In the Shade of the Commons

Towards a Culture of Open Networks

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Introduction

Paul Keller & Shuddhabrata Sengupta

This publication attempts to offer a glimpse into the discussions, activities and coincidences that have constituted the project 'Towards a Culture of Open Networks' and even now - after almost three years of activity - we find ourselves having to check the precise order of words in the title of our project. Are we 'Towards a Culture of Open Networks' or, are we 'Towards a Network of Open Cultures'?

In fact, if we begin to consider the full title of the project (which has been made possible by the generous support of the European Union's EU-India Economic Cross Cultural Programme) it becomes even more difficult to remember, primarily because its absurd length:

So here it is –

'Towards a Culture of Open Networks – a collaborative initiative on bridging 'information society' in Europe and India through culture and communication.'

As you see, if you pay careful attention to the title, it is both about creating networks that open spaces in culture, and about cultures that lead to the opening out of networks. So, the confusion, about the order of words in the title, which sometimes befuddles us, does have its productive edge. We are a network of openness, we are at the same time creating the conditions of openness in cultural communication. As we draw to a conclusion of three years of working together we have come to realize the validity and worth of this confusion. It has become a kind of guiding vision. A bridge between our own very different work cultures, attitudes and imaginations.

Over the last two and a half years Waag Society (an Amsterdam based media Lab) Sarai-CSDS (a Delhi based research programme that embraces urban space and media forms) and Public Netbase (a web-focused cultural institute in Vienna) have set out to build this bridge. We have done this through a series of common workshops and public events, through an experimental web platform and a number of publications both small and large. For a good part this has also meant exchanging ideas, teaching each other concepts and providing information to others. Information has been the key in this project, that has animated all our interactions.

Information - by which we mean the gamut of practices and processes of knowing and making; the world can also be seen as that constellation of embodied intellectual labour, accumulated cultural capital and evolving knowledge systems that plays a key part in the maintenance of the fabric of contemporary existence.

Information seems to be implicated in everything - from piracy to privacy, from commoning to control, from identification

to identity, from repression to resistance, from learning to labour, from border patrols to border crossings, from urban planning to urban. Yet, information, which acts as a 'glue' that adheres reality to representation is a grossly under-theorized, hyped and misunderstood category. Our work at Waag Society, Sarai-CSDS, and Netbase has a great deal to do with information, though we all come at it from different angles. This publication, which marks in one sense a culmination of our joint efforts is also an effort on our part to place on record the discussions that we hope will animate our future work, as well as contribute to debate within the public domain.

While currently prevailing notions of 'information-society' belabour under the delusion that more efficient information management systems (such as 'e-governance') are the panacea for all societal problems, the term 'information' also seems to conjure for many, anxieties of loss of agency in the face of excessive information control. A more nuanced view suggests that the everyday life of information in contemporary societies occupies a far more slippery terrain than can be listed by the narratives of either 'progress', or 'paranoia', it consists of surveillance regimes and counter-surveillance processes that work only inconsistently, of a chain of intellectual property claims and violations that bring a new level of constant attrition and strain to bear on capitalism, of complex histories and conflicts about knowing

Our network has aimed to initiate reflections on the histories of different information regimes, on the transformation of urban spaces in the emerging global information economy, on the realities of intellectual property, surveillance and censorship (and efforts to counter them), on the efforts to found and sustain (as well as erode) 'commons' of information, and to consider ways in which practices of knowledge, interpretation and creativity uphold, transgress or subvert governing protocols of social, cultural and political life.

We hope that by doing this, we will help keep the emergent 'commons' of culture and communication between us, between people working in India, Europe and indeed, elsewhere, alive. We dedicate this publication to all that we hope will grow in the soil of that fertile trans-continental commons.

Looking back at our collaboration the title of this project - as hard to remember as it may be - has proven to be a good choice. We have indeed managed to create an open network that has enabled many different actors to join our discussions and events; they are far to many to name them here, but the contribution of one organization – the Alternative Law Forum in Bangalore stands out. Without them the 'World Information City' event, which is documented in chapter 2 would not have been possible and their contributions have found a way in almost every publication that has come out of this project.

Paul Keller, Shuddhabrata Sengupta
November 2006, Delhi/Amsterdam

Towards a Culture of Open Networks

The Delhi Declaration of a New Context for New Media

The Open Networks Agenda for International Collaboration in Media and Communication Arts

The discussions that gave rise to this document took place at a meeting of an international Working Group on New Media Culture hosted by Sarai CSDS in January 2005 in the framework of the project 'Towards a Culture of Open Networks'.
The meeting brought together artists, theorists, critics, curators, arts administrators, researchers, social scientists and software programmers from India, the Netherlands, the United Kingdom, France, Finland, Italy, Australia, New Zealand and Canada.

Situating New Media in the Space of a Global Urban Contemporaneity

The streets of our cities are crowded with signals. Cinemas, desk top publishing, satellite television and fm radio, increasingly pervasive and ubiquitous computing, mobile telephony, telecommunications and the internet surrounding us in a matrix that also continues to feature analog and offline communication practices as diverse as theater, live performance, print culture and books and the production of visual and tactile objects. Old and new forms of communication create a new context for culture by their continuous interaction with each other. We live and practice, as artists, critics, curators and audiences – within this context. We also realize that this context extends deep into the substructure of local histories and situations, just as much as it extends far into a global space of communications that spans the entire planet. Our neighborhoods and streets contain the world, and the world is a patchwork made up of all our local histories.

Background to the Meeting of the Working Group : From Helsinki to Delhi

This document was produced in Delhi subsequent to the discussions of the International Working Group on New Media Culture at Sarai-CSDS in January 2005 and emerged from a dialogue between practitioners, artists, curators, theorists, critics and activists in the field of new media and digital culture that sought to reflect on this reality. The dialogue took place during an International working group meeting under the aegis of 'Towards a Culture of Open Networks' – a collaborative programme developed by Sarai-CSDS (Delhi), Waag Society (Amsterdam) and Public Netbase (Vienna) with the support of the EU-India Economic and Cross Cultural Programme.

The meeting took place immediately following from 'Contested Commons, Trespassing Publics' an international conference on culture, conflict and intellectual property organized by Sarai CSDS and the Alternative Law Forum (Bangalore) from the 6th - 8th of January in Delhi. The meeting also comes half a year after the drafting of the Helsinki Agenda, a document produced by a group of experts in the new media field in a meeting hosted by m-cult in Helsinki in the wake of ISEA2004. The Helsinki Agenda took forward the ideas that emerged in the Amsterdam Agenda and it particularly emphasized the need to

shift new media arts and culture policy to better support international, translocal, non-nation based cultural practices. The Open Networks Agenda builds on both of these sets of ideas to propose a framework for thinking substantively on what it means to create contexts for collaboration in digital and electronic media practices.

The diverse discussions on culture, conflict and intellectual property that marked the 'Contested Commons/Trespassing Publics' conference and the broad vision for a renewal of international new media and electronic culture outlined in the Helsinki Agenda provide a set of conceptual foundations for the propositions put forward in this document.

Collaboration, Dialogue, Conversation

We acknowledge that there is a growing incidence of collaboration, dialogue and conversation between practitioners of networked culture in different parts of the world. At the moment we are paying special attention to construct collaboration and networks between Europe and Asia. These transactions emerge from a growing level of formal and informal contact, through residencies, greater mutual visibility in international platforms - such as biennials, festivals and conferences, and actual instances of cross cultural collaboration. There is a strong desire amongst communities of practitioners and theorists in several parts of the world for the laying of stable foundations so as to ensure that this surge of collaborative processes has an enduring and equitable future for all those who are involved. While we endorse the energies that are key to this moment, we are aware that unreflective continuity may actually deepen existing inequalities. This requires us to inaugurate a process of substantive thinking about the plurality of processes that can fall under the umbrella of the term 'collaboration', to develop a set of conceptual tools that can help articulate different ethics and protocols of collaboration, and set pragmatic goals that can be realized through instances of actual practice in a very heterogeneous world. This means we take account of the fact that differences in cultural and societal infrastructure and political conditions (within and between countries and societies) are as real as are the increasing instances of similarity.

This document hopes to initiate precisely such an exercise. It does not claim to provide all or even most of the answers, and it invites the networked culture practitioners to extend, elaborate and deepen the questions and issues we hope to raise. We are addressing practitioners who collaborate or desire collaboration across cultural and disciplinary boundaries, curators, critics and theorists who act as interlocutors in this process, and administrators who influence or shape the concrete conditions that enable cultural dialogue and transactions.

Heterogeneity of Forms and Practices: Communicative Practices in South Asia

The Open Networks Agenda recognizes that the culture of communicative practices in contemporary South Asia is characterized by a rich heterogeneity of forms and protocols and express a healthy diversity in the face of the tendency of the formal operations of intellectual property to flatten the protocols of cultural production on to a single plane. Rather than have every cultural good available as a commodity designed for one time sale, the prevalence of a vigorous cluster of practices of ongoing cultural transaction within and outside formal commodity relations guarantees the diversities of contemporary south Asian cultural expression. This does not imply an antagonism or indifference to market imperatives, rather, it places such imperatives within a larger matrix of practices which also

include sharing, gift giving and formal as well as informal protocols of reciprocity.

Beyond 'Access'

These impulses to improvise, re-mix and re-purpose that characterizes the daily life of electronic culture in South Asian urban contexts is something that the agenda urges serious consideration of, especially in order to move beyond the 'developmentalist' rhetoric of 'granting access' when speaking of the place of new media in the global south, and in underserved zones in the global north.

Similarly, a more grounded view of the place of digital media would require us to go beyond the naive celebratory rhetoric that sees the mere placement of computers and digital tools in the hands of under privileged and underserved actors as sufficient conditions for the cultivation of a sensibility of digital creativity within society. The important question to ask is not whether the majorities of societies are deprived of digital tools, or are on the 'wanting' side of the 'digital divide' but to question what people can do, and what they actualize when they gain access. Here we are clearly emphasizing content and process more than simply presence of and access to ICT.

In going 'beyond' the discourse of access alone, the Open Networks Agenda recognizes the necessity of resilient thinking that takes difference and conflict as well as collaboration and solidarity into account.

The Collaborative Nature of Cultural Practice

We (the authors of the Open Networks Agenda) recognize that all cultural work is necessarily collaborative, and that collaborators may either be part of generations either contemporaneous or previous to our own. Taking this further, everything that we produce today is also potential material for collaboration with partners in all our tomorrows. We also recognize that the collaborative nature of cultural work requires not only freedom of speech, but also increased mobility of our words, images and ideas. A key challenge is to develop methodologies that enable open sharing while developing a plurality of models and approaches towards sustainable, mixed and re-mixed modes of usage of intellectual and cultural resources, some of which may be expressed as different kinds of intellectual property (in some instances) and others as a varied cultural commons (in other instances).

Formal and Informal Media Landscapes

Taken together, these elements constitute a landscape of intermedia constellations and media processes nested within different interlocking and coexistent contexts, some of which may be formal, institutionally anchored, located within recognized forms and disciplines, while others may be informal, located between and across forms and disciplines, and on occasion, expressed in a tangential relationship to the requirements of legality. The formal and informal aspects of this landscape are not a neat binary, but expressed as two poles of a continuous spectrum.

From 'New Media' to 'New Context Media'

Our recognition that all new media objects and processes are located in specific contexts suggests that we see new media as what Nancy Adajania has described as 'new context media' - as instances of what happens when a plethora of communicative practices, ranging from work on and with the web, to video, to radio, to telecommunication based practices, to installations, to sound work, to print and graphic design, and emerging forms of pervasive computing enter new semantic material spaces, and take on different recombinant possibilities that spring from their mutual interactions throughout the world.

We use Adajania's concept of 'New Context Media' with some deliberation, insisting that it is not a drive to strain to keep abreast with the latest technology that concerns us here as much as it is the continuous renewal of the conceptual field of contexts that enable communication. Also, it is to indicate our impatience with the inadequacy of the portmanteau term 'New Media' because in a sense all media practices were once, 'New'. To say that the internet is later in time than the cinema is not to be in anyway insightful about anything other than chronology. In instances such as that of South Asian media culture, this gets further complicated by the coexistence and synergy between what is today's 'New Media' and what might have been yesterday's 'New Media'. To privilege one of these over the other is to be unmindful of the ecology of the media landscape as well as to the vitality of the relationships between actually existing practices.

The Question of 'Translatability'

The climate of mutuality that characterizes this landscape is founded on the many acts of making, sharing, viewing, listening, reading, researching, curation and criticism that draw their strength from existing networks of everyday collaborations between different nodes spanning the universe of practice in new context media. Practitioners bring to this intersection of creative. Intellectual and discursive energies the markers and histories of different cultural-historical-spatial specificities and the received as well as emerging traditions of different practices. Through processes of sustained interactions practitioners are able to evolve a neighbourhood of affinities in practice, a commons of expression.

However, it needs to be clearly understood that this coming together is not contingent on an easy translatability, or the evolution of some kind of 'Esperanto' form of cultural practice. Rather, we need to work with the understanding that there are and will be necessary difficulties of translation, that invite us to be at least legible to each other, before we make the claim to comprehensively understand each other. We need to share with each other what we do not know about each other before we can make the claim to mutual understanding.

Designs for Commoning

These encounters when allowed to play out to their fullest extent, can give rise to various designs for commoning, different protocols of working together, of sharing materials of having access to each other's work and materials, some of which may be expressed in quasi legal languages - as licenses and charters, while some others may be expressed simply as invitations and invocations.

A Plurality of Commons

We emphatically endorse a plurality of ways in which the commons of cultural and social media use can be and are being constituted through different modes of practice. Some of these may be more discursive than others, some may be more invested with aesthetic pursuits, while others may find themselves more committed to social and political questions, and still others may be recursive in the sense that they may involve practices of consistent but critical self reflexivity. The one thing that we do insist on is that the commons constituted by such collaborations grow immanently (admitting that there is no master plan or overall design) and that they make room for an ethic of collegial criticism across the boundaries of cultures, histories, tastes, forms and disciplines. In other words we want to insist that there are and will be many kinds of commons, and that we all must retain the right to be critical of different modes of commoning as they emerge, evolve

and dissolve, even as we agree on the value of the commons itself.

Clearly, what this entails is a refined practice of trust. Where people allow for the fact that they need to nurture practices that foreground trust and respect precisely because they may not be transparent to each other. We recognize that the groundwork needed for such trust and for the conditions of collaboration to grow are directly proportional to cultural distance. And here by cultural distance we mean both the distance between practitioners based in different parts of the world, as well as the distances between different kinds of practitioners, regardless of the coordinates of their physical location or historical inheritances.

Expanding Conceptual Horizons

Collaboration requires an expansion of conceptual horizons. Practitioners, critics, curators and audiences based in the metropolitan centres of global culture (often in the global North) will often have to work harder to learn about the spaces, histories and cultures of other parts of the world. This makes it possible to adequately respond to and reciprocate the informed understanding that people in the global south have of the global north as a result of the histories of colonial encounters. It will also mean that practitioners, critics, curators and audiences in the global south will have to reconsider the articulative privileges that arise from the default and often a-historical assumption of an automatic 'victim' position by artists and cultural practitioners simply because they happen to be from the south.

Location and Extension

The practice of a networked culture will necessarily involve a rethinking of what we mean by locatedness and extension. This may on an occasion mean a withdrawal or curtailment of the privileges of an excess of locatedness and particularity, and at the same time it will also involve an attenuation of any attempts to construct a heroic hyper-globalist universalism that is not attentive to specific histories and especially to global as well as local inequalities of power and articulative capacity.

Social/Cultural Contexts for FLOSS

'Collaboration' in general, and more specifically free, libre and open source software (FLOSS) co-development, have been romanticized in the past and continue to be romanticized in the present as benevolent, essentially "good" practices. We insist that attention must be paid instead to the cultural and social contexts of use and effect of these practices in order to evaluate them. Special attention needs to be paid within the FLOSS milieu to the urgency of localization and for creating software interfaces that are able to translate the ideals of sociality inherent in FLOSS practices to the relationships between lay users, software, the hacker scene, software developers, artists, critics and accessible technological interfaces.

Beyond 'First Wave New Media Culture'

We assert that it is time to move beyond the self congratulatory mutual self recognition that characterized the global expansion of what may be called first wave new media practices. To continue in that mode would be to allow us to degenerate into a clique of cliques of global new media practitioners, united by an arcane 'inspeak' and insulated by the hermetic comfort of their practices from the exigencies and disturbances of the world outside our media labs, gatherings, galleries and conferences. Rather, new context media practitioners will have to learn to be open to each others vulnerabilities, they will have to work with difficulties in translation, will need to learn to live with and thrive on the fluid,

unpredictable and dynamic (as opposed to the solid and stable) nature of the contemporary global moment.

Types of Collaborations

What kinds of Collaborations Do we See ?

Firstly, between practitioners based in different spaces and cultural contexts:

- between theorists, curators, critics, researchers based in different spaces and cultural contexts
- between practitioners and theorists, curators, critics, researchers
- between practitioners of different kinds of media practices
- between practitioners at different levels of visibility and recognition
- between practitioners, theorists and inhabitants of urban neighborhoods and localities

Three Models for Collaborative Practice

We also propose that serious attention be paid to the task of evolving different models of collaboration, not just those of people making things together, but also based on the idea of dialogue and conversation.

The Dramaturg Model : Here, for instance we propose the 'dramaturg' model which is used in some theatre practices as something that might merit serious consideration. This entails a structural accommodation of interlocution and interlocutors in the shaping of a practice. Practically, it may involve the dialogic presence of theorists, writers, researchers in situations where media processes and objects, or art projects are being created. This would necessarily involve the cultivation of hospitality and attention by practitioners towards people engaged primarily with discourse, just as it requires theorists and researchers to be sensitive to the exigencies of practice and artistic creation.

