighted the issue, and Bidlo was well known for his appropriation art. Yet, he was threatened with a lawsuit on behalf of the Léger estate for copyright infringement and the show was closed down. There are scores of similar cases, in Switzerland and elsewhere. Usually, the threat of legal action is enough to create a chilling effect for artists and cultural institutions who rarely have the expertise to assess how valid claims really are. And even if they do, the risk of an expensive lawsuit is most often regarded as too high. Significant aspects of contemporary art practice take place in a legal gray zone, or, far worse, do not take place at all.

During much of the 1980s and 1990s, such problems affected, primarily, artistic practices that were

selfconsciously playing with these issues. One could have regarded their problems as marginal and relevant in a conceptual sense only. But they foreshadowed much more serious things to come. At the end of the 1990s, the Internet was becoming a mass medium and means of digital production and distribution were beginning to be widely dispersed. The issues of authorship, authenticity and reuse, which artists had explored for decades, flooded into the mainstream. What used to be avantgarde techniques - appropriation and remixing - became standard methods of digital practice in many fields of culture. At the same time, the numbers of cultural producers increased vastly, reflecting the changing structure and demands of advanced sectors of the economy. Those sectors are now bleeding into culture and research to a degree that these formerly distinct domains become part of the same continuum. This creates a fundamental dilemma. The economic logic of maximising property clashes with the cultural and research logic of frequent and largely uncontrolled exchanges as a precondition for individual works (which, in turn becomes freely available to others). If the economic logic prevails, it will create what Lawrence Lessig (2004) calls a "permission culture" where artists and other cultural producers need to ask for permission by the right-owners of existing culture to do their work.

To counter this deeply undesirable vision a global movement for "semiotic democracy" the right of everyone to take part in the cultural exchanges that constitute public life - has sprung up, inspired by the experience of *free software* and driven by the need for *access to knowledge*, and demanding *free culture*. Within this movement, artists play an important role, because they are, together with researchers the quintessential creative producers enjoying a certain social prestige, particularly with the media. Thus



their rejection of the 19th century model of cultural production, ossified in copyright law and in, still, *Fordist* cultural industries, is an important step for developing a new framework fit for the 21st century. Such a framework must start from the recognition that freedom to create and collaborate takes precedence over the demands of property in areas where there should be none.

\* Together with the curator Anette Schindler (cf.: Das Projekt *DACollection/ DASTore* in this publication, plug-in Basel, I drafted this letter. It is available at [kunstfreiheit.ch](http://kunstfreiheit.ch). We were inspired by the Canadian campaign [appropriationart.ca](http://appropriationart.ca).

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# Swiss Knife of Communication

Nils Rölller



*Biju Jozes: Swistik pocket knife 2006. Source: Made by Indians. Paris: Galerie Enrico Navarra, 2007.*

In November 2008, an Indian weekly carried a mobile telephone on its cover under the headline: A Swiss Knife of Communication. To associate a knife – an implement that conjures thoughts of efficiency, compactness and the archaic act of cutting – with a digital gadget is surprising. One immediately notices the differences between the Swiss officer's and sports knife and the new generation of web-enabled mobile phones. The knife has been patented since 1897 and is known worldwide as the Original Swiss Army Knife. It has to be flipped open to be used. This is the case with some mobile phones too, although in general mobile phones can only be activated by pressing buttons.

One must have a feel for these devices when using them to protect against injury caused by sharp blades and tools in the case of the knife and to save time and money in the case of the mobile phone. The open blade of the pocket knife serves to cut something that is outside the human body. The cut object can then be used, for example, the fruit inside the peel or the flower on a branch. The knife removes and detaches while the mobile phone, at the push of a button, provides options that create connections. When the knife is flipped open, it can be used; with the mobile phone, the movement in the opposite direction namely back into the gadget – is what counts. This is to say that the spatial vectors that are spanned when using the knife and the mobile phone point in different directions. How is it then possible to interweave image and text and display mobile phones as knives?