The Archive Model : Another model of collaboration could emphasize the rigorous documentation, chronicling and archiving of a practice. Here, practitioners could enter into a seriously considered relationship with people dedicated to the act of documenting and archiving what practice entails. Here documentation would not be seen as a 'service' performed for the practitioner, but crucially as a means to ensure the durability of a practice through critical annotation and detailed description. What this necessarily involves is the creation of many archives of practices and process. Here, we also see the necessity of the public rendition of processes a key function of extended archiving. Involving writers and documentary filmmakers to work with the archives of completed and ongoing artistic collaborations will generate a 'public intelligence' of processual work that we feel will be crucial to the imperatives of wider audience development for new media/new context media works.

The Ensemble Model and 'Collaboratories'

Collaboration can also be dynamized through structured co-improvisation and ensemble playing. This would require media practitioners to learn from the traditions that animate the worlds of music and dance where the presence of performing bodies in given coordinates of space and time as ensembles can be a sufficient condition for acts of collaborative creativity. Situating programmers, technicians, artists, practitioners and theorists from different backgrounds in conditions of real time, offline conviviality in 'collaboratories' - workshops, residencies, tactical media labs and field work - (collaborative laboratories) can produce conditions of high synergy. This recognizes that the deepening of new media practices are crucially dependent on the interplay between embodied learning and knowledge. On the conventions of knowledge sharing that often

tie communities of practitioners together. This requires us also to deepen our awareness and understanding of the ethic of friendship and informal solidarity that significantly underpins substantial aspects of the 'everyday life of practice' in new media cultures.

Users and Producers

In a new media context, the distinctions between producers and users, practitioners and audiences, writers and readers are characterized by porosity. Users can be and often are producers, however, mere access to media technology and networks does not in itself provide the productive agency. In order to facilitate productive agencies and critical media literacies, we need to think of audiences as partners in collaborative processes, and requires support for development, education and outreach activities that bring audiences/users and producers/practitioners into close contact. As new media is an emerging domain of practice, support for it also involves sensitivity to the urgency that audiences and practitioners both feel for developing the conventions and expectations that are pertinent to questions of audience-practitioner interaction appropriate to the field. This means support for familiarization, for informal and formal immersion and education processes, for publications that contextualize works and practitioners, and for greater attention to activities that involve young and new audiences by cultivating a heightened curatorial sensitivity and innovative outreach strategies.

Collaboration as Transformation

We need to acknowledge that collaboration is a transformative process, that it changes people, organizations and institutions, challenges them and provokes them to grow and branch out in different directions. This can be a necessary precondition for collaboration, just as it may be a consequence of its success. In the event of the inauguration of a relationship between partners who are not at the same level in terms of infrastructure, the upgrading of resources may be a necessary precondition for the collaboration to occur. In other instances, the destiny of exchanges and upscaling of activities that occur during the process may demand a process of deepening, expansion and renewal, within each node in the networks. This process of growth often requires an expansion in capacity and infrastructure which need to be understood and acted upon by the structures (at the governmental, inter governmental and non governmental level) that enable and support collaborative networks.

Duration and Time

Collaboration also necessarily involves duration and different temporal registers. There can be synchronous as well as asynchronous modes of collaboration and dialogue, and both merit consideration and support. Sometimes it may be crucially necessary that people come together to work at the same time, at other times the process of collaboration may require intervals, periods dedicated to re-evaluation and assessment and re-engagement at a different level of intensity and activity. Support for one form of engagement (short term, intensive, goal oriented) should not preclude the possibility of durable for support alternative (long term, processual, durable) temporal registers. We need to recognize that the interplay between these two rhythms is vital for both research and artistic practices.

Practitioners and Publics

Finally, we need to recognize and endorse the fact that in the end, the most important collaborative process is that between practitioners and their publics. This is especially true in the case of new media/new context media, because the cultures of online

file sharing and digital peer to peer protocols have already laid the foundations for the blurring of the boundaries between users and producers, audience and artist, publics and practitioners. We need to found structures of support for creative audiences and creative end-users, by enabling communities of fans, artist-audience interfaces and a vibrant critical culture that actively intervenes in artistic production. This will involve support not only for those who speak and perform, but also for those who listen, view, read and participate. New media practices will require infrastructural support through the creation of pods, interactive archives, workshop spaces and listening rooms in all cultural institutions and public spaces which will become the hubs of a dense and dynamic culture of pleasurable and informed exchange through art and creativity.

This will require us to be imaginative not only about how we see practitioners, but also about how we see publics, and will involve rethinking the paradigm of 'permissions' and consent that an audience implicitly grants to itself and those it has come to see. In the end this could involve a transformation of how we see creative activity and art in society, but that is precisely the challenge new forms of communication place before us. The streets of our cities are live with signals, and we have to learn to respond to them.

The draft of this Declaration is written by Shuddhabrata Sengupta from Sarai CSDS & Raqs Media Collective, Delhi and Tapio Makela, m-Cult, Helsinki based on the inputs and contributions made by the members of the working group during the course of their deliberations.

The Vienna Document

"The Need to Know" of Information Societies

This document is the outcome of a meeting of the 'Networks of Imagination' workshop hosted by Public Netbase in June 2005 in the framework of the project 'Towards a Culture of Open Networks'. The workshop brought together artists, theorists, critics, curators, researchers and software programmers from India, the Netherlands, Germany, Austria and Switzerland.

Information technologies are setting the global stage for economic and cultural change. More than ever, involvement in shaping the future calls for a wide understanding and reflection on the ecology and politics of information cultures. So called globalization not only signifies a worldwide network of exchange but new forms of hierarchies and fragmentation, producing deep transformations in both physical spaces and immaterial information domains. While global information cities increasingly resemble neo-medieval city states, market concentrations establish a dominion over knowledge. On the way to information feudalism, diversity seems to loose out. Nevertheless global communication technologies still hold a significant potential for empowerment, cultural expression and transnational collaboration. To fully realize the potential of life in global information societies we need to acknowledge the plurality of agents in the information landscape and the heterogeneity of collaborative cultural practice. The exploration of alternative futures is linked to a living cultural commons and social practice based on networks of open exchange and communication.

We an open group of artists, researchers and cultural activists recognize common ground for transnational exchange and collaboration towards a culture of open networks. Cultural practices surveying information grids of global cities paint landscapes of global transformations and provide depth to an outlook towards a future that has already begun. Cultural investigations into the urban grids of communicative practices are at the base of mapping options and negotiating conditions of socio-cultural reality. Cultural collaboration, providing a wealth of perspectives and ideas in communication practices, is in itself a transformative process, an agency of change. We need to value the diversity of emerging recombinant interactions and networks of imagination that provide a rich resource for our future cultural heritage.

We applaud all initiatives that reclaim the benefits of new communication technologies for the common public.

We know that the future is too precious to leave it to experts; digital human rights in everyday life are everyone's concern.

We trust nodes open of information cultures to explore the diversity of choices in the shaping of information societies based on semiotic democracy.

We recognize that street level open intelligence is of high public value and a cultural process that is highly dependent on information climate and environment conditions.

We do not accept a world where popular culture and human heritage is fenced in and IP restriction management separates us from our own thoughts.

We appreciate the fact that boundaries between users and producers become permeable in new communication environments and new practices dissolve traditional notions of authorship.

We are committed to critically observing the mindsets of possession and the creation of scarcity as processes implementing control in the information economy.

We refuse to live in an information society where nothing belongs to all of us, but everything is owned by cartels, locking human knowledge into the vaults of private interests.

We acknowledge that knowledge is for those who do, not for those who don't, because cultural progress implies that ideas emerge from exchanges, from communication, from interaction.

We do not want a world where you need a license to whistle a song or access your own memories.

We value information as a human resource of cultural expression rather than a commodity to be sold to consumers.

We anticipate a silent spring in Information Society's landscapes when even a bird's song becomes subject of copyright control.

We realize that intangible information resources raise the issue of a digital ecology, the need to understand ecosystems constituted by information flows through various media.

We urge to ask who benefits from technology that is never neutral, empowerment and participation or domination and containment.

We reaffirm that security concerns are not an excuse for pervasive surveillance and control environments linking personal profiles and producing social sorting and segregation.

This text is a document that emerged from a work meeting in Vienna June 2005. This draft of the Vienna Document is written by Konrad Becker and Felix Stalder based on the inputs and contributions made by the members of the working group.

A Letter to the Commons

From the participants of the 'Shades of the Commons Workshop'

This letter is the outcome of the 'Shades of the Commons' workshop hosted by Waag Society in May 2006 as part of the project 'Towards a Culture of Open Networks'. The workshop brought together artists, theorists, critics, curators, social scientists and software programmers from India, the Netherlands, Germany, Austria, France, Sweden and the United Kingdom.

Dear Inhabitants of the 'legal' Commons,

Greetings! This missive arrives at your threshold from the proverbial Asiatic street, located in the shadow of an improvised bazaar, where all manner of oriental pirates and other dodgy characters gather to trade in what many amongst you consider to be stolen goods. We call them 'borrowed' goods. But a difference in the language in which one talks about things ('stolen' vs, 'borrowed') is a also a measure of the distance between two different worlds.

You can only steal something if it is owned by someone in the first place. If things are not 'owned' but only held in custody, then they can only be 'borrowed' as opposed to being stolen. So what you call a 'pirated' DVD is what we would call a DVD 'borrowed' from the street, and the price we pay for it is equivalent, or at least analogous to an incremental subscription to the great circulating public library of the Asiatic street.

We address this, written in the precincts of that library, to all you who enjoy the salubrious comfort of the legal commons, especially the one that calls itself 'creative'. We have occasionally stepped into your enclosures, and have fond memories of our forays. However, our sojourns in your world have of necessity had to be brief. Before long, we have been asked about our provenance, our intent, our documents. There has rarely been enough paper for us to prove that we had the right of way.

We appreciate and admire the determination with which you nurture your garden of licences. The proliferation and variety of flowering contracts and clauses in your hothouses is astounding. But we find the paradox of a space that is called a commons and yet so fenced in, and in so many ways, somewhat intriguing. The number of times we had to ask for permission, and the number of security check posts we had to negotiate to enter even a corner of your commons was impressive. And each time we were at an exit we were thoroughly searched, just in case we had not pilfered something, or left some trace of a noxious weed by mistake into your fragile ecosystem. Sometimes, we found that when people spoke of 'Common Property' it was hard to know where the commons ended and where property began.

Most of all, we were amazed by the ingenuity (and diligence) you display in upholding the norm that mandates that unless something had been named explicitly

as part of the 'commons' by it's rightful owner, it is somehow out of bounds to everyone else. Hitherto, our understanding of the word you use, 'the commons', had suggested to us that it indicated a space where people could take according to their desires and contribute according to their capacities. This implied a relationship essentially between people, founded on a more or less taken for granted ethic of reciprocity, in the sense that what goes around, eventually comes around. However, in the space you designate as 'commons', we found that the rule is - take in accordance to the label on the thing that you encounter, and give according to the measure of the licence you prefer.

This indicated that a relationship between people, was somehow replaced by a relationship between people and the things that these people owned, inherited, or had created. It meant being told that we could access something only if the owner said we could. This meant that the song or the story or the idea that had no label on it was not for the taking. We have to admit that this did feel a bit suffocating, because it was a bit like rationing the air you breathe according to whether or not you had the right to breathe freely.

Strangely, the capacity to name something as 'mine', even if in order to 'share' it, requires a degree of attainments that is not in itself evenly distributed. Not everyone comes into the world with the confidence that anything is 'theirs' to share. This means, that the 'commons' in your parlance, consists of an arrangement wherein only those who are in the magic circle of confident owners effectively get a share in that which is essentially, still a configuration of different bits of fenced in property. What they do is basically effect a series of swaps, based on a mutual understanding of their exclusive proprietary rights. So I give you something of what I own, in exchange for which, I get something of what you own. The good or item in question never exits the circuit of property, even, paradoxically when it is shared. Goods that are not owned, or those that have been taken outside the circuit of ownership, effectively cannot be shared, or even circulated.

Where does this leave those who have no property to begin with? Perhaps, with even less than what they might have in a scenario where there was some comfort in being able to make do with bits and pieces broken off, copied and patched together and then circulated, essentially by people who had no prior claim to cultural property or patrimony. You see, we undertook our education in the public library of the street, in the archive of the sidewalk.

Here, our culture, came to us in the form of faded and distressed copies, not all wrapped and ribboned with licenses. We took what we could, when we could, where we could. Had we waited to take what we were permitted to 'share' in, we would never have gotten very far, because no one would have recognized our worth as 'shareholders'. Our attainments were not built with the confidence that comes from knowing that you have a right to own what you know, and a duty to know what you own.

Your 'commons' is not a place that we can share in easily. Because, often, when you ask us for what we 'own', we have to turn away from your enquiring gaze. We own very little, and the little that we own is itself often under dispute, because no one has bothered to keep a detailed enough record of provenances. In these circumstances, if we had listen to your stipulation to share only that which we own, hardly anything would have been passed around. And for life to continue, things have to pass around. So we share a lot of things that we have never owned. They are 'borrowed'.

You call this piracy. Perhaps it is piracy. But we have to think of consequences. The consequences of absences of the infrastructures that make a culture of sharing that is also a culture of legality possible. In the absence of those infrastructures, we have to rely on other mechanisms. When you do not have a public library, you have to invent one on the street, with all the books that you can muster, with everything you can beg, or borrow. Or steal.

All we ask, dear inhabitants of the 'legal' commons, is for you to let us be. To be a little cautious before you condemn us. A world without our secret public libraries would be a poorer world. It would be a world in which very few people read very few books, and only those who could own things were the ones who could share them. It would also mean a world in which, eventually, very few people write books. So instead of more, there would in the end be less culture to go around. The more you own, the less you can share.

All we ask is for a little time. It has not yet been conclusively proven that the culture of 'borrowing' which you happen to call 'piracy' has only negative consequences for the production of culture. It has also not yet been proven that one must necessarily read negative consequences for culture from negative consequences for the balance sheets of the culture industry. Until such time that this is done, please let us be.

Learn about us by all means if you must, argue with us by all means, but do not rush to destroy the wilderness we inhabit. We admire your carefully cultivated garden. We know it is not easy for you to let us enter that space. We understand and respect that. We do not ask to be appreciated in return for the fact that we prefer hiding in the undergrowth of culture. All we ask for is the benevolence of your indifference. That will do for now.

We remain, yours

Denizens of Non Legal Commons, and those who travel to and from them

The draft of this letter was written by Shuddhabrata Sengupta, based on the input and contributions by the working group.

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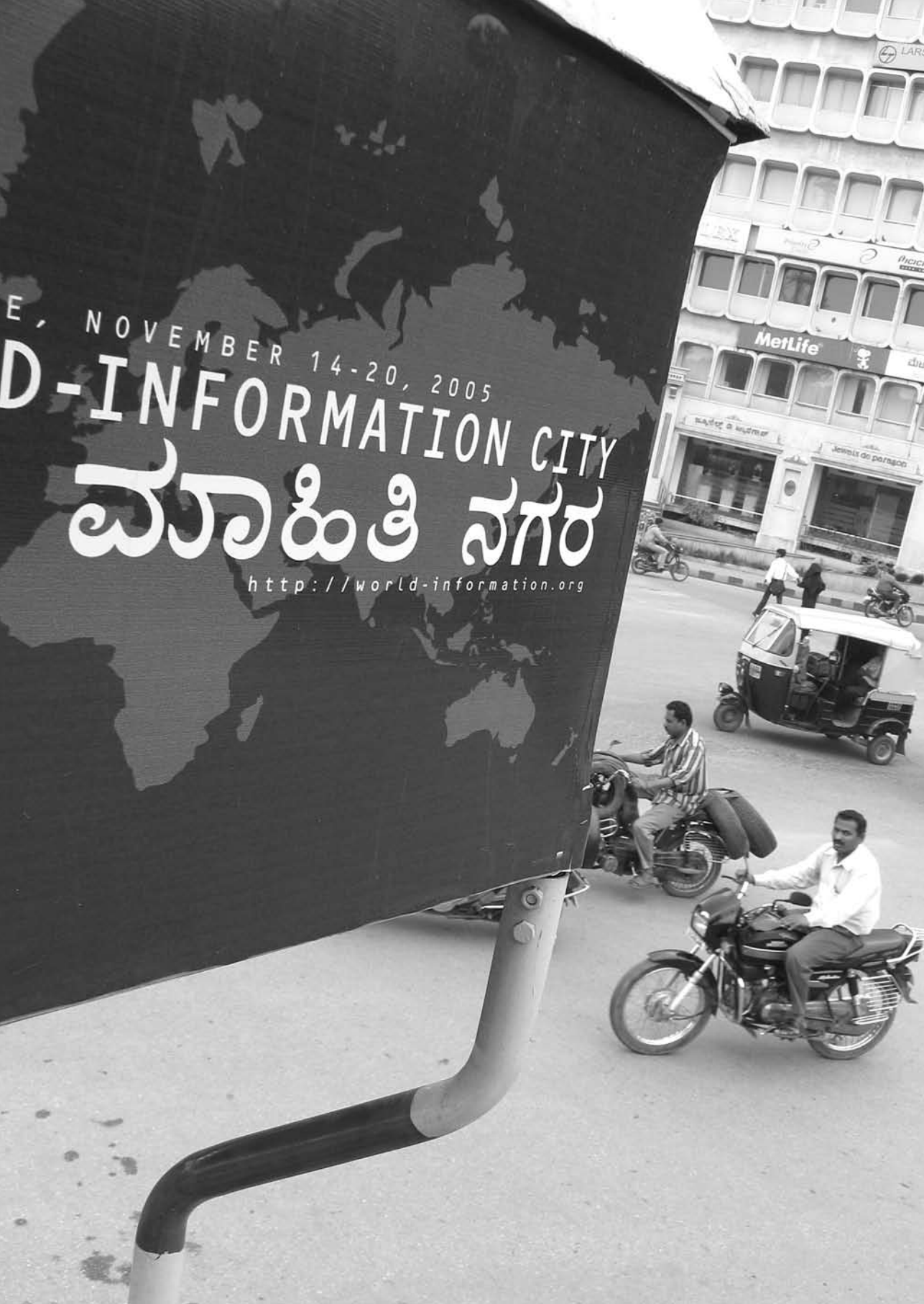
World Information City Bangalore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World-Information City: Cultural intelligence for the Urban Multitudes

Konrad Becker

The two-day conference, addressed social and political questions related to neo-medievalism and information feudalism, as well as semiotic democracy and the psychological and structural qualities of urban development reflected in urban zoning and the rise of city states.

'World-Information City' was a one-week program of events and a publication addressing global issues of intellectual property and technology in conjunction with changing urban landscapes. The activities that took place in Bangalore in November 2005, presented a rich spectrum of public relations including conference and workshops, outreach programs and public art, interventions and exhibits, screenings, performances and guided tours. 'World-Information City', focusing on cultures of open networks in technology driven urban information societies, was the result of an extended process of global collaboration and rooted in the diversity of Bangalore's Information Society projects. It was held parallel to the UN's World Summit Information Society (WSIS) in Tunis. 'World-Information City' constituted part of a larger project in the framework of the EU-India Cross Cultural Programme together with Waag Society, Sarai-CSDS and the Institute for New Culture Technologies/t0 working together 'Towards a Culture of Open Networks'. The primary objective of the overall project was to build bridges of culture and communication in Europe and India, focusing on issues relating to the emergence of the 'Information Society': a web of social, cultural, economic and political relationships giving primacy to the technologies of information. This collaboration under the well-informed and reliable project guidance of Waag Society's Paul Keller emerged from a previous history of the three partners working together in an extensive dialogue on these very same areas of discourse and practice. In the course of the project this developed into an extensive network of cooperation including the Alternative Law Forum (ALF) in Bangalore itself.

World-Information.Org, a model for independent media production, was initiated by the Institute for New Culture Technologies / t0 together with a wide range of international experts, theorists and practitioners as a trans-national cultural intelligence agency. Since the launch of World-Information.Org under the patronage of UNESCO in Brussels 2000, it staged its extensive exhibition and conference program in Vienna, Amsterdam, Belgrade, and Novi Sad and spawned activities in various European cities like London, Berlin, Geneva or Helsinki. 'Towards a Culture of Open Networks' presented a unique chance to realize World-Information.Org operations beyond the geographic borders of Europe. 'World-Information City' became a challenge to adapt concepts of cultural intelligence to a South-Asian practice and perspective and to map its processes into the context of Bangalore, the icon of IT outsourcing. However, the sharing and transmission

of public knowledge is a prerequisite for a thriving, participatory society based on equality while valuing diversity all over the world. Similarly, and in addition to their ability to pool know-how to spearhead ICT research, cultural organizations and networked media arts offer models of alternative practice, and a unique contribution to ongoing debate about intellectual property rights and the knowledge commons on a global scale.

In introductory conferences like 'Networks of Imagination' (June 2005, Vienna) researchers, practitioners and institutions from Asia and Europe working in the field of culture and knowledge economies, looked into the practice, strategies and interventions of agents in the information landscape and debated assessments regarding change and everyday life in information societies beyond Europe. Surveying emerging maps of social and cultural interaction, tracking the mindsets of property, the creation of scarcity in the information economy, and the processes of control materializing in global cities and converting information into intelligence. The 'Vienna Document - "The Need to Know" of Information Societies' a digital cultural policy manifesto was formulated by the Open Cultures Working Group and again asserted that exploring alternative futures is linked to a living cultural and social practice based on networks of open exchange and dissemination. Nodes of semiotic democracy based on clusters of free information cultures provide trajectories for discovering different options in the shaping of information societies. Independent investigations into the urban grids of power that shape the social reorganization of cultures enrich the imagination towards a multiplication of choices in negotiating conditions of socio-cultural reality. Smart modes of networking are a prerequisite of being able to challenge the overwhelming noise of vested interests in order to get these voices heard. Ventures like World-Information.Org need to develop a broad spectrum of communication strategies designed to engage the imagination of potential target audiences. The existing resources need to be carefully adapted to realize an optimized approach to influence results appropriate to specific time based contexts and conditions. The identification and assessment of target groups and their accessibility provides the base for a multilevel operation plan with different communication layers.

Campaign

The World-Information City Newspapers objective was to alert the general public, decision makers in politics and business, and multipliers in media and educational institutions about the dangers emanating from restrictive information regimes, about global intellectual property (IP) as well as the cultural and societal potentials of alternative information management regimes under the heading of an 'information commons' or 'knowledge commons'. With a view to the World-Information.Org program, and its focus on the interrelationship between information regimes and urban environments, a majority of the contributions focused on urban issues. Inviting a group of outstanding authors to contribute non-specialist and to-the-point articles, care was taken to reflect key concerns with regard to IP/Commons and urban development as well as to ensure a balanced geographical perspective. In order to gain in-depth reach within each of the audience groups and geographical areas the publication was aimed at, the paper has been produced in three different editions: an international edition, a Bangalore edition, with additional specific contents and a German language version. With the principal target areas being the World-Information City events at Bangalore, the World Summit

of the Information Society in Tunis and European and international readers a global dissemination strategy of 30,000 copies of the publication could be realized. As the main printed publication the paper played a key role in the World-Information City program as well as in the general activities of the Institute for New Culture Technologies and has served as a point of reference in the debates around the commons and IP also as an online resource.

From an early point in the World-Information City project artists and communication designers have been invited in open calls to join the process of developing key iconography for urban media interventions regarding IP and the city. World-Information City aimed to raise awareness on issues of the information society in the public sphere and to introduce these themes into the streets and urban environment of the city. A multitude of ideas and imagery emerged and have been displayed in various contexts while some works have been specifically realized for the streets of Bangalore, highly diverse media interventions located in different parts of the city. Along with billboards, posters, stickers and traditional Indian media forms like cut-outs, street-banners and wall paintings, branded rickshaws and mobile displays presented key messages in the city's streets, repeatedly prompting the local media and newspapers to pick up on this imagery and use it for their illustrations. The World-Information City campaign caught passers-by by surprise through its infiltration of the city's ad-dominated visual info-sphere with billboards, posters and even flower arrangements, questioning the politics of IP in places usually dominated by undisputed commercial imperatives.

Exhibition

The locations of the artists work and installations, stretched between three main points in the city, from some of the oldest quarters of town to some of the new upscale areas of the city. The dispersed show across different sites was designed to facilitate site-specific works, but also to allow for interaction with different publics. The experience, sights, sounds and smells along the way being part of the show, and simultaneously being informed and broadened by the media and art projects. A multitude of artistic practice represented a wide range of approaches to a technological communication culture and provided many layers of investigation into the info-sphere. The diversity of artworks that contributed to World-Information City addressed conflicts surrounding the rise of the information economy, be it in the form of installations, objects, performances, or films accessible to the public at different points of bustling Bangalore. The many interventions which reappeared in the city in various formats, like Sebastian Lütgert's brightly colored *Good Questions* series of simple but clever inquiries, Ulrike Brückner's *Delinquents* billboard featuring a theme of the criminalization of sharing, Vasu Dixit's *Copycat* mural at the bus terminal, or Ashok Sukumaran *Electricity as Network* street installation at the oldest cinema of Bangalore, to name just a few, were entering into an imaginary dialog in public space.

Broadcasting in the electronic communication spectrum Shaina Anand's *WIC TV*, after engineering the support of a commercial cable operator, went into operation in one of the city's neighborhoods and managed to get a hold of a prime slot on a local TV channel. Produced together with a highly spirited team it was receiving great interest from local audiences and quickly acquired a dedicated fan audience. In different locations art works, were complemented; like Christoph Schäfer's ironic reflections on global mediated culture and by Ayisha Abraham's

media archaeology and the screening of the international *Thought Thieves* video award for WSIS. Rajivan Ayyappan's radio soundscape installation *Air Around* meeting with Marko Peljhan's concepts of alternative communication technologies and alongside 0100101110101101.org's over-affirmative rendering of a fictional European Union movie campaign are examples of the breadth in artistic production. With the conference location in a public park next to a spacious bamboo groove, visitors could wander off into a World-Infostructure show of a large number of graphic displays based on research by World-Information.Org. Numerous visualizations illustrate issues associated with the development of digital media and sophisticated technical instruments like the increasing use of biometric devices, themes linked to various aspects of information societies as well as topics relating to Bangalore.

Conference

Parallel to the World Summit in Tunis, the World-Information City conference with satellite events in Paris and Vienna brought together renowned European and South-Asian researchers on issues of information economies and Intellectual Property Regimes related to the social dynamic of emerging global information cities. Like all WIO conferences the event was open to non-specialist audiences and accessible to a larger audience via Internet streaming. The two-day conference, addressed social and political questions related to neo-medievalism and information feudalism, as well as semiotic democracy and the psychological and structural qualities of urban development reflected in urban zoning and the rise of city states. Emerging intellectual property regimes make knowledge and freely shared resources into private possessions of a few large corporations. This virtual land grab has new feudal figures dominating knowledge economies, reducing the promise of a new public domain and the digital commons to a faint possibility.

The talks looked into the question of how the city is affected by Information and Communication Technologies and the rise of electronic surveillance and control.

Mapping interrelations of global information landscapes and urban transformations, of immaterial regimes and social realities, it highlighted conflicts over the dominion on knowledge, the implications of new information regimes on knowledge and culture production and the zoning of the information city. Questioning the obsession over intellectual property rights and the new limitations imposed on digital information exchange, it explored arguments for the 'Information Commons', a democratically regulated information space with public accountability. This requires a vibrant culture of 'Open Source', based on a plurality of agents in the information landscape and the heterogeneity of collaborative cultural practices.

Beyond long term collaborators like Felix Stalder, co-editor of the WIC newspaper, or Eric Kluitenberg from WIO Amsterdam, or project partners like Lawrence Liang from Alternative Law Forum (ALF) or the Sarai group itself, a range of stimulating speakers engaged in the dialogue. "The globalized IT industry in India is an international island of privilege in a sea of local despair", said Indian writer and critic Arundathi Roy at the World-Information City conference concluding session. Speaking a short distance away from Bangalore's IT corridors, Roy stressed the parallels between the technologies of the colonial period, roads and railways, and the contemporary expansion of IT into the rural areas. Surveillance expert David Lyon views

Bangalore call centers as the sites of 'social sorting', the automatized hierarchization of social strata according to criteria of profit generation, as in database marketing. Clouded by rhetoric of service and privacy, political accountability is being eroded by invisible streams of data. However, as Bangalore-based feminist and historian Lata Mani pointed out, "The logic of capitalist globalization is not the only logic at play", a statement that finds an empirical grounding in Solly Benjamin's work on urban land conflicts, also presented at the conference. His accompanying guided tours *Cities within Cities* did give an intriguing inside view into urban and zoning and the transformation of cities. Even more layers of inquiry into the theory and practice of emancipatory knowledge work was provided by a range of accompanying workshops on the organization and economy of the commons, open source tools and programming as well as a range of media skills.

With this mix of locations, media and technologies, World-Information City was able to catch the attention of a vast audience even outside of the closed spaces of the conference, the various exhibition spaces, workshops and performances and to set a model for cross cultural intelligence cooperation and artistic interventions in the global info-sphere.

http://world-information.org/wio/wsis

Konrad Becker
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Since 1979, numerous intermedia productions, exhibitions, conferences and event designs for international festivals, cultural institutions and electronic media. Publication of media works, electronic audiovisuals and theoretical texts.

Security, Seduction and Social Sorting: Urban Surveillance

David Lyon

> Why anyone ever dreamed that cyberspace would be primarily a realm of freedom defeats logic. The very term 'cyberspace,' used first by William Gibson in the novel Burning Chrome and later, more popularly, in Neuromancer, hints strongly at its dark side. And its etymology, in mid-twentieth century cybernetics, does more than hint. Cybernetics is the science of control, of regulation through feedback loops.

The knowledge-power matrix today

Twenty-first century cities rely on the order-creating capacities of digital technologies to classify, sort, and to manage social outcomes across of range of sectors. Using personal data, techniques derived from military, administrative, employment, policing and marketing practices combine to create a complex matrix of power; a surveillance assemblage. Cyberspaces may in some ways be mapped onto physical geographies, helping to create new configurations of the social as well as to erode some older ones.

Between the local organizational level of surveillance and the global flows of personal data in surveillance networks, lie the urban spaces where surveillance is perhaps most evidently present. Surveillance, as understood here, is among other things an outcome of establishing information infrastructures as the basis for administration, production, marketing, entertainment and law enforcement. It involves garnering personal data for a variety of purposes in a quest for greater efficiency, convenience or safety. Its ethics and politics are inherently ambiguous but at the same time surveillance is never neutral.

What happens in information-oriented cities is that everyday life – residing, working, traveling, being entertained, communicating - is articulated with electronic networks, databases and devices. This transcends the obvious sense in which numerous gadgets and systems in everyday use are coded with software. From the kitchen fridge and microwave to the living room entertainment center to the car, highway, transit system, elevator, office and beyond, software is now part of the material fabric of life (see Amin and Thrift, 2002: 125). The articulation I have in mind here is with surveillance technologies that are increasingly 'designed in' to the flows of everyday life (Rose, 1999: 234).

The outcomes of this interaction with automated and remote classification systems may in some circumstances have profound effects on the shaping and ordering of city life. These are often not those outcomes that are anticipated by the pundits, such as the reduction in travel enabled by the use of new communications media or the switch away from paper-based documents made possible by electronic text processing. Such changes represent the mistaken attempt to read social changes off technological developments. In the cases mentioned here, city travel has

increased along with communication density and paper use proliferates even as electronic information storage and transfer expands.

As Manuel Castells points out, paradoxically, advanced telecommunications helped to slow corporate relocation away from New York, and not vice-versa, and in France, the first mass-diffused system of computer-mediated communication, Minitel, did nothing to reduce urban density (Castells, 1996: 377). Indeed, Minitel was also used by students to arrange street demonstrations against the government just as, in 2005, rioters in Paris used blogs and cell-phones for guerilla-type tactics of protest against police discrimination involving North African minorities. At the same time, since the rise of so-called anti-globalization movements, police and security monitoring of the Internet, cell-phones and similar devices is increasingly attempted as a means of pre-empting protest and demonstration. Castells spends less time on such matters, holding that "most surveillance will have no directly damaging consequences for us – or, for that matter, no consequences at all" (Castells, 2001: 180).

However, it is just these unanticipated consequences of reliance on electronic infrastructures that are in focus here, and especially those that affect relative degrees of access and power in the city. It is a truism that cities have always been divided and zoned in ways that reflect the interests of groups distinguished by their wealth, income, class, status, ethnic background or gender. The term 'ghetto' speaks to ethnic sequestering, 'the wrong side of the tracks' to enclaves of poverty and 'central business district' to the well-heeled commercial core. The emergence of urban electronic infrastructures does not necessarily produce quite different divisions so much as overlay existing ones with additional, sometimes crosscutting distinctions. Nonetheless, they help to shape the city no less than highways and high-rises do.

Many treatments of the 'global city' focus on their role as economic powerhouses. Writers such as Castells argue that such cities are not so much 'places' as 'processes.' The emphasis is on why mega-cities continue to grow despite the technical possibilities for decentralization and flexibility. Saskia Sassen shows that global cities have new roles, beyond the traditional centers of international trade and banking. They are concentrated command points for organizing the global economy, key locations for finance and specialized services and sites of both production and of consumption (Sassen, 2001). This being so, it is hardly surprising that more conventional urban inequalities are also reproduced in new ways in the global cities of both north and south. In Bangalore, for instance, hailed as India's Silicon Valley, one can see some very direct unequal relationships between the shiny electronics-based technology parks and the predominant situation of poverty and social deprivation (Madon, 1998).

Beyond such direct correlations between transnational corporate wealth in high-tech software and hardware and a massive lack of adequate basic infrastructure for the majority, more subtle modes of reinforcing social and economic divisions are also visible – or, more properly, invisible -- in some urban areas. In order to understand how surveillance affects today's cities we have to consider both the technologies involved and their uses in particular contexts. The idea of 'social sorting' is introduced to show how populations are clustered in order to single out different groups for different kinds of treatment. This is done using software algorithms, the informational codes that have social consequences. Examples are drawn,

next, both from consumer contexts in which choices and life-chances are affected and also from contexts in which more stringent forms of control are evident, and where some kind of law enforcement is the aim.

Interestingly enough, these apparently separate and distinct spheres of surveillance activity overlap in some ways – the domestic purchase of insurance services, for example, also relates to policing criteria in neighborhoods – and they are also increasingly interrelated at the level of data. Different databases may contain personal information that is common to more than one, and under certain circumstances personal data acquired for one purpose are used for another. At the same time, other kinds of techniques are constantly appearing that help to refine or to elaborate what already exists. Genetic screening, location tracking, radio frequency identification (RFID) and biometric measures each add a further dimension to the social sorting potential.

Taken together, this combination of surveillance systems may be thought of as an 'assemblage' (the term is from Deleuze and Guattari's work but Ericson and Haggerty give it some more specific content). And it is this phenomenon with which surveillance studies – and, of course, all urban dwellers – have to deal in the twenty-first century. Although the ways that social power is allocated and struggled over has much to do with the capitalist world system and with bureaucratically run organizations, the argument here is that information infrastructures, and surveillance in particular, has to be introduced as a key explanatory factor today. True, the aftermath of 9/11 is also giving rise, to much technological opportunism and the state is strengthening its law-and-order arm, but the surveillance assemblage, with its unique social sorting capacities was already developing before the terror attacks on New York.

Technologies of social sorting: codes and consequences

Why anyone ever dreamed that cyberspace would be primarily a realm of freedom defeats logic. The very term 'cyberspace,' used first by William Gibson in the novel Burning Chrome and later, more popularly, in Neuromancer, hints strongly at its dark side. And its etymology, in mid-twentieth century cybernetics, does more than hint. Cybernetics is the science of control, of regulation through feedback loops. Originally, it had to do with the processes of production. Today, since the convergence of computing with telecommunications in the 70s and 80s, we can say that the cyber-realm is one of remote control or regulation at a distance.