The metaphorical combination of cutting tool and communication gadget has been documented since July 2004. The author of the text that was published online at the time stresses that the digital device is a robust one that cannot be damaged by water or coffee. This is the criterion on which the comparison rests. One year later, on 14 November 2005, a report in the online edition of *India Today* was already highlighting the aspect of diverse functions being compactly integrated. As the Swiss army knife combines different tools such as a knife, can opener, and screw driver in one body, the mobile phone integrates different forms of media that produce, send, receive and save voice mail, text messages, photographs, films and music in one device. The binding element in the imagery is the idea of a toolbox that is available to the owner at any place, any time. The metaphor therefore activates

a promise of autonomy over the means of worldly experience, orientation and production. The promise is suggestive in the case of the analogue as well as the digital toolbox. That the use is socially embedded in both cases is implicit: the army and sports knife points to the integration of its use in social organisations (in the corps) and therefore connotes the rules governing use. The mobile phone presupposes the existence of a network for which a user has to pay in addition to being legally obliged to register. Linking the two devices at the level of the name is also plausible. The names are metonyms that use just one of the characteristics of an object to denote the object itself. The knife is used as a name for the toolbox in the trouser pocket. Likewise the miniature version of the digital multi-media workbench is called a mobile phone, even if making a phone call is only one of the possible media-related features that the device offers.

The metaphorical interlinking of the headline and picture on the title page gives rise to the thought that mobile media gadgets are cutting tools. In this context we are able to resort to the history of technology to activate an argument that has been built on the example of Galileo Galilei's telescope. While the astronomer's telescope expanded his range of vision, making it possible to discover new stars, it also led to the understanding that all perception – even when supported by technology – is limited. According to this figure of thought, every instrument that transforms the perception of space and time comes with the discovery that new dimensions of the non-perceivable will emerge. Instruments push and modulate the limits of perception, but do not lift them. If this thought is applied to mobile communication, it can be argued that each and every link that extends beyond one's own space and time creates new cuts and limits between the subject and the environment. According to Vilém Flusser, to take a photograph with a mobile telephone or make a video can be described as a gesture that selects from a set of possible relations. The photographic gesture is therefore an act of cutting something out. If the mobile phone is then used to further process the selected section, for example by zooming in, giving the file a name and saving or sending it, the cuts become deeper. The subject is first and foremost linked to the device

and accords privilege to the selected section vis-à-vis the environment by concentrating his perception of time and space. The selected section will after all be prepared for the future, for example with regard to communication in the future with people who are not present at this particular place at the same time. The mobile multi-media production bank results in space-time selections and therefore to modulating the limit of what is relevant or not to the subject in the present. The situation at the receiver's end can also be described as a shifting of the limit, and through cut-outs. An incoming call "cuts through" the silence or "pulls" the receiver out of momentary situations such as a conversation. A mobile phone therefore cuts space-time pieces, a movement that trims the metaphor "razor-sharp" or "acute".

The metaphor of the army knife of communication is a bold one when we look back on the devastating attack in Mumbai on 26 November 2008. The terrorists used mobile satellite phones when carrying out the attack. One of the telephones was discovered in a boat in which the terrorists had reached the port of Mumbai. The phone memory had recorded contact to Pakistan, digital evidence that exacerbated the existing political conflict between India and Pakistan. Yet unlike the Emscher Depesche, it did not lead to the outbreak of war between the two countries. The metaphor in the title boldly anticipated the political and legal functions of mobile phones equipped with digital memory. This makes the phone an archive that stores evidence, which can be used for or against the user. The digital network that facilitates these connections becomes a tool used to capture a person. In contrast to an analogue weapon that carries signs of criminal use, the clues provided by the digital tool are profoundly immaterial and therefore structurally open to manipulation.

That the memory as well as the data network can be manipulated however shifts the journalists' metaphor away from the spotlight. In this sense, an analysis of the metaphor does not yet lead to the discovery of what is specifically new in digital devices. In my opinion this is not achieved by analysing the purpose for which it is used - for example do digital gadgets help to extend the range of terror attacks to the civilian population, or do they help the state to reach out to its subjects? Implicit in both considerations is