How this control and regulation is achieved is unique to computer-based systems of surveillance; it is control by code. The hardware and software of such systems are coded in specific ways. Lawrence Lessig, whose book on Code and Other Laws of Cyberspace helped to establish this point, says that cyberspace is regulated by code, for good or ill. The big mistake is to imagine that cyberspace is in any sense 'unregulated.' In a moment we shall look more carefully at how codes regulate cyberspaces, but I want to take the point one stage further. It is not merely some virtual – as in 'immaterial' – realm that code operates. Control and regulation in the messy material spaces and places of the city also operate by code.

One caveat. This is not meant as a mere attack on cyberspace as a realm of 'un-freedom.' The cyberspaces of today's world are arenas, cockpits, or terrains of struggle. A careful exploration of the social and material realities of cyberspace does induce cynicism

about utopian visions, but this by no means paints social analysis into a dystopian corner. Coding can operate in ways more consonant with notions of participatory democracy and organizational accountability than they all-too-often do at present.

As someone who has spent a fair amount of time talking with others about contemporary surveillance, I have noticed a constant refrain from those whose historical memories are still in good shape. They acknowledge that constant monitoring does occur today but ask whether it really is all that different from the days of small-scale local communities, where everyone knew everyone else and such mutual monitoring was taken-for-granted (even though it may have been resented or regretted by some). My response is that it is indeed very different, not only quantitatively but qualitatively as well.

The data may seem trivial (shopping preferences, for example) but when combined with others may help build a (rather partial) profile. And it is not merely a partial profile. It is a profile that, in many cases, simply suggests what sort of person is here. The category, not the character, is all- important. As well, in most cases the data are collected whether or not we agree to that collection process, and now so many agencies garner our data that it is simply impossible to keep track. As Lessig observes, village 'surveillance' was carried out by peers and other human beings. Today surveillance is done by machine and moreover, the machine is voracious in its appetite for personal data. It does not merely note the differences between you and the next person, but many facets of behavior. And searchable records were not in view in the village; '…now the default is that all monitoring produces searchable records' (Lessig, 1999: 151).

Lessig goes on to show how concerns of manipulation and equality accompany profiling. Targeted advertising, for example, may influence desires in new ways, but profiling may also normalize the population as individuals are encouraged by feedback to fit the expected patterns. As for equality, Lessig writes from the USA, where equality in the marketplace was an assumed ideal from the start. But subtle distinctions of rank are based on profiles, such as those generated by frequent flyer systems, which ensure that the best seats and the first meal choices go to the most frequent flyers. These kinds of status differences are increasingly exploited by surveillance-as-social-sorting, which depends on collected data to provide the grounds of discrimination.

In an urban context the use of status differences may be related to a re-thinking of 'digital divides.' Stephen Graham (following 6 and Jupp, 2001) argues that digital divides take various forms, not only unequal access to new technologies, but the "…powerful and often invisible processes of prioritization and marginalization as software and code are used to judge people's worth, eligibility and levels of access to a whole range of essential urban spaces and services" (Graham, 2004: 324). Computer algorithms are used at database and telecommunication interfaces in order to provide different levels of service to users who have been automatically 'sorted' according to some criteria. These criteria may be opaque to the end-user, but in an era of competitive global commerce and 'terror threats' their basis is somewhat predictable.

Personal information may be collected, then, in order to determine – in these cases – levels of service, access, and speed of passage. Once the data are collected, the system can automatically (without human discretion), continually (24/7) and in real time (with no delay) make determinations about outcomes.

The rapidity of one's Internet access, for example, depends in part on the user profile gleaned from sophisticated surfer-tracking (Winseck, 2003) and the speed with which one may be able to 'fast-track' through airport security depends on the use of biometric passes for what Peter Sloterdijk calls the global 'kinetic elite' (quoted Graham, 2004: 239).

Life-chances, choices, exclusion

We turn now to some further examples of the consequences of coding in primarily urban contexts. The first set are commercial, to do with the consumer sphere, whereas in the subsequent section we shall examine some security coding, relating more broadly to citizenship. The aim is to demonstrate just how decisive the codes are for people's life-chances and how they affect their everyday choices even to the point of being excluded from certain opportunities. How, then, does 'consumer seduction' operate?

The term 'seduction' in the commercial context refers to the efforts of marketers to persuade consumers to buy goods and services. Specifically, I have in mind the ways in which database marketers, using varieties of Customer Relationship Management, cluster geo-demographically their potential consumers, in hope of singling out for special treatment those with the highest likelihood of being substantial spenders. In parallel ways to the 'categorical suspicion' that attends certain groups of 'likely' offenders, such 'categorical seduction' serves not only to 'woo' consumers but, in a sense, actually to produce them for corporations.

In similar ways, broader processes of social sorting privilege certain consumers, clients and citizens over others, through differential pricing mechanisms or through shorter and longer waiting times. The corollary, of course, is that the same automated processes produce neglect or abandonment for other groups. In some cases they may be actively excluded but in most cases they simply receive inferior treatment or are passed by in the marketing drive. The so-called 'freedom of choice' that supposedly characterizes market economies is if not a chimera, at least somewhat compromised by such practices.

Some of the other cases mentioned by Graham include basic ones like the use of urban roads and the location of food stores. Electronic road pricing has become an obvious political choice in an era of great congestion, and so it is in Toronto, for example. To avoid bottlenecks on the main east-west corridor – highway 401, which at some points already has sixteen lanes including both 'collector' and 'express' -- on the north side of Toronto, highway 407 was added, with an automated tolling facility. At most times of the day you can pay to cruise along at the speed limit or above, even when the 401 is in stop-start mode in all lanes. (I confess that I once used it to get to a wedding on time!) San Diego's I-15 takes things further, however, offering fluid conditions at all times. As the road gets busier, drivers are informed that the tolls are rising, causing demand to drop off accordingly, thus ensuring continuous free flow of traffic.

Geographical Information Systems (GIS) are used to map cities, to reveal their shifting social and economic composition in great detail. The purpose behind this, says Tsung Leong (2001: 765) is to "understand, control and direct market behavior." Geo-demographic profiling, a practice that has existed since the 80s, is vastly enhanced by today's algorithmic coding and searchable databases to enable the simulated mapping processes, which are then taken as the basis for actual decisions about where to locate stores, banks or sports and entertainment facilities. Unprofitable bank branches and small local stores tend

to close as more profitable locations for new enterprises are pinpointed by GIS mapping using geo-demographic data.

Even without direct mapping of socio-economic data onto geographical neighborhoods, processes of CRM may still have a differential impact on zones within a city. Susanne Lace refers to the advent of 'glass consumers' who have appeared in a world of intensive information gathering on the daily lives of ordinary people. As she says, the "properties and capacities of glass – fragility, transparency, the ability to distort the gaze of the viewer – mirror…" our vulnerability (Lace, 2005:7). Banks, insurance companies, employers, welfare departments, health-care facilities and retailers all want to assess the risks attending our dealings with them and the value that our interactions with them represent. On the basis of this knowledge they will make offers, deny opportunities, treat us differently from others in apparently similar circumstances. This may or may not be compared with postal code (ZIP USA) data to connect more closely with territorial realities, but even without it, the likelihood is that certain geographical areas will be favored or marginalized as an indirect outcome.

As Perri 6 points out, these developments represent qualitative differences with earlier (50s, 60s) 'redlining' practices that proscribed certain areas in the city, rendering them difficult for (would-be) residents to obtain mortgages or insurance (6, 2005: 28-29). The huge quantities of data that can be processed means that much finer-grained classifications are possible, based sometimes on hundreds of thousands of calculations with individual algorithms for each case, to which may be added data-mining procedures for even greater depth. Retail sector loyalty cards permit more precise targeting of offers, often linked with postal codes. 6 also observes that miniaturization and data storage means that personal information may also be stored longer, which means organizations 'forget' and therefore 'forgive' less in the personal information economy.

That these personal information regimes have consequences in urban areas is becoming increasingly clear to sociologists and geographers. As well as the simple differences of treatment accorded to one area favored over another because of its profitability to corporations and relatively low risk for policing and

Insurance, self-fulfilling prophecies may also set in. There are incentives to behave differently – move out -- if your area is deemed risky for insurance purposes, or if you obtain a lower credit rating there. Equally if loyalty card data discourages stores from remaining open in relatively deprived areas, they too may move out, creating the 'food desert' phenomenon in increasingly run-down urban areas.

Risk, Policing, Security

If categorical seduction describes a world in which an opportunity calculus identifies certain groups as potentially profitable consumers, then categorical suspicion bespeaks one in which a risk calculus identifies certain groups as potential offenders. Of course, risk is involved in some consumer contexts, but it predominates in law enforcement and related contexts. Such risks emerged from earlier conceptions of social control in the city, among them Michel Foucault's, which saw the panoptic principle of hierarchy, surveillance and classification spreading well beyond prisons into quotidian urban life.

More particularly, argues Stanley Cohen, one finds late nineteenth and twentieth century attempts to map visions of the city,

such as the Chicago School's 'moral mapping', those concentric zones "on which grids of crime, delinquency, suicide and other forms of social disorganization were projected" (Cohen 1985: 220). For Cohen, writing towards the end of the twentieth century, such mapping produced both inclusionary and exclusionary policies, but tending to tilt towards the latter. The inclusionary tendency would entail the use of 'bleepers, screens and trackers' while the exclusionary would relate to "walls, reservations and barriers (230)". Although the use of electronic control devices was clearly coming into focus in the 80s, later developments were to make for changed circumstances. The use of new networks of control in the city would digitize exclusion as well.

By the late 1980s, Gary T. Marx argued that "the state's traditional monopoly over the means of violence is supplemented by new means of gathering and analyzing information that may even make the former obsolete" (1988: 220). He noted that this new surveillance is justified by positive goals, to combat crime and terrorism, to protect health or to improve productivity. Marx acknowledged the tendency to see prison-like techniques spreading into the wider community, but also noted that "…techniques and an ethos once only applied to suspects or prisoners are applied to the most benign settings" (220). Hence, his telling neologism, 'categorical suspicion,' the sense that simply inhabiting a categorical niche is enough to attract suspicion. Thus Marx warned that the USA was accelerating down a road towards the 'maximum security society.'

Such warnings have done little, it seems to help, halt or slow this development. Indeed, the development of newer technologies combined with the media-amplified expansion of cultures of fear and their supposed solutions has increased reliance on the kinds of methods that Marx was concerned about. In the late 90s Richard Ericson and Kevin Haggerty wrote about 'policing the risk society' and showed that the use of digital technologies is transforming the ways in which order is created and maintained in urban areas. Old barriers of time-and-space are eroded such that jurisdictions are hierarchies are challenged, and 'remote control' becomes increasingly feasible.

The communication systems in use create the territories and populations that are policed. "The use, the electronic infrastructures in police vehicles – computer terminals, mapping systems, video cameras, voice-radio systems, still cameras an so on – to trace their territories and those who populate them" (Ericson and Haggerty, 1997: 436). Police-work now contributes to the processes of urban design and of creating environments conducive to consuming (and that discourage the presence of non-consumers).

Inspection devices are also used to trace people into their spaces, using contact cards, registration of certain groups such as sex-workers, special events, business and residential security reviews, and so on. What one sees in private security settings such as shopping malls is more widely diffused in the community. As Ericson and Haggerty say, "A focus on population categories, precise movement through territories, pervasive surveillance devices and aesthetically pleasing design makes coercion embedded, cooperative and subtle, and therefore not experienced as coercion at all" (Ericson and Haggerty: 436).

Contingent categorization, then, becomes a means of control in the digital city, and it is a means of control in which old lines become blurred – lines that once distinguished police work from private security, or law

enforcement from consumer management. Gilles Deleuze sees this as a shift away from Foucault's disciplinary society to what he called 'societies of control' (Deleuze, 1992) and Richard Jones refines this to 'digital rule' (2000). As it happens, such digital rule may occur with fairly unsophisticated equipment as well as with advanced dataveillance. Video surveillance or CCTV is a case in point. As Jones observes, CCTV may be used, not necessarily so much for 'hard' surveillance as for providing a 'real-time resource coordination and management system' (Jones 17).

As Norris and Armstrong point out in their now-classic study of The Maximum Security Society (1999) CCTV has grown immensely in the UK and seems set to become a more digital system as facial recognition facilities and system integration are seen as the logical next steps. The integration of CCTV systems includes both public and private policing, as McCahill (2003) has shown, and extends the process discussed by Ericson and Haggerty where police work is characterized primarily by 'knowledge brokering'. Large-scale automated algorithmic surveillance would seem, as Norris and Armstrong argue, to follow from this, given the already existing emphasis on intelligent scene monitoring, automatic license plate identification and facial recognition. As they say, the coupling of databases with cameras and automated recognition systems means that 'not is it possible to create a log of the movements of individuals as they move through space, but it is also possible to automate assessment of all people's moral worthiness as they enter a locale based on information contained in the database' (221).

It is no accident, however, that CCTV cameras proliferate in urban areas that have become the focus of government initiatives to 'regenerate' the city. The idea is to control the streets of the city with a view to its economic revitalization. As Roy Coleman points out, this is a neo-liberal street-cleansing program that aims to remove the signs of social inequality from public places (2004: 221). The urban space is re-made in the name of 'safety' (which in turns plays on public fear) but simultaneously hides the structured degradations of some 'undesirable' areas. For Coleman, as this '…social ordering strategy unfolds the right to decide who walks through a city's streets will also impact upon the right to protest and public campaign in the city against, for example, shops dealing in sweatshop goods or those encouraging environmental destruction' (233).

Emerging technologies and the assemblage

The main focus of what we have looked at so far is algorithmic surveillance based on personal data gleaned from consumer activities and from official, public and commercial records. Apart from alluding to some possibilities for facial recognition, in association with CCTV and related searchable databases, no mention has been made of other kinds of data that originate in the body or from some means of monitoring body behaviors and activities in space and time. However the contemporary city is also an emerging site of such surveillance potentials, using for example biometric, genomic, location and tracking technologies. Moreover, the increasingly fluid interrelation between databases containing these kinds of traces means that profiles relating to risk and other relating to opportunity may be linked. It makes sense to speak of a surveillance 'assemblage' in today's cities.

Once again, it is important to note that social and political futures cannot be read off new technologies. But at the same time, each of these technologies is already in widespread

use and already their impacts are felt in significant ways within wider contexts of socio-technical development. Some of these made their public appearance as practical 'solutions' within the post-9/11 'war on terror' whereas others started life in retail or other contexts. They may migrate from one to the other as well. Biometric devices may be used to sort out suspects at airport security but also to filter fraudulent customers at the bank machine; radio frequency identification (RFID) tags may be used on items on the Wal-Mart shelf or in US passports to authenticate travelers as no-risk.

The various anti-terrorism measures that have been taken in many countries around the world since 9/11 and the subsequent attacks in Bali, Madrid, London and Amman involve, prominently, new surveillance technologies. Or more correctly, they involve technologies that may have been in development for some considerable time and lacked only the opportunity or pretext for their deployment. They include the obvious – from the point of view of those trying to increase the public perception of safety – devices and systems in public transit systems and at borders and airports, plus many more subtle means of identifying persons with malign intent to do violence. These include the use of data mining techniques to locate possible 'terrorist cells' and of CRM-type measures, for example to reduce the credit limit for some Muslim New Yorkers. They have also made several specific techniques more publicly known.

Biometric technologies regard the body as information. The best-known is probably fingerprinting, originally used on criminal offenders and suspects but today extended to migrants, welfare recipients and refugees and stored in electronic databases (Cole, 2001). Any physiological or behavioral traits that seem stable may be used in biometrics, and they contribute to surveillance as categorization. Patterns of live individuals – from the face, iris, hand, finger, signature or voice -- may be checked in real time against database records for all kinds of management and security purposes in workplaces, travel sites such as airports or consumer sites such as bank machines. Their success depends on the quality of the original datum, the adequacy of the database and of course the level at which the system is used (see e.g. Zureik and Hindle 2004).

Genetic technologies, or those relating to the Human Genome Project, rely on data actually taken from the human body – blood, body fluids, hair or human tissues. Although 'DNA evidence' has been in (often controversial) forensic use for some time, genetic methods of surveillance are becoming increasingly popular in health care, employment and in insurance calculations. If employers or insurance companies could have advance indications of possible health complications in some individual's future, these could be prejudicial for that individual. Although the film, GATTACA, provides a purely fictional account of how a 'genetic underclass' may develop, such fears are expressed by many analysts of genetic surveillance (see e.g. Nelkin and Andrews, 2003). Those carrying genetic markers for a disease that they may never develop, could be unfairly discriminated against by insurers who assume that all such markers are likely signs of that disease developing.

Location technologies are of various kinds, but they all refer to the tracking of items in space and time. Best-known examples are Global Positioning Satellite (GPS) enabled cell-phones that permit the holder to be tracked as s/he travels. In this case, the data refer to locations which, given the earlier discussion, are of great interest in many

contexts including law enforcement and marketing. Employers can check where their drivers are on the road, police may be able to locate suspect offenders, corporations may be able to pinpoint the position of consumers, such that they can be targeted for place-specific advertising and, in non-systemic ways, parents may keep track of where their teenagers are in the borrowed family car. This is a relatively new development; consequent in the USA on the development of enhanced emergency services calls but seems to be growing rapidly in some sectors (see Lyon et al, 2005).

Lastly, tracking technologies, using RFID, are a major component both of the new security arrangements in American airports and border crossings and of large-scale retail concerns attempting to follow the progress of goods in transit or passing from warehouses to customer outlets. These small devices rely on small tags that may be read wirelessly as the tag passes the sensor. Once again, they are a further means of classification and categorization whose data have to do with spatial location. Unlike location technologies, however, they have to be triggered by a sensor; they are not simply on and available at all times.

The above discussion makes it clear not only that surveillance carried out in different sectors may be cross-referenced in some significant ways, but also that different kinds of surveillance data may also be concatenated. With regard to the first development, Kevin Haggerty and Richard Ericson suggest that the concept of the 'assemblage' (derived from Deleuze) may be utilized to aid our understanding of the rapid growth and integration of surveillance systems.

The surveillant assemblage is not a fixed or determinate object. Rather, it is multiple, emergent and unstable. It is a form that relates to state power but is not a conventional apparatus of administration or control. The assemblage captures and limits flows of phenomena and may do so in ways that fix them at least temporarily in relations of asymmetrical power. If those whom it affects object to its manner of operation, suggest Haggerty and Ericson, it is futile merely to prohibit a technology or limit the work of an institution.

The surveillant assemblage exists to capture flows emanating from bodies, bodies that have been fragmented into bits of data. Taken together these form constantly shifting versions of the 'data double' that both refers to individuals but simultaneously is only a kind of pragmatics – useful or not to institutions wishing to distinguish between individuals and populations. It is information. It can be recombined, in principle endlessly, for other purposes, and this may be seen in the commercial use of government information, police use of consumer information, and marketing use of emergency services information. Moreover it grows not as a hierarchical structure but as a rhizome, a spreading plant-like organism that sends out shoots in different directions, each of which may take root in its own right.

The outcome is that it becomes progressively more difficult to disappear. Anonymity seems impossible, and the gaze seems ubiquitous. However, this should not be taken as a counsel of despair, any more than the reminder that the assemblage grows 'like a weed' and cannot be countered merely by some legal measure, technical device or policy rule. Those so-called data-subjects to whom the data double alludes, albeit fleetingly, are not incapable of noting the presence and effects of the assemblage and of negotiating and resisting their interactions with it at the

points where they encounter it. The fact that we cannot disappear 'under the radar' of the assemblage does not mean that counter-measures are pointless. It means rather than the ensuing struggle is complex.

Challenges to democracy and to participation

The outcomes carry both deep dangers for democracy and potential for democratic involvement, ethical critique and alternative practices.

This is not the result of the 9/11 aftermath, although the 'war on terror' has contributed tremendously to the further digitizing and globalizing of surveillance. Nor can it be understood as a simple extension of, for example, class or bureaucratic power, even though these are still significant. Questions of risk and trust, of security and opportunity are central. Today's surveillance is a peculiarly ambiguous process in which digital technologies and personal data are fundamentally implicated and meet in the software coding nexus.

Firstly, existing regulation and legislation does not significantly reduce or mitigate the amount of potentially damaging social sorting that occurs. While the FIPs that lie behind data protection and privacy law include important items that, if complied with at all levels, could reduce social exclusion, unfair targeting and negative discrimination, on their own they do not go very far. The kinds of issues that are raised by urban data profiling, CRM and security operations go far beyond the narrow confines of 'privacy' and 'data protection' that were once raised in the context of debates over the 'information society.'

Secondly, the so-called 'personal information economy' has grown up symbiotically with the global deregulatory regimes of the late twentieth and early twenty-first centuries in which markets were opened up and risk was transferred away from taxpayers to consumers and workers (6, 2005: 36). The aim of liberalization is to reduce risk pools and eventually to individualize risk, transferring it to consumers. This raises questions of distribution, and ultimately, of human dignity as opposed to the merely technical kinds of approaches that tend to prevail at present. The issues mentioned here include unfair exclusion (e.g. from bank services), unfair targeting (e.g. of credit risks) and unfair discrimination (e.g. by postcode or other geo-demographic category, see Hall 2005). Although 'consumer power' is growing (Zureik and Moshowitz, 2005) it is not clear that this aspect of consumer politics has become very significant yet.

Thirdly, other levels of ethical critique and political involvement are required, in order to combat at least the most negative effects of these trends; above all, pressure on the accountability of organizations that process personal data. But this also spells a willingness to engage the issues in conjunction with those who construct and understand code. The confluence of geographical and social space enabled and driven by software sorting also contributes to the collapse of older (Weberian) distinctions between class and status. The fact that people share similar consumption patterns does not mean that they will meet, let alone organize, even if they do inhabit the same geographical area. Those with the power to ascribe identities and access use largely invisible means to do so which suggests a further role of sociologists in illuminating and critiquing these processes that connect code and class (Burrows and Gane, 2006).

Lastly, these comments hint at the emergence of a new urban politics, one that is attuned to the ways that the surveillant assemblage is using electronic systems to shape daily life in cities, by mapping the

configurations of personal data over the social geographies of the present. If the new urban politics is to be equal to the emerging task, it will have to be concerned not only about places of poverty and deprivation and how they relate to places of affluence and rule, but how those relations are themselves shaped by surveillance. New kinds of social classes are being created by the codes that classify and categorize populations and the subtle ways that they are created will have to be made visible before such a politics will start to make a difference.

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Disembedding from Psycho-urban Containment

Ewen Chardronnet

In modern cities, increasingly fragmented into 'export zones', special 'safety zones', 'no-go areas', it becomes almost impossible to structure an oppositional assault.

To create a common element above the three dimensions of urban life (work, housing, public and gathering spaces), the terms 'traffic' and 'communication' imposed themselves in the urbanistic generalities about movement. With the explosion of electronics, realizing the science-fiction of yesterday, we are now in scenarios of the virtual city, the online city, the city of bits, the cybertown and other metaphors of disembodiment. But the real function of cities is still to organize the proper cohabitation of centers, non-centers and outlying areas, like an accumulation of topographic powers (factories and offices, flats and houses, stadiums, theatres, squares, streets and public buildings).

Unitary urbanism

In the second half of the 20th century, a significant number of utopian architects wanted to find fundamentally new models for the organization of urban space. Many of them experimented in search of an alternative to the failures of centralized rationalism in old Europe, and to the disgusting fascist holism of control. This broad movement was partly a reaction to post-World War reconstruction models that appeared unsatisfactory[2]. The Situationist International avant-garde movement, created in 1957 by artists including Guy Debord, Asger Jorn, Constant and others, proposed to study cities with new techniques: Psycho-geography and Unitary Urbanism. Psycho-geography is "the study of the precise effects of geographical setting, consciously managed or not, acting directly on the mood and behavior of the individual". Unitary Urbanism is "the theory of the combined use of arts and techniques as means contributing to the construction of a unified milieu in dynamic relation with experiments in behavior"[3].

"The sudden change of ambiance in a street within the space of a few meters; the evident division of a city into zones of distinct psychic atmospheres; the path of least resistance which is automatically followed in aimless strolls (and which has no relation to the physical contour of the ground); the appealing or repelling character of certain places – these phenomena all seem to be neglected... People are quite aware that some neighborhoods are gloomy and others pleasant. But they generally simply assume that elegant streets cause a feeling of satisfaction and that poor streets are depressing, and let it go at that."

- *Guy Debord, Introduction to a Critique of Urban Geography*[4]

In the decade of the 60s that followed, the utopian and political dimensions of urbanism were also extensively analyzed, not only by the Situationists, but also by Marxist researchers such as Henri Lefebvre or later by Manuel Castells[5]. As the development of the 'new towns' continued in America and Europe, with historical events such as the Watts riots in the USA, urbanism was interpreted by them as an ideology that 'organizes silence'

in the emerging Information City. This analysis drove the Situationist International to abandon utopian architecture in order to concentrate on semiotics and the distribution of information in what they called the Society of the Spectacle[6].

Nevertheless, psycho-geography has been co-opted along with advocacy planning and participation by think-tanks on space management. Today's companies can easily quote Guy Debord if it justifies their business orientations. Spatial management is inserted in temporality and in a permanent process of semantization. What was described as 'intense life' by the leftist romanticism of the 50s and 60s is now integrated in lifestyle management. The dream for the cyber-citizens is to escape their physical location and its embedded situations. Mobile phone companies already finance 'locative' artists to develop prototypes that will invade the Flexible Personality market very soon[7]. 'Disembedding', decentralizing, are the romantic escapology dreams of today's individualist urban life; an illusion of freedom that goes hand in hand with social containment in the physical city.

Zoning, software, utopia, and industrial property

The way towns and cities are set up now - wide streets, strip malls, cul-de-sacs, segregated functions (industry over here, offices there, housing at a safe distance) - is dictated by rules and regulations. The sprawling suburb is an expression of the free market combined with the consequences of arrangements arrived at by local politicians and real-estate agents scheming together. Zoning laws and regulations are often deeply flawed, having been created haphazardly, largely to suit developers and politicians, and they too often lead to dull, dead living conditions. A set of laws and regulations for the commons would surely result in neighborhoods that suit people better.

Governments and local administrations have always been among the major 'consumers' of architectural commissions. In this area the modern state, either as charitable patron or direct overseer of the job, does no more than continue a centuries-old tradition of public works. Since the 60s and 70s, organizations operating under public law have become avid clients of intellectual services commissioned from outside suppliers, whether these services involve studies, contractualized research or computer program development.

Thus we have seen a growing complexity in the production-lines of authoring and service provision, with a generalization of outsourcing, an increasingly large percentage of 'imported' elements in every given product (most commonly through the 'cut-and-paste' function of computer software tools), and the spread of multi-author and multi-professional production modes which formerly were limited to the audiovisual field[8]. The question of software patents thus becomes equally crucial in the realm of public construction. While in certain countries computer programs are treated as 'art works' under the definition of Artistic and Literary Intellectual Property (ALIP), there is a strong pressure to simply consider them as Industrial Property. That would entail demonstrating a possible industrial application or an actual use. Thus a de facto relation emerges between utopian artist-architects (whose creations can remain under ALIP, whereas constructed architecture often falls under Industrial Property) and utopian artist-programmers - and if the latter lose the artistic and literary possibility, they will also lose the chance to develop open systems[9].

Cities of fear

Electronics wields increasing influence over today's urbanism. Everything is liable to create more profit in the cities of world

commerce, as soon as the exchange speed has been increased. What is called Electronic Urbanism is only the surge of acceleration, the spreading foam of nodes and pipes in the telematic networks between connected people. But for State planners, the most important thing remains the ability to monitor circulation and stop it in the physical space. Zoning the physical landscape has become a tool for governance to keep control of counter-powers and their potential disobedience. In modern cities, increasingly fragmented into 'export zones', special 'safety zones', 'no-go areas', it becomes almost impossible to structure an oppositional assault. Zoning can be contested but is usually approved by the citizens, in the name of their sovereign individual security.

Control over the physical landscape strives to be very strong, but can still be quite weak in its effects on the circulation patterns of everyday life. Only totalitarian governance could imagine full control over the movements of individuals. On the global level, weakness also appears at the tensegrity nodes, under the strain of geo-economic conflicts. To illustrate this, we just need to think of today's drama of global terrorism.

Psycho-history

If the Situationist utopia somehow failed, the psycho-history of locations is still a toolkit for social movements. Some places have a strong history. In Paris, demonstrations can easily shift to confrontation with the police when they pass by the Latin Quarter, Bastille and Charonne, as opposed to Invalides or Montparnasse. Past events psychologically influence a crowd, which can become uncontrollable. This is integrated in the tactics of unions when they organize demonstrations. Go here when you want to heat up the conflict, or there when you want to cool down and negotiate.

Another strong and long familiar model for bringing people together is the re-appropriation of architecture; not developing utopian models, but reclaiming old buildings or constructions, because of democratic necessity. This has been well known since the improvised gathering of the republicans in the royal building of the 'Jeu de Paume' handball court, just a few days before the French Revolution. In our times, squats and temporary occupations are still an effective tactic for people to gather when they have no other possibilities: airports runways for teknivals, medieval fortresses in strategic areas[10], occupation of universities or train stations during social movements[11], obsolete spying stations or military infrastructures of former empires[12], et cetera; anything that permits a group to gather and talk.

But somehow, this was much stronger in the mid-90s, before the rise of the World Wide Web and mobile phones. In ten years, the entire city has been invaded by information technologies: surveillance cameras, biometrics, wireless networks, mobile phones, automatic doors, identification cards or numbers for transports and buildings, et cetera. If it was still possible for social movements to occupy train stations ten years ago, it would be difficult now, because of mass terrorism. It was also the period of the illegal raves, sound systems were invading buildings all over European cities; it is now forbidden or controlled. The paradox is that people have more tools to communicate but live in a more controlled physical space. Is it possible that the Information decade simultaneously generated a Mass Terrorism decade? 9/11's unprecedented scale gives size to the enemy, but United Nations statistics show – although there is no valid definition of terror – that terrorist acts worldwide have been on the decline and not on the rise for a decade, despite all the media and political shuffling

(the Irish Republican Army launched rockets at number 10 Downing Street in the 80s). The point is probably that the economy of fear is on the rise: mediated angst, media terrorism.

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[1] With creators like Buckminster Fuller, Archigram, Yona Friedman, Paolo Soleri or Constant.

[2] To learn more about this, read *Sphären III* by Peter Sloterdijk.

[3] Définitions,*InternationaleSituationniste 1*, 1958.

[4] Guy Debord, *Introduction to a Critique of Urban Geography*, Les Lèvres Nues, 1956.

[5] From Henri Lefebvre in that period, read for instance *The Production of Space* and from Manuel Castells, *The Urban Question*.

[6] *The Society of Spectacle*, Guy-Ernest Debord, 1967.

[7] *The Flexible Personality*, Brian Holmes, in Hieroglyphs of the Future, 2002.

[8] *Marchés Publics et droits de la Propriété Intellectuelle*, Groupement Français de l'Industrie de l'Information, 2003.

[9] On today's convergence between utopian architects and utopian programmers, see the Makrolab project: http://makrolab.ljudmila.org

[10] A good example is the Fadaiat event in the Castle of Guzman El Bueno in Tarifa, the southern town of Spain, with an affirmed objective to develop a counter-surveillance observatory of the Gibraltar Straits between Africa and Fortress Europa (http://www.fadaiat.net).

[11] As in *Paris in December*, 1995.

[12] Good examples are in Latvia with the ex-tsarist and ex-Soviet facilities of Karosta, or the former Cold War spy dish 'Little Star'.

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The New Security Culture

Konrad Becker

Ever since the end of the Cold War, culture has made a dramatic return to the international stage. The predictions are that its presence will be even more widely felt in the new millennium [.] displacing military coercion as a political tool.

- 'Culture, Identity and Security', Project On World Security, Rockefeller Fund, Amir Pasic, 1998

A new security culture is emerging in key sectors of society. Security has become a central economic, societal and political issue and reaches deep into the sphere of art and culture. While culture increasingly receives the spotlight in International Relations studies and military strategy documents the OECD calls for a 'Culture of Security' and encourages the development of a mindset to respond to the threats and vulnerabilities of Information Systems, Raoul Vaneigem in *The Revolution of Everyday Life* pointed to the importance of an assurance of security for the project of cultural self-realization by providing energy formerly expended in the struggle for survival. Although this need for safety can get in conflict with the need for freedom of art and expression, this freedom is itself based on security for the arts. As the traditional discourse on the freedom of art has slowly faded to the background; it has given place to thinking about the role of art in a security culture. It therefore seems appropriate to look at the relation of art and security and the role and service that art can offer to security issues.

Secure hegemony and information dominance needs to embrace culture, art and ideology to subdue criticism and resistance, extending mastery to the symbolic level, what Max Weber calls 'charismatic domination'.

In a changing world of insecurity and threats, which is based on politics of mediated reality control, artists are forced to adapt their role in society. The politics of creative industries have been criticized for endangering democratic struggle against the 'reduction of inequalities and of various forms of subordination', as a result of privatizing the public sphere. By shifting 'democratization in the realm of aesthetics and taste', the ideology of a commercially driven culture of creative industries is opposed to an understanding of culture as central to social justice and self-governance, but a security driven global cultural environment raises new questions regarding dissent, resistance and autonomy. Security seems to know no ideological boundaries; from the manuals of the Brazilian Urban Guerrilla to those of the School of Americas, never the slightest sign of laxity in the maintenance of security measures and regulations was permitted. In Security Culture the concept of creative industries, to bring the fine arts in from the cold into the productive forces of industry and thus bring security to the artists and culture to the machines of capital is advanced into the understanding of the arts becoming a security force by itself.

The word 'secure' started to find its modern use in the 14th century, when the

securing of roads, in particular for merchants and pilgrims, became a major concern. The Emperor, and more importantly, the respective princes declared the protection of the highways and signed treaties to this effect. 1375 the Dukes of Austria and Bavaria agreed, "that they will protect and secure the roads everywhere". While classic ideological assumptions hold that liberal freedoms in culture are by necessity bought with blood and that liberal values can only be uphold through lethal force, Paul Virilio claims that what drives our technocratic societies is not capital but militarism and the security complex itself. The culture that develops out of this dromological movement and permanent state of crisis is fixated on security and speed, on who can protect themselves best and fastest. Thanks to this, technological production attains a new dimension, and capital can be invested in weapons, tools and even more security. The age of computing brought about the control revolution but as every cryptographer knows, security is an illusion.

Security has complex dimensions in informational societies and is strongly based in subjective experiences. Personal feelings of fear and safety are grounded in multiple unconscious causes and composite experiences. The 'fear of death' combines the abstract, empirical fact of biological death, subjective emotional fear of ceasing-to-be and ontological anxiety itself. This sense of 'ontological insecurity' is intensified by an increasing awareness of 'risk' in society at large. Ulrich Beck divides modern civilization into three epochs of pre-industrial, industrial, and 'global risk society' suggesting that individuals have all become increasingly aware of the dangers that face them in both the social and the natural environments and feel powerless to minimize them. But in a culture of fear, public perceptions about risk cannot only be understood as reactions to a particular incident or technology and anxieties are not necessarily correlated with the scale and intensity of a specific real danger. The social changes of this 'politics of uncertainty' have reached every sphere of our lives and every context of social interaction and have led to what Lasch called the 'survivalist mentality'. Although society at large is affected by the pervasive effects of ontological insecurity - survivalism, millennium angst or whatever it is called - the crisis remains to a large extent only indirectly visible at the societal level. In a cultural narrative of a world of fear and impending catastrophe, survival is the best possible outcome for the individual and experiments or aspirations for change appear dangerous. While the advocacy of safety and the rejection of risk-taking are now seen as positive values across the entire political spectrum, avoiding injury and encouraging passivity becomes an objective in itself and dissent a security concern. But risk avoidance has not only become an important theme in political debate and the issue of safety thoroughly politicized, risk has become big business from 'risk analysis' to 'risk management' and 'risk communications'.