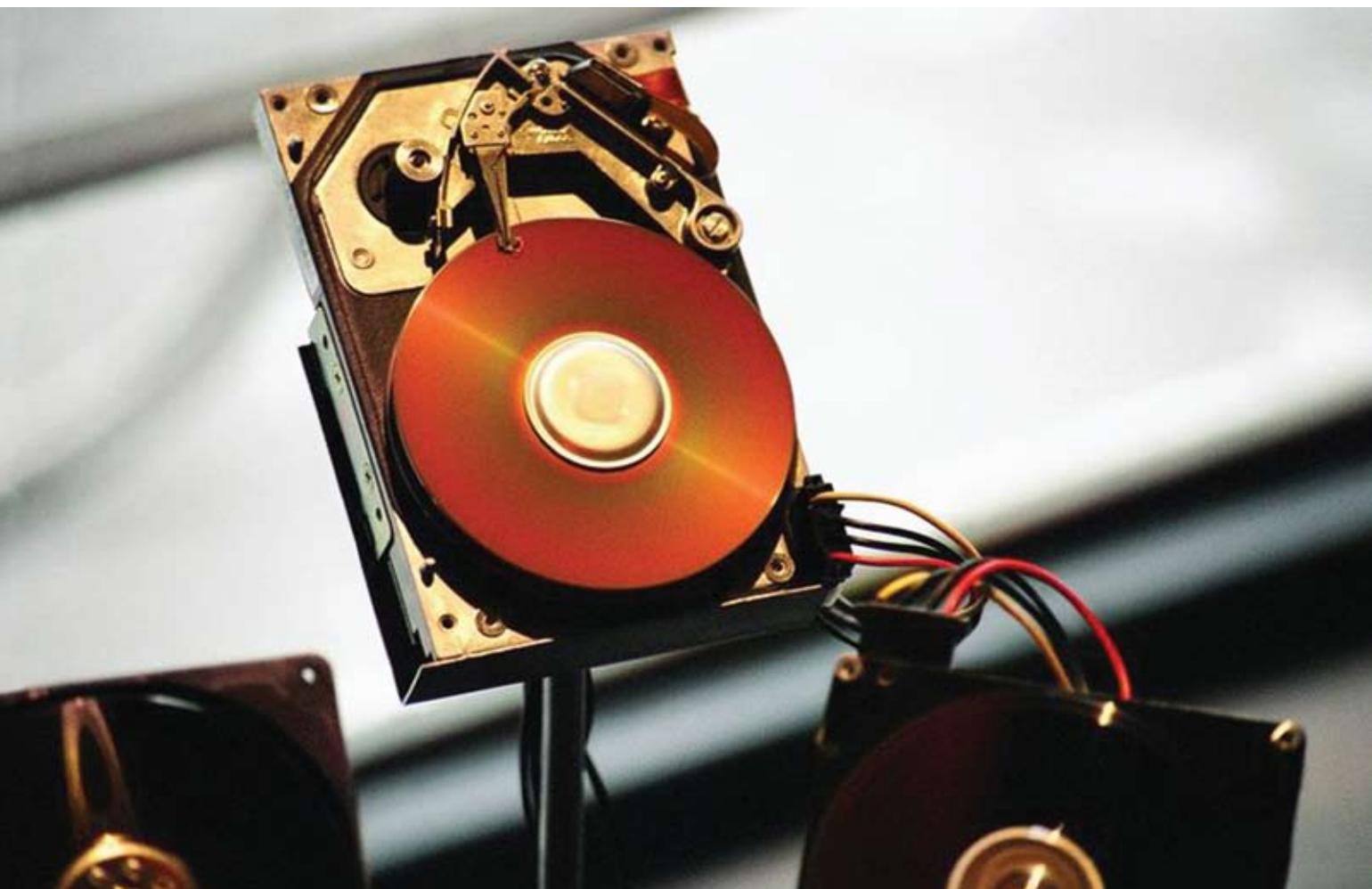
Dieter Roth: Faxgeklingel 1998. Source: Daniel Spoerri: Anekdotomania. Ostfildern-Ruit 2001, Hatje Cantz

the view that digital devices are a means to an end that like vectors extends from one subject to other subjects or to objects. Based on this notion, the device extends the will of a subject to the environment. It is only a means to achieve a goal. The knife is used to eat food or to cause injury. The mobile phone is used by terrorists or is a storage unit that becomes relevant when the perpetrators have to be convicted. According to this logic, minorities or art reserve the right to transform the determinants of these tools. Agamben and Deleuze speak for instance of the improper tools used by migrants. An improper tool can be a glass shard or a safety pin with which a refugee protects himself against an assault. The use of computers and mobile phones as improper tools has a tradition in art that is determined in part by the fact that computers were neither readily available nor easily accessible. The Swiss artist Dieter Roth puts it succinctly when he says: "They don't let you get close, this lot. Computer people are like gallery