In the 'The Culture of Control' David Garland describes the shifting policies of crime, punishment and security in a rapidly changing world. He predicts that this new control culture guarantees to provide an 'iron cage' for all, a dark age of fear that serves the informational data lords controlling the security zones. In the USA, besides the 'virtual prison' or prisons without walls made possible by the Global Positioning System (GPS), there are already more than two million people in prison and two executions every week, Europe's prison population is growing faster than ever, as are the numbers of surveillance cameras on city streets. Public police are increasingly replaced by, private

security corporations, public prisons by private corrections management facilities and state armies by mercenary forces. This privatization has a direct effect on concepts and practices of security and creates new forms of war and peace both within and between states.

Surveillance to control persons and their behavior is a prime method to gain security. In western liberal societies that have undergone processes of steady privatization surveillance is primarily viewed in terms of privacy or an intrusion on intimacy and anonymity, which fails to identify the key aspects of contemporary surveillance 'social sorting' and exclusion. "The increasingly automated discriminatory mechanisms for risk profiling and social categorizing represent a key means of reproducing and reinforcing social, economic, and cultural divisions", writes David Lyon in Terrorism and Surveillance. Foucault described surveillance as a social technology of power in Discipline and Punish and his thesis that western societies can be characterized, as 'disciplinarian', as a strategy for normalizing the individual or managing social collectivities, has become a widely accepted formula of domination in these societies. Although the Orwellian or Foucaultian perspectives provide a largely centralized understanding of surveillance, given the technological capacities for decentralization Gilles Deleuze and Felix Guattari in *Thousand Plateaus* suggest that the growth of surveillance systems is a loose and flowing rhizomatic set of processes rather than a centrally controlled and coordinated system. But the more networked modes of social organization with their flexibility and departmental openness, the surveillance assemblage, can still be co-opted for conventional purposes although as Guy Debord mentions in his Treatise on Secrets "The controlling center has become occult: never to be occupied by a known leader, or clear ideology".

Secure hegemony and information dominance needs to embrace culture, art and ideology to subdue criticism and resistance, extending mastery to the symbolic level, what Max Weber calls 'charismatic domination'. Even when coercion or force remains necessary, culture can intensely support security operations. Like game rules, culture also defines value and constitutes interests by delineating what is worth pursuing and what must be avoided. The rules of a game do not simply tell a player what kinds of moves can and cannot be made, they indicate what the game is about; they reveal its purpose and objectives, and how a player is expected to behave. Culture not only keeps actors in line, and through this eases the work of the sanctioning agent, but it can legitimize security enforcement, thereby reducing resistance to it. As "the info-sphere imposes itself on the geo-sphere" and propelled by the dynamics of international security threats we have entered a new era which mirrors the hegemonic instrumentalization of culture in the bipolar 'Cultural Cold War' on the level of global Empire. "We are attempting to influence a global mix of emotions and cultures to join in the creation of a new world order".

In analogy to the military Information Peacekeeping and psychological stability operations in so called Other Operations than War, artists can increasingly play a role in Cultural Peacekeeping reinforcing values and counter general disorientation of the population. The tactical and strategic use of cultural symbol manipulation by trained artists can be most successfully applied to cultural security management. The artistic intervention at the interface of fear and longing, the personal desires among which physical and psychological

security rank highest, can be extremely effective. Along with the culturalization of security we are facing what Franco Berardi Bifo calls the "militarization of the general intellect" a militarization of the intellectual capacity created by the development of collective intelligence, and supported by the technicalities ICT.

An increasing convergence of security and culture and the rise of the so-called Military Entertainment Complex or MIME-Net (Military-Industrial-Media-Entertainment-Network) have been described by James Der Derian and Bruce Sterling amongst others. Virtual War has gone to Hollywood where the boundaries between computer simulations for military purposes and computer games and entertainment graphics have long dissolved into mutual cooperation. What John Naisbitt dubbed the Military-Nintendo Complex refers to an increasingly intense collaboration of high-tech, media, military and the intelligence sectors involving personnel and technologies from both the security and the entertainment industry in cooperative ventures. This development creates a fusion of the digital simulation and the factual, of the virtual and the real and with it the disappearance of the borders between fantasy and reality.

In the widely discussed Chinese strategy paper on the 21st century Global Security Environment by Qiao Liang and Wang Xiangsui the boundaries lying between the two worlds of military and non-military will be totally destroyed. This matches US concepts of Total War without a defined stage or theater of battle. The war of the future is described as non-war actions on a battlefield that will be everywhere. Using the term 'Omnidirectionality' as the starting point of an 'Unrestricted Warfare' culture based on information technology and unconventional warfare in low-intensity conflicts. "The direction of warfare is an art similar to a physician seeing a patient" (Fu Le) and an artistic tradition of security may well be proven by Sun Tzu's famous treatise on War as an Art (500 BC). Guy Debord, in 'Methods of Detournement', strictly denies the justification of any traditional practice of art and positions the artist in societal conflict that he defines as civil war: "where all known means of expression are going to converge in a general movement of propaganda which must encompass all the perpetually interacting aspects of social reality".

This principle of omnidirectionality extends to the conquest of outer space. By 1968 space has been declared 'Today's Front Line of Defense' and the extension of military systems beyond the lower atmosphere as 'natural and evolutionary'. Three decades later 'Space is a real priority for national security' and the ground for exotic weaponry like directed-energy weapons, such as space lasers, is prepared. At the same time as, for the first time in history, the arena of human conflicts is extended from the planets surface into outer space the colonization of inner space, the internalized pacification and the policing of the cognitive act is accelerated. The programs for colonization and militarization of outer space in the sixties have gained momentum at the same time as the search for counter-intelligence truth serums led to exotic psychological experiments with the side effect of a massive diffusion of psychoactive substances in the US. Advanced technologies of the Star Wars program and space-based weapon systems are also applied to the most internal security issues of the imagination and desire. "Communication and control belong to the essence of man's inner life, even as they belong to his life in society", said Norbert Wiener and what used to be called the 'colonization of the mind' is now more aptly described as the encoding of the mind.

Thus creating the class of code warriors in the psychological war zone of 'bunkering in and dumbing down.'

With the end of the bipolar world of the Cold War nuclear deterrence, where the fear of total annihilation kept the 'peace', it seems now that terrorism, a rhizomatic omni-directional network of fear, is the pivot point of global security. This ubiquitous low intensity conflicts with decentralized structures of flat hierarchies corresponds to the postmodern theories of geopolitical conflict management and security policies. But statistics of terrorism are fundamentally meaningless, because to say that no definition has gained universal acceptance is an understatement. The expression 'One man's terrorist is another man's freedom fighter' indicates that the term is usually applied on the basis of whether one agrees with the goal of the violence, and terrorism is the violence committed by the disapproved other. The first use of the term 'terrorism' in 1795, related to the Reign of Terror instituted by the French government while any use in anti-government activity is not recorded until 1866 (Ireland) and 1883 (Russia). But since then it has been not only an instrument of the armies and the secret police of governments but of political, nationalistic or ethnic groups with most diverse objectives. In contrast to the attack on military targets, state- or guerrilla terrorism actions are directed at civilian targets. Terrorism's intent is to change behavior by inducing fear in someone other than its victims. The US DOD definition of terrorism is "the calculated use of violence or the threat of violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological". These indirect attacks create a public atmosphere of anxiety and the need for publicity in the economy of attention usually drives target selection. Terrorist violence is neither spontaneous nor random but intended to produce fear, a psychological act conducted for its impact on an audience. Thus despite its violent character terrorism can be understood as a psychological discipline and the concept of terror can be extended to manipulation based on fear without physical damage or violence against persons.

Although the term 'Propaganda by Deed' coined by Serge Nechayev originally refers to the acts of violence used against the representatives of political and economic repression in the late 19th century, since then many have begun to redefine Propaganda by Deed to incorporate more than simple acts of violence. Like terrorists, artists are asymmetric and unconventional in their actions, choosing unorthodox methods of operation. These ideas in the cultural field became visible in movements like Berlin Dada or the Situationists whose members have been described as intellectual terrorists or authors like William Burroughs who described tactics of psychological attacks (The Electronic Revolution) and cultural sabotage in the 60s. In the influential work on the Temporary Autonomous Zone, the concept of art as poetic terrorism has been introduced to a large audience and continued to be an important source for urban cultural vigilantes. With the aim to change someone's life, poetic terrorism does not necessarily target feelings of angst but tries to achieve the emotional intensity of terror through other powerful psychological agents like disgust, sexual arousal, superstitious awe or identity deconstruction. Advanced artistic and cultural practice has increasingly shown an affinity with the operational mode and analytical thinking that is related to the counter terrorist and special operations units. In Mind Invaders, a reader on contemporary psychic warfare, cultural sabotage and semiotic terrorism, of a multitude of cultural

terrorist groups that are dedicated to attacking some of the very foundations of 'Western Civilization' are portrayed. This vortex of free association and continuously dissolving and regrouping anonymous cells spontaneously organizes collective psychic attacks and tactical operations against repressive notions of identity while moving in several directions at once.

A new security culture emerges in this economy of fear and it is critical for artists to analyze the issues of perception and representation in a technologically accelerated risk society. A convergence of security industry and culture based on the overlapping of psychological and emotional motives becomes evident and not surprisingly artists and cultural workers have been the first to realize this and put it into practice.

There is a high investment into the new security culture, which makes it well worth to look into the underlying premises and constituting influences of this culture. The transfer of desire to the informational security apparatus, the machinery of control, creates a new market for art and culture where secure imagination and secure imaginary environments are best selling propositions. But the extended subjective experience of instability and personal insecurity is increasingly shaping society in its relation to authoritarian implications of psychological states of regression and dependence. Artists and cultural workers could bring diversity to some of the a priori monolithic concepts of an inherited ontotheology of security and reverse the survivalist security impulse into a refined art.

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Haussmann in the Tropics

Mike Davis

"The root cause of urban slumming seems to lie not in urban poverty but in urban wealth."

- Gita Verma, Slumming India: A Chronicle of Slums and Their Saviours [1]

Urban redevelopment still strives to maximize both private profit and social control.

Every year hundreds of thousands of poor people are forcibly evicted from Third World neighborhoods.

Polarized patterns of land-use and population density recapitulate older logics of imperial control and racial dominance. Throughout the Third World, post-colonial elites have inherited and greedily reproduced the physical footprints of segregated colonial cities. Despite rhetorics of national liberation and social justice, they have aggressively adapted the racial zoning of the colonial period to defend their own class privileges and spatial exclusivity.

In India also, independence did little to alter the exclusionary geography of the Raj. Kalpana Sharma, in her book about 'Asia's largest slum,' Rediscovering Dharavi, emphasizes that "the inequalities that defined Bombay as a colonial port town have continued… Investment is always available to beautify the already well-endowed parts of the city, but there is no money to provide even basic services to the poorer areas"[2]. For urban India as a whole, Nandini Gooptu has shown how the 'socialist' Congress Party middle classes, who during the 30s and 40s extolled the garib janata (the poor common people) in the abstract, ended up after Independence as enthusiastic custodians of the colonial design of urban exclusion and social separation. "Implicitly or explicitly, the poor were denied a place in civic life and urban culture, and were seen as an impediment to progress and betterment of society"[3].

Removing 'Human Encumberments'

Urban segregation is not a frozen status quo, but a ceaseless social warfare in which the state intervenes regularly in the name of 'progress', 'beautification', and even 'social justice for the poor' to redraw spatial boundaries to the advantage of landowners, foreign investors, elite homeowners, and middle-class commuters. As in the 1860s Paris, under the fanatical reign of Baron von Hausmann, urban redevelopment still strives to maximize both private profit and social control. The scale of population removal is immense: every year hundreds of thousands of poor people – legal tenants as well as squatters – are forcibly evicted from Third World neighborhoods. The urban poor, as a result, are nomads, "transients in a perpetual state of relocation"[4].

In big Third World cities, the coercive, panoptical role of 'Haussmann' is typically played by special-purpose development agencies. Financed by offshore lenders like the World Bank and immune to local vetoes, their mandate is to clear, build and defend

islands of cyber-modernity amidst unmet urban needs and general underdevelopment.

Solomon Benjamin has studied the example of Bangalore where the Agenda Task Force, which directs overall strategic decision-making, is firmly in the hands of the chief minister and major corporate interests, with negligible accountability to local elected representatives.

"The zeal of the political elite to turn Bangalore into a Singapore has resulted in extensive evictions and demolitions of settlements, especially small business clusters in productive urban locations. The demolished land is reallocated by master planning to higher income interest groups, including corporations".

- *Solomon Benjamin, Globalization's Impact on Local Government*[5]

Similarly in Delhi, - where Banashree Chatterjimitra finds that the government has utterly "subverted the objectives of supplying land for low income housing" by allowing it to be poached by the middle classes – the development authority has targeted nearly half million squatters for eviction or 'voluntary relocation'[6]. The Indian capital offers brutal confirmation of Jeremy Seabrook's contention that "the word 'infrastruction' is the new code word for the unceremonious clearance of the fragile shelters of the poor"[7].

Off Worlds

In contrast to Second Empire Paris, contemporary Haussmannization often reclaims the center for ungrateful upper classes whose bags are already packed for the suburbs. If the poor bitterly resist eviction from the urban core, the well-heeled are voluntarily trading their old neighborhoods for fantasy-themed walled subdivisions on the periphery. Certainly, the old gold coasts remain - like Zamalek in Cairo, Riviera in Abidjan, Victoria Island in Lagos, and so on - but the novel global trend since the early 90s has been the explosive growth of exclusive, closed suburbs on the peripheries of Third World cities. Even (or especially) in China, the gated community has been called the "most significant development in recent urban planning and design"[8].

These 'off worlds' – to use the terminology of *Bladerunner* – are often imagineered as replica Southern Californias. Thus 'Beverly Hills' is not only the 90210 zip code; it is also, like Utopia and Dreamland, a suburb of Cairo - an affluent private city "whose inhabitants can keep their distance from the sight and severity of poverty and the violence and political Islam which is seemingly permeating the localities"[9]. Likewise, 'Orange County' is a gated estate of sprawling million-dollar California-style homes, designed by a Newport Beach

Some famous evictions

year(s)	slum	city	number evicted
1950		Hong Kong	107,000
1965-74		Rio	139,000
1972-76		Dakar	90,000
1976	Janata	Mumbai	70,000
1986-92		Santo Domingo	180,000
1988		Seoul	800,000
1990	Maroko	Lagos	00,000
1990		Nairobi	40,000
1989-94		Rangoon	1,000,000
1995	Zhejiangcun	Beïjing	100,000
2001-03		Jakarta	500,000
2005		Harare	

architect with Martha Stewart décor, on the northern outskirts of Beijing. Laura Ruggeri contrasts the expansive 'imported' California lifestyles of residents in their large semi-detached homes with the living conditions of their Filipino maids who sleep in chicken-coop-like sheds on the rooftops[10].

Bangalore, of course, is famous for recreating Palo Alto and Sunnyvale lifestyles, complete with Starbucks and multiplexes, in its southern suburbs. The wealthy expats (officially 'Non-Resident Indians') live as they might in California in "exclusive 'farmhouse' clusters and apartment blocks with their own swimming pools and health clubs, walled-in private security, 24-hour electrical power backup and exclusive club facilities"[11]. Lippo Karawaci in Tangerang district, west of Jakarta doesn't have an American name but is otherwise a 'virtual imitation' of a West Coast suburb, boasting a more or less self-sufficient infrastructure "with hospital, shopping mall, cinemas, sport and golf club, restaurants and a university." It also contains internally gated areas known locally as 'totally protected zones' [12].

The quests for security and social insulation are obsessive and universal. In both central and suburban districts of Manila, wealthy homeowners' associations barricade public streets and crusade for slum demolition. Berner describes the exclusive Loyola Heights district near the university:

An elaborate system of iron gates, roadblocks and checkpoints demarcates the boundaries of the area and cuts it off from the rest of the city, at least at nighttime… The threats to life, limb, and property are the overwhelming common concern of the wealthy residents. Houses are turned into virtual fortresses by surrounding them with high walls topped by glass shards, barbed wire, and heavy iron bars on all windows[13].

This 'architecture of fear', as Tunde Agbola describes fortified lifestyles in Lagos, is commonplace in the Third World and some parts of the First, but reaches a global extreme in large urban societies with the greatest socio-economic inequalities: South Africa, Brazil, Venezuela and the Untied States[14].

Brazil's most famous walled and Americanized edge-city is Alphaville, in the northwest quadrant of greater Sao Paulo. Named (perversely) after the dark new world in Godard's distopian film; Alphaville is a complete private city with a large office complex, an up-scale mall, and walled residential areas – all defended by more than 800 private guards.

The Johannesburg and Sao Paul edge cities (as well as those in Bangalore and Jakarta) are self-sufficient 'off worlds', because they incorporate large employment bases as well as most of the retail and cultural apparatus of traditional urban cores. In the cases of more purely residential enclaves, the construction of high-speed highways – as in North America - has been the sine qua non for the suburbanization of affluence.

Privately-built motorways in Buenos Aires now allow the rich to live fulltime in their countries (country club homes) in distant Pilar and commute to their offices in the core. (Gran Buenos Aires also has an ambitious edge city or mega-empredimiento called Nordelta whose financial viability is uncertain[15]. In Lagos, likewise, a vast corridor was cleared through densely populated slums to create an expressway for the managers and state officials who live in the wealthy suburb of Ajah.

It is important to grasp that we are dealing here with a reorganization of metropolitan space, involving a drastic diminution of the intersections between the lives of the rich and the poor, which transcends traditional

social segregation and urban fragmentation. Some Brazilian writers have recently talked about "the return to the medieval city," but the implications of middle-class secession from public space[16]. Rodgers, following Giddens, conceptualizes the core process as a 'disembedding' of elite activities from local territorial contexts, a quasi-utopian attempt to disengage from a suffocating matrix of poverty and social violence[17].

Fortified, fantasy-themed enclaves and edge cities disembedded from their own social landscapes but integrated into globalization's cyber-California floating in the digital ether – this brings us full circle to Philip K. Dick. In this 'gilded captivity', Jeremy Seabrook adds, the third-world urban bourgeoisie "cease to be citizens of their own country and become nomads belonging to, and owing allegiance to, a super-terrestrial topography of money; they become patriots of wealth, nationalists of an elusive and golden nowhere"[18].

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Fragmented Urban Topographies and their Underlying Interconnections

Saskia Sassen

Topographic representations of the built environment of cities tend to emphasize the distinctiveness of the various socio-economic sectors: the differences between poor and rich neighborhoods, between commercial and manufacturing districts, and so on. While valid, this type of representation of a city is partial because there are a variety of underlying connections. Further, it may even be more problematic than in the past, given some of the socio-economic, technical, and cultural dynamics of the current era. One step towards understanding what constitutes the complexity of large cities is the analysis of interconnections among urban forms and fragments that present themselves as unconnected.

Through this reorganization these low-profit sectors are actually incorporated into the advanced economy. But it just does not look like it. The changes in the sphere of social reproduction described above also add to this reorganization insofar as consumption and life-style have contributed to a proliferation of small, labor intensive firms. Some of these cater to high-income households and others cater to very low-income households.

The Informal City in 'Advanced' Urban Economies

The corporate complex and the immigrant community today are probably two extreme modes in the formation and appropriation of urban space in global cities of the North. In major complex cities of the South, including global cities, we see the informal city rather than the 'immigrant community'. Globalization has brought about an often massive development of the corporate economic built environment in these cities of the South, as is evident in Mumbai, Shanghai, Sao Paulo, Mexico City, Bangalore, and so on.

The urban form represented by the global city function – the internationalized corporate services complex and the highly paid professional workforce with its high-priced lifestyle spaces – is the one habitually thought to constitute the essence of an advanced post-industrial economy. The urban form represented by the immigrant community, or the informal city, is habitually seen as not belonging to an advanced economy, one to be found in the global cities of the North only because it is imported via immigration, and in the cities of the South as a sign of underdevelopment.

These two forms reveal how power and the lack of power inscribe themselves in the urban landscape and which narratives are attached to each. One is seen as representing technological advance and cosmopolitan culture, the other, economic and cultural backwaters. One presents itself as part of the global economy, suffused in internationalism; the other, while international in its origin, is promptly reconstituted as a local, vernacular form. One is read to be disembedded, transterritorial to the point of being thought of as a-spatial, captured by concepts such

as the information economy and telematics. The other is read as deeply embedded in an economic, social and cultural territory of neighborhoods and particularistic traditions that have little if any connection with the advanced corporate sector.

However, the informal economy and, more generally, certain 'working class' uses of space are actually also forms through which advanced economies function and materialize in urban space.

Many of the highly differentiated components of the economy, whether firms, sectors, or workers – are actually interconnected, but with often extreme social, economic, racial and organizational segmentation. The result is fragmented topographies that obscure the underlying connections. This segmentation is regularly strengthened, and even enabled, through racism and discrimination. Ethnic/racial segmentation not only produces economic outcomes that devalue some firms and workers and over-value others, but also produces a narrative about the nature of our large cities, which marginalizes the economics and the culture of non-dominant sectors.

Cities as production sites for global control capacities

Complex cities, especially if global cities, are production sites for a large array of inputs and 'organizational commodities' necessary for global control and coordination. The key point from the perspective of the interdependencies underlying what appear as fragmented topographies is that these inputs need to be produced. The producer services sector is a sort of new basic industry – it ranges from advanced corporate services such as finance and accounting to industrial services like trucking and warehousing. Major cities are preferred sites of production for the specialized services that firms need. But firms in the advanced sector also create a demand for industrial services – the software used by the financiers and accountants needs to be trucked. Further, the lifestyles of the new professional classes create a large demand for goods and services, often made and delivered through low wage workers. These do not seem to be part of the advanced economy, but they are.

Focusing on the production of these various services helps us to see the many different types of firms, workers and neighborhoods that are actually part of the advanced urban economy. Furthermore, it helps us focus on the organization of the globalized economic sectors: outsourcing, subcontracting, supply chains, networks, or input and output markets. All of this allows us to see that much of this work happens partly in the informal economy of these cities. Thus the existence of a dynamic growth sector feeds the expansion of what appear to be declining or backward economic sectors, such as the downgraded manufacturing sector and the informal economy.

Even the most sophisticated professional sectors need access to a broad range of industrial services located in easy access in central areas. When these lower profit firms lack the bidding power to locate in central areas they often operate partly or fully in the informal economy. Further, the growing inequality in the distribution of household income and firms' profits reorganizes consumption and life-styles. High income households and newly gentrified residential areas require more services, often through informal workers. But also the growing numbers of low-income households – or firms - are likely to meet more and more of their needs through the informal economy, albeit through a different component of it.

Finally, a question bringing these different strands together is that of the effect of economic restructuring (in its many guises) on the organization of the capital-labor relation. Informalization of economic activities and downgrading of manufacturing in particular (e.g. going from unionized factories to semi-informal operations) are, in the end, modes of reorganizing the relationship between capital and labor in an advanced urban economy with enormous differentials in the profit-making capacities of different types of firms and sectors. Through this reorganization these low-profit sectors are actually incorporated into the advanced economy. But it just does not look like it. The changes in the sphere of social reproduction described above also add to this reorganization insofar as consumption and life-style have contributed to a proliferation of small, labor intensive firms. Some of these cater to high-income households and others cater to very low-income households. Both however share the fact that they have a distinct form of organizing work, quite different from the large-scale, standardized firm where unionization and adherence to various regulations are more typical.

One effect of all of this is the proliferation of small firms, including interestingly an expansion in labor-intensive and informal types of manufacturing in the city, even as large standardized factories leave the city. I like to think of this as 'urban manufacturing' – a kind of networked manufacturing, dependent on contractors and sub-contractors and mostly servicing service firms and households. This inverts the historic relationship whereby services serviced manufacturing. These small firms become more typical at the same time that global market firms dominate the city's economy.

One fundamental form of the interaction of space, production, and social reproduction in our 'advanced' cities is the growing demand for both luxury housing and low-price housing. Displacement of more modest households, including the lower ends of the middle class, is common in all global cities around the world. So are conflicts over access to city land. But pushing out the low-wage workers does not make sense: if their trip to work becomes unacceptably long or costly, those highly dynamic sectors with a critical mass of both high- and low-income jobs will suffer –and they are likely to bring income to city government. The informal city of work and housing and daily services can then be seen as a strategic component of advanced urban economies.

New Frontier Zones: The formation of new political actors

The other side of the large complex city, especially if global, is that it is a new 'frontier zone' where an enormous mix of people converge. Those who lack power, those who are disadvantaged, outsiders, discriminated minorities, can gain presence in such cities, presence vis-à-vis power and presence vis-à-vis each other. This signals the possibility of a new type of politics centered in new types of political actors. It is not simply a matter of having or not having power. There are new hybrid bases from which to act.

Here the interaction between fragmented topographies and the existence of underlying interconnections assume a very different form: what presents itself as segregated or excluded from the mainstream core of a city is actually an increasingly complex political presence. The space of the city is a far more concrete space for politics than that of the nation. Here, non-formal political actors who are rendered invisible in national politics, have better access to the political scene. And, perhaps more importantly, they can constitute themselves as political actors. The fact itself that the new

advanced urban economy generates a vastly expanded luxury zone that displaces other firms and homes becomes a fact feeding politics. Urban space is no longer civic, as old local ruling elites aspired to: today it is political. Much of urban politics is concrete, enacted by people rather than dependent on massive media technologies. Street level politics makes possible the formation of new types of political subjectivity, which are not dependent on the formal political system, as is the case with electoral systems.

Further, the Internet can strengthen a new type of cross-border political activism, one centered in multiple localities, reflecting local struggles and initiatives, yet intensely connected digitally with other such localities around the city, the country, the world. This is a politics of the local but with a big difference. Digital networks are contributing to the production of new kinds of interconnections underlying what appear as fragmented topographies, whether at the global or at the local level. A poor neighborhood may look isolated and out of the loop, but may in fact be deeply connected to other such neighborhoods and larger institutions. Political activists can use digital networks for global or non-local transactions and they can use them for strengthening local communications and transactions inside a city or rural community.

The large city of today, especially the global city, emerges as a strategic site for these new types of operations. It is a strategic site for global corporate capital: the urban moment turns that elusive category that is global corporate capital into actual men and women who want it all and grab it all. In doing so they become visible as a social force with a distinct project, a project that also has an urban shape. But it is also one of the sites where the formation of new claims by informal political actors is given shape, and materializes in concrete forms. Under these conditions, the enormous mixity of the disadvantaged also takes the shape of a social force. These are two new actors on the scene of history: and it is in the city that they encounter each other and become political.

Saskia Sassen

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Cities of Planning and Cities of Non-Planning: A Geography of Intellectual Property

Peter Drahos

> Knowledge capitalism cares more about its mode of production and monopoly profits than it does about producing low cost medicines for the poor in developing countries... The poor end up being pushed closer to another edge. But then they do what they have always done. They innovate.

Where is intellectual property policy made? Governments make intellectual property law, but where does the policy thinking that lies behind the law come from? More than a decade ago I, along with my colleague John Braithwaite, set out to answer this question. At that time we were struck by the fact that during the late 1980s and into the 90s governments all over the world were busily introducing or reforming their national systems of intellectual property protection. Countries such as Singapore and South Korea were passing laws on copyright and patents. This was even more puzzling because imitative production was important to these economies just as it had been a century earlier to European states and the US.

We approached our study using the methods of historians and anthropologists, reading documents and laws and interviewing and observing individuals who were key players in the domains we were trying to understand. In the case of intellectual property our fieldwork kept taking us back to the same four cities: Washington, New York, Brussels and Geneva. There were other places we went to, such as Munich to speak to people in the European Patent Office, Seattle to see Microsoft, London to see the International Federation of the Phonographic Industry and so on. But over time we realized that it was mainly in four cities that the tribe of intellectual property were met and planned.

Other cities turned out to be places of non-planning. So in an interview in Seoul in 1994 I asked a senior official why Korea had agreed to TRIPS being part of the WTO. "Because we were ignorant" came back the reply. Two years later I visited New Delhi where I saw the same non-planning. There was a lot of fine speech-making from Indian parliamentarians about the inequity of TRIPS, the new imperialism of knowledge as well as complaints by the generic pharmaceutical industry about the impact of TRIPS on prices of medicines. But there were no real plans or strategies of resistance. In any case Indian political elites had quietly decided to hitch their cart to the glowing star of US hegemony. As part of the price they had to swallow its neo-liberal fundamentalism, which they did, telling themselves that it didn't taste so bad after all. Gandhi may have kicked out the British Raj, but the politicians of the 90s led India back into the role of the servant who fades into an unnoticed background. Today there are thousands of call centers in India politely attending to the faults and troubles to be found in the rich consumer markets of the West. The intellectual property rights that introduce what the economist calls "demand inelasticities into markets", thereby helping to

generate supra normal profits, remain in the firm grip of US and European companies.

There are some obvious reasons why Washington, New York, Geneva and Brussels are the dreamtime places for new ideas about intellectual property. Washington is the seat of US political power, Brussels is the home of Europe's super bureaucracy, the European Commission, Geneva has organizational behemoths like the World Intellectual Property Organization and the WTO and New York has business organizations, company headquarters and Wall Street where a rock star like David Bowie can turn the intellectual property in his music into a tradable security. More important though are the networks that are thick with lobbyists, the company men and the expert consultants that snake their way through the corridors of power. These networks hum with ideas about the future of intellectual property protection for multinationals. Big ideas, like linking intellectual property protection to the trade regime, get put down on paper by technical experts and sent to committees on which big business sits. Those committees send out recommendations, which are more like marching orders, to governments. The private hands of command turn the wheels of executive power to their purpose. Trade laws get amended to make them a weapon of economic war in the fight to control a resource even more important than oil – knowledge.

Teams of lobbyists go to work on Congressional representatives. Getting access is easy because generous campaign contributions have bought the lobbyists and company men meeting time. Congressmen want to be responsive in those meetings to inventing new intellectual property laws for the US and rest of the world. After all, there will be new elections to contest. Congress passes more and more intellectual property law. An American public that is perpetually distracted by a media that sates it with images but hardly any news notices. Copying is criminalized, copyright terms extended to make the rich even richer and patent laws strengthened. When American citizens ask questions about patents and the price of medicines they get told that soon the rest of the world will also be paying these high prices so the system will be once again be equitable.

Intellectual property laws with their epicenter in Washington, New York, Brussels and Geneva travel like invisible tsunamis to developing countries. There they turn the national innovation systems of those countries into so much debris. New laws to serve old masters have to be quickly enacted. There is also loss of life. The patent provisions of free trade agreements complicate access to life-saving medicines. The pharmaceutical company men on the ground in these countries hiss about what will happen to foreign investment if developing countries do not follow the new order of intellectual property. Threats are not always needed. Rewards, including travel to the cities of the epicenter are offered to developing country officials if they toe the line on US intellectual property ideology. Minor acts of betrayal by locals iterated many times over produce in developing countries a culture of compliance with the new order. Some officials even deceive themselves into believing that this new enslavement serves the national interest.

Life for poor people in the cities of non-planning remains the same. They continue to suffer ill health and lack of treatment. Western patent systems have never serviced their needs and never will. For all the prattle that comes out of the West about patent reform, the truth is simple. Knowledge capitalism cares more about its mode of production and monopoly profits than it does about producing low cost medicines for the

poor in developing countries. Their informal economies are swept away as their cities rezone and rebuild to become protected sites of production for investors rich in intellectual property. City planners pave the way with factories and malls that will deliver the brands for which consumers with bulging wallets and bulging waistlines will pay a premium.

The poor end up being pushed closer to another edge. But then they do what they have always done. They innovate.

Whether it is in the form of music that has emerged from the ghettos and slavery of the centuries or in the diverse seeds of life that indigenous farmers have bequeathed us from living in the harshest climates, they innovate. They do so without intellectual property protection, for intellectual property exists to protect what rich imitators have stolen from those innovators that work on the periphery of survival and creativity.

Peter Drahos

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IP and the City - Restricted Lifescapes and the Wealth of the Commons

Konrad Becker and Felix Stalder

The booms, bubbles and busts of the digital networking revolution of the 90s have ebbed into normality. The new logic of information economies is interacting with the full range of social and political contexts, producing new systems of domination but also new domains of freedom. It is now that from deep societal transformations the new informational lifescapes start to emerge.

Every city has places that are fully global alongside others which are intensely local, 'first world' and 'third world' are no longer regional identifiers, but signify various patches within a single geographic domain.

It has become necessary to highlight the strong normalizing forces that shape this process. This is not just a question of abstract information policy. The building of immaterial landscapes has very material consequences for social, cultural and economic realities. With digital restriction technologies and expanded intellectual property regimes on the rise, it is an urgent task to develop new ways to protect and extend the wealth of our intellectual and cultural commons.

Human life is physical and informational at the same time; our physical and cultural dimensions are mutually constitutive. Their interrelations emerging from historical and local context are now more than ever influenced by global transformations in the info sphere. The term 'globalization' describes a deep change in how physical and informational spaces are organized and how they intersect with one another to form landscapes, both physical and informational. 'Zoning', the establishment of domains governed by special rules, is a key concept to understand these new landscapes.

Physical space is increasingly fragmented into 'export zones', special 'safety zones', VIP lounges at transportation hubs, gated communities, 'no-go areas' and so forth. Just when for the first time in history a majority of humanity lives in cities, their form starts dissolving and is replaced by a patchwork of distinct sectors. Every city has places that are fully global alongside others which are intensely local, 'first world' and 'third world' are no longer regional identifiers, but signify various patches within a single geographic domain.

Informational landscapes are fragmented by similar processes. What used to be relatively open and accessible cultural spaces are increasingly caved up in special administrative zones, privatized claims of intellectual property, and policed through the ever-increasing scope of patents and copyrights. What comes natural to people, to create, transform and share ideas, thoughts, and experiences - as songs, as computer programs, as stories, as new processes how to make things better - is being prohibited by proprietary claims of 'data lords' who enforce dominion over their own zones of the cultural

landscape. This is accompanied by intense propaganda efforts extolling the 'evils' of sharing culture. There is no trespassing in the new regimes of physical and informational zoning, and while their culture is ubiquitous around the globe, we are more and more restricted from making our own.

Counter-movements that talk about the commons instead of proprietary zones have been gathering strength around the globe. The goal is to devise new ways in which information can flow freely from one place to another, from people to people. Instead of deepening fragmentation, information and cultures are held to be a resource produced and used collaboratively, rather than being controlled by particular owners. People should be free to appropriate information as they see fit, based on their own historical and personal needs and desire, rather than having to consume the standardized products of McWorld.

It really seems like we are reaching a fork in the road of cultural development. The two alternatives are drawn out. On the one hand, we have fragmented claims of ownership, whose effective control is increasingly centralized in the hand of some very few multinational organizations. It's a world where those who produce are strictly separated, through law enforcement and technology, from those whose only role is to consume. It is a global culture modeled after the factory and the television and does not need, or want any people that are not integrated as paying consumers. Those who do not have the means to consume are regarded as redundant. Better to ban surplus population to the outskirts of the city into the gated communities of the poor, rendered invisible as much as possible, marginalized and forced out of the picture into black markets and illegal migration.