owners." In 1964 he demonstrably starts working with computers. He develops a code for classifying letters and numerals, bright and soft tones. The so-called "computer alphabet" is to translate letters into sound and then be available for everyone to use. Roth understands the computer as a translation aid for "both the blind and the seeing". He is not interested in the details of computer programming but sees it as a means to manage the switch in medium from letter to sound. He is unable to realise the work. Instead he develops a notation system that automatically changes letters and numerals into sound. He is bothered by the thought that something "unexpected" cannot happen in this "regulated" game and tries to "lure" the unexpected in a later concept of the work: "Certain alphabets, upon appearing over and over again, would have played back (recording) news from traffic, slaughterhouses, hospitals in war and peace and other similar things." After aborted attempts in the

later 1970s - the work is to be temporarily recorded as *Yamaha Grundig Olivetti Combo, Tinguelys Kopf bei Soisy* - Roth executes the work in one night shortly before his death. It can be viewed under the title *Faxgeklingel* (Fax Tone) in the Garden of Daniel Spoerri in Seggiano and can be used worldwide by sending a text to one of Spoerri's fax numbers. It is converted by Roth's machine into sounds that can then be heard in the sculpture garden.

Roth's *Faxgeklingel* illustrates that between 1964 and 1998, the computer changed from being a number cruncher to becoming a multi-media machine. What once appeared to be the misuse of the computer is now part of the technical possibilities. In the work Roth uses the computer as a means to a particular goal. The media group Bitnik uses mobile phones in the tradition of tactical media activism for a particular purpose to explore participation. In the work *Opera Calling*, mobile phones transmit the opera from the



Valentina Vuksic: *Harddisko 2004*. Source: [www.harddisko.ch](http://www.harddisko.ch)



Zurich Opera House to the residents of the canton of Zurich who are usually unable to afford a ticket to the subsidised opera (refer also to the articles by Adrian Notz and Dominik Landwehr). Both works show that digital devices are more open in structure than their analogue counterparts. In the case of art work this proves to be a challenge, as the diversity of digital options makes it difficult to go beyond the paradigm of means and goal.

An exploration in this direction is undertaken by *Harddisko* an installation by Valentina Vuksic. In 2004 the artist presented for the first time a set of computer hard disks that are supplied with electricity at different intervals when they start to work. The work demonstrates that hardware itself produces sound. The rhythmic sound and tonality pose a riddle to the observers and listeners as the sound seems to be structured, that is, it emanates from a system that does not simply unlock. Thus the computer can be experienced as an orderly but alien system that amazes us the way the cosmic order of the heavenly bodies did in ancient times. While the computer is reduced to the core of its hardware, at the same time it cores the projections linked to the computer. It can be experienced as an independently moving entity, it appears to be an object without it being clear which movement belongs to which purpose. The dominion of calculation as well as attitudes of logical reasoning in our heads are temporarily suspended by the attractiveness of the machine that appears to move on its own.

The comparison between *Harddisko* and the cosmic order of the heavenly bodies projects the thought of an orderly system onto human culture and its artefacts. It loses its conservative connotation if culture is thought of as a project that can be developed jointly throughout the world. This presupposes that the means with which a culture organises its self-perception are seen as relative and not absolute. To relativise absolute patterns of thinking and seeing, metaphors are productive as are artworks. The metaphor Swiss Knife of Communication conveys the notions that Indian journalists have of Switzerland. Instrument and metaphor guide perception and carry notions that are counter-productive in a transcultural exchange if not modified, relativised and contrasted with other notions. What becomes relevant in this context is the thought of the backward projection of tools that

follows the organ projection in Ernst Kapp's Philosophy of Technology. An example of projecting a technology back on the people is the metaphors for the human psyche that are changing rapidly. In the 1950s it was "in" to compare the brain with the von Neumann architecture of the computer. Metaphors of parallel and networked processing machines are currently establishing themselves besides the paradigm of the communicating network. The tone of the academic debate on the human psyche hinges on the instruments that donate metaphors and are projected back onto psychological notions. The models used by different cultures to design the intercultural exchange could also be dynamic and variable. To this end artistic exploration can be beneficial because artists modulate instruments, boundaries of perception, metaphors and models.



*Subodh Gupta: Very Hungry God (2006), Installation view at church Saint-Bernard. Stainless steel structure and utensils, 360 x 280 x 330 cm. Courtesy in SITU Fabienne Leclerc, Paris, Photo: Marc Damage.*

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