On the other hand, there is a vision of culture where the differences between producing and consuming are not hardwired into the legal and technological infrastructures, but is an individual choice of people and organizations. It is a world of cultural practices based on collaborative plurality of commons, where information flows freely from those who produce it to those who need it. Those who need something else can become producers themselves at any moment, thus they can gain visibility through their own cultural knowledge and on their own terms.

This seems an utopian world, but free and open source software shows that this utopia is not a 'no-place' but is right here. Of course, things that are right here, are never clean and shiny, and real existing utopias are fraught with their own inadequacy and problems. Yet, they provide not only a frame of reference, but also a basis for addressing failures that includes those who actually bear the brunt of the shortcomings. This is a good place to start with. More than ever informational commons, accessible to everyone under conditions of their own choosing, are needed to help reconnect people bypassed by the standard flows of information and capital.

Pirate Aesthetics

Lawrence Liang

The link between pleasure, desire, aspiration and trespass has always been a complicated one, and the closer that the transgressive act is to the domain of pleasure, the more difficult it seems for it to be redeemed socially.

The global movement towards adopting collaborative models of production of culture and knowledge is slowly gaining ground. Starting with the free software movement, and moving towards the domain of art and music, it promises a radical revolution in the ways that we think of authorship and creation. One of the concerns in this article arises form the question of how we think of these developments in the context of a developing country. The adverse impact that strong IP laws have on developing countries has been well documented. While it is true that the world of free software or creative commons license provides a very powerful alternative to the dominant imagination of copyright, the everyday world of digital and electronic cultures seem to have little in connection with the world of free culture. Instead this is a world of quotidian consumption of diverse non-legal media or pirated goods.

One could of course argue that these are two completely different domains, and that one deals with the world of cultural production, while the other is a question of political economy. But this simple bifurcation of the two worlds appears to be problematic since it ends up recycling certain dominant stereotypes. The world of free culture and collaboration gets narrated through the tropes of creativity, desire and subjectivity, while the issue of piracy is narrated primarily through the trope of developmentalism and piety. In other words the very categories like the user-producer, which are the strength of the free software and free culture movement are completely denied when we look at every piracy in most parts of the world.

I am interested in looking at how we can move beyond the accounts of 'exclusion from the digital economy' and the 'digital divide' to look at the interesting developments that seem to be opening up within the circulation of on legal media. Rather than looking at the world of digital art and everyday piracy as distinct, I am interested in probing into some of the structural links that might tie them together.

One clue, which can help us think through this issue, is a statement about the contemporary art scene in China. There is currently a lot of excitement about the Chinese art, and indeed it seems to be the flavor of the month in the global art circles. There are thousands of people who are lining up to join art schools, and one of the Chinese curator's had this to say "When you can buy Tarkovsky for a dollar, you will obviously produce many more artists".

One of the significant approaches used

by public domain scholars is their emphasis on the ability to create new content building on existing works. They in fact use the metaphor of infrastructure to understand the public domain of ideas. But it often ignores the material linkages between content and infrastructure. The over emphasis on the creation of new content of course raises the question of who uses the new content, and what is the relationship between such content and the question of democratization of infrastructure?

In most cases the reason for the fall in price of electronic goods, computers, great access to material, increase in photocopiers (the infrastructure of information flows) is not caused in any manner through any radical revolution such as free software or open content, but really through the easier availability of standard mainstream commodities like Microsoft and Hollywood. When Stallman and others castigate people for pirating Hollywood, it is only from a position of being able to disavow the global, but for many people the idea of finding their place within the global includes engaging with a world of counterfeit commodities, replicating the global.

We can either play the moral higher ground game, and speak of their real information needs or provide crude theories of how they are trapped by false consciousness. Or we can move away from these judgmental perspectives, and look at other aspects such as the impact of the expansion of the market for these grey market goods has on the general pricing of these goods, the spread of computer/ IT culture, the fall in price of consumables such as blank CD's, DVD's, the growing popularity of CD writers etc. I find it a little strange and messianic that people who preach access also preach the kind of access that should be given.

Let me narrate an interesting story, which for me illustrates the gap between ideas of what is good for people, their far more complex subjectivities. A NGO in Bangalore that works in the field of Information and Communication Technologies for development (ICT4D) were conducting a workshop on accessing the internet for the information needs of rural women trainers. The facilitator guided the women through the basics of the internet, on accessing information relevant to their work ranging from rural credit to women's health. The training was highly appreciated, and all the women volunteers seemed to be enjoying themselves fiddling with the computer and exploring the internet. At the end of the training, when the NGO started cleaning up the computers including the history and the cached copies, they were a little aghast to find that most of the women volunteers had been surfing pornography, and a range of pornography at that. So while the trainers were holding forth eloquently about the real information needs of the poor, the poor were quite happy to access their real information needs.

The link between pleasure, desire, aspiration and trespass has always been a complicated one, and the closer that the transgressive act is to the domain of pleasure, the more difficult it seems for it to be redeemed socially. Thus while one find easier justifications for transgression that deal with questions of livelihood and survival, and in the case of intellectual property to free speech and access to information, when the matter involved is about new subjectivities and pleasurable transgressions, it gets very differently framed.

The uncomfortable relationship between public domain scholarship and pirates also partially stems from the fact that we are entering a terrain in which the pirated commodity is a

tainted one. While the question of medicine and textbooks are far easier to deal with, movies, music and software get characterized as being outside of the moral economy of development. The demand for low costs entertainment commodities is seen to be one, which is normatively more difficult to sustain. Yet at the same time, the sheer proliferation of these practices, both within the elite and also by the traditional 'subaltern' classes forces us to question our own assumptions about the terms through which people engage with the global economy of information, and about finding their place in the global. What then are the critical conceptual resources that we can draw on to be able to address this question of pleasurable transgressions and subjectivities that resist easy framing?

Jacques Ranciere in his brilliant rethinking of labor history paves the way for us to start thinking seriously about the hidden domain of aspiration and desire of the subaltern subject, while at the same time thinking about the politics of our own aspirations and desires. Ranciere goes into an unexplored aspect of the labor archive of nineteenth century France, where he starts looking at small obscure and short lived journal brought out by workers, in which they were writing about their own lives. But they were not necessarily writing about their work, and if they were, they were not writing about it in glorified terms but with immense dissatisfaction. Instead they were interested in writing poetry, about philosophy and the other pleasures, which non-workers or intellectuals were entitled to. At the same time of course, intellectuals have been fascinated with the world of work and the romance of working-class identity. Ranciere says "what new forms of misreading will affect this contradiction when the discourse of laborers in love with the intellectual nights of the intellectuals encounters the discourse of intellectuals in love with the toilsome and glorious days of the laboring people".

For those who are less interested in the question of legality vs. illegality, and assuming that we don't have to go through the exercise of detoxifying the usual accounts of piracy, there are a wider range of interesting issues and questions that can arise in this other information city from questions around the production networks, the distribution nodes, the question of livelihood, forms of circulation.

As a cinephile, I am particularly fascinated in the changing dynamics of the aesthetics even within the pirate markets, there is an entire world of film for instance that has opened out in Bangalore as a result of the circulation of non-Hollywood foreign films, independent films, documentaries, experimental films. I am interested in the question of how in a country like India where censorship still prevails severely for cinema; the grey market emerges as the domain in which free speech can circulate without restriction. Whether or not the grey market does to the Indian art scene what it has allegedly done for Chinese art, is too early to tell but the signs are already there. Some of the biggest clients of the grey market include renowned filmmakers who have started to look beyond Hollywood. Similarly with the fall in prices of video cameras, it is only a matter of time before young people inspired by the new cinema that they see via the grey market fancy taking a shot at becoming the next Jonathan Caouette.

Lawrence Liang

Lawrence Liang, is a one of the co-founders of Alternative law Forum (ALF), a collective of lawyers working on various aspects of law, legality and power. His key areas of interest are law, technology and culture, the politics of copyright and he has been working closely with Sarai, New Delhi on a joint research project Intellectual Property and the Knowledge/Culture Commons. A keen follower of the open source movement in software, Lawrence has been working on ways of translating the open source ideas into the cultural domain. Lawrence has published extensively in various journals and is the author of 'Guide to Open Content Licenses' and 'The Public is watching: A Historical Reconstruction of Film Censorship in India'.

Electric Fences, Human Sheep

Ashok Sukumaran

Still, possibly for maybe the first time in this street's electrical history, the general public could trigger an electrical event from across the street. This show of 'rewiring', its upending of property boundaries and appropriation of municipal lamp-posts, caused some anxiety in the neighbourhood.

The electrical network is quite unlike the network model of the internet or say telephone networks. The power grid includes no provision for communication across its end points. At the scale of the grid at least, there appears to be no doubt that this is a one-way 'transmission': from the power-station to the distribution network, from high to low-voltage, from producers to distributors to consumers. This is the waterworks or gas-works model; centralized structures of *material* transmission that are widely considered to be precursors to the electrical distribution system.

At the consumer ends of this network lie small, 'private' zones where elements of electrical choice may be exercised. As a resident or leaser of a property, as the owner of a factory or shop, as an architectural designer or electrician authorized to design the electrical layout for a space, you are allowed to choose from millions of electric devices, select where they may be placed, map the visual or control flows of a daily electric life. An 'interior design' of the electrical system can thus proceed quite unmolested, to pragmatic or poetic ends, as long as it is limited to the extent of one's ownership. The musical doorbell, the better-than-the-anand's stairway light, the compound gate mechanism, the perimeter lighting, the sign for a shop… are all limit cases, marking a threshold of possible public influence. Extended collaborative or de-centralizing actions (such as sharing electricity with your neighbor) are naturally discouraged, in this model. 'Interactivity' is here a domain-restricted, territorially-bound concept, a means of offering difference without conflict.

The behavior expected from consumers within the electrical network is in many ways reflected in contemporary consumer technologies, despite the latter's louder claims of user participation, customizability, and equity.

Boosterist Web 2.0-speak is especially shallow where it is extended to physical objects and environments, which have deep histories of ownership and use.

An 'embedded system' (a term used to describe a specialized electronic or computer system such as those in cellphones, cars, security systems, and other household and industrial products) is by definition "completely encapsulated by the device it controls" (Wikipedia). Its escape from the product is thus impossible. Its operation is inextricable from operations on the surface: buttons, menus, user-interfaces, but also deeper structures of product boundaries, and the protection of those boundaries.

A network device such as a cellphone may appear to leap over the metaphor of physical walls restricting its function. Yet, they exist, almost literally. For example, many thousands of programs have been written for cellphones by enthusiasts, in the last decade, since many phones run common software platforms such as Java. However, all Java programs on phones run in a 'sandbox' that isolates them from all network functions, such as making calls. In other words, none of these programs can enter the core terrain of the network provider, although they may be able to play with experimental features like games, bluetooth, and so on. The point is that this is a classic application development scenario, where the sandbox or other forms of walling are justified in the name of security, and provide a risk-free development environment embedded in existing, widely distributed hardware.

Beyond technical definitions therefore, the term 'embedding' betrays other instincts: that of specialized platforms that are nevertheless designed to be 'everyware', and so must dig into, and exploit, conditions of physical ownership and existing platforms of access, across objects (products) environments (real estate), bodies (consumers) and nation-states. Proprietary environments in the traditional sense provide a physical buffer, and accountability, for protected softwares and systems enclosed within.

This is not new. Technologies were, and continue to be, preferentially embedded into spaces that are protected by non-technical means. If anything, scales have changed... we are now looking at minutely striated, distributed forms of 'media enclosure'.

Despite such 'doubling' of the protection regime, however, leakage occurs constantly. As when hardware is repurposed, phones are tapped, electricity is stolen, or nuclear secrets revealed. 'Phreaking', recently dubbed the phone equivalent of computer hacking, has been traced to the late 50s, before most computers, and is itself part of a long tradition of the creative repurposing and redistribution of technologies. Clearly, such practices cannot be enclosed by current terminologies, or even technologies. The electrical system, in many cities about a hundred years old, is still not free from such leakages. This raises the question of whether it ever will be, and if regulation in the current form is still useful.

Expertise and the Ongoing Experiment

The electrical grid is insulated from public participation in at least two distinct ways. Firstly, by the technical fact, that electrical transmission even at its lowest end, carries voltages that can kill. 'High-tension' infrastructure such as the neighborhood substation, its fences and signs, directly evoke physical danger. The message is clear: hands off. With deregulation, private companies have inherited what used to be a regime of state-controlled signs. They also acquired that aura of specialist territory, in a vein that extends to other modern infrastructures: military research, nuclear science, biotechnology, and large construction sites.

The second factor subsumes the first, into a broader social construction of 'expertise'. Carolyn Marvin, for example, has documented ways in which engineers and electricians in late 19th century America and Europe attempted to form elite, technically literate and closed groups around the development of this 'new media'. This, she argues, led to a form of class-distinction between 'experts' and the general public, exacerbating older (and subsequent) hierarchies based on economic class, race and gender. The experts' strategy was to align with other powerful groups, and distinguish themselves from "mechanics and tinkerers, their predecessors, and from an enthusiastic but electrically unlettered public by elevating

the theoretical over the practical, the textual over the manual, and science over craft".

This description continues to have resonance, in the decades since a consumerist notion of technical agency (described above) and a premium on 'expertise' continue to mark a very narrow field in which participation in technology can take place. Arguably, this narrows the conceptual understanding of what technology is, and what we can do with it.

I work principally as a 'media artist', creating artworks and events that happen mostly in public, outdoor spaces, and occasionally in galleries. In these, I have used a variety of technologies, from none at all to some 'cutting edge' ones. One of the strands of my current practice deals explicitly with works in the electrical 'medium'. These are ongoing series, in which I attempt, with the help of others, to address some of the questions above: in public, building upon a shared history and experience of this deeply embedded technology. These are 'public works', in which electricity appears newly 'uncanny'. Not magical, perhaps (in the way electricity is often described as in the arts, medicine and popular discourse of the nineteenth and early twentieth century) but destabilizing.

These works also suggest that the question of electrical 'literacy', a hundred years on, deserves to be asked again. Are we more 'lettered' now, after decades of use, or are we merely naturalized? Would we be able to 'read' a transgressive or poetic electrical act? What would it say to us? Could we build it ourselves? Will it need 'translation'? Has electricity become such an uncontested domain that it is no longer worthwhile to be an 'expert' in it?

The electrical system in these works is figured as 'pre-instrumental'; these are arrangements that do not conform to any known usefulness.

They are not, in other words, offering any design, informatics, or architectural solutions. They confront material boundaries, and those of the imagination, but do not offer any resolution. They are, to use a term currently fashionable in architecture, 'diagramming', offering templates for potential discovery, patterns of defamiliarization, and models of misconduct. Almost anyone can 'conduct' them, or develop them further. They are an attempt to form an alternative language for something familiar; one whose words we know, but whose story may yet change.

Pictures from one such project are scattered through this text, and a brief description follows below:

Changes of State

Elgin Talkies is a 110-year-old theater in Shivaji Nagar, Bangalore. As part of World Information City (http://world-information.org), the artwork *Changes of State* was set up for a period of five days, in and around Elgin Talkies.

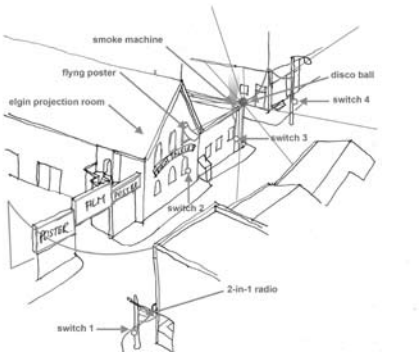
Elgin Talkies façade, with disco ball and audience switching in background.

Several two-way mains-current circuits were set up, connecting the building to the street outside. The circuits were 'two-way' in the sense that each contained two possible

states, which the general public could switch, from the street.

The default state was that of a decorated building. In order to conduct this we also had official permission. At the same time multiple switches (sometimes three, at other times four) were placed on the building facade and across the street, tied onto lamp-posts. For a total of four final switches, two non-legal street crossings were made (crossing a street with mains current is disallowed by the Electrical Act), and one electrical connection was drawn from the corner meat shop. These switches caused 'changes' or transformations in the movie house façade, as follows:

1. From across the street: poster lights go off, music from tape-player comes on overhead;
2. From under the projection room: Archway lighting goes off, film poster is backlit, and flies out;
3. From under the 'chimney': Smoke machine plays;
4. From across the other street: Corner lighting goes off, disco ball plays.



Layout of electrical circuits, switches and 'changes'.

All these arrangements were built on-site, or sourced from the local decorator, Hamid Bhai, whose shop was about 25 meters from the Elgin gate. Switches were the on-if-pressed (momentary) type, so the system would return to the default state, if the audience released the switch. The 'on' state was non-legal, causing electricity to 'leak' out beyond the Elgin property line, via the switches, to power the events described above. Each act was physically transgressive, either extending the envelope of the building onto the street, or stealing the cinema's 'media', extending its aura of light and sound. The 'criminal' body of the actant completes the circuit, insulated from direct electrical effects by a thin sheet of plastic (the switch itself) and from outright criminality by a buffer of adjacent 'grey' practices. Ultimately, the non-legality of the street-crossing is rendered trivial, by the ubiquity of events like street decorations that routinely stretch the law, or the numerous wireless devices that could technically accomplish the same results.

Still, possibly for maybe the first time in this street's electrical history, the general public could trigger an electrical event from across the street. This show of 'rewiring', its upending of property boundaries and appropriation of municipal lamp-posts, caused some anxiety in the neighborhood. This was part of the intention: to place simple, 'digital' binaries of on and off and the familiar acts of pressing buttons, into a situation where broader 'urban' factors come into play… including human doubt and fear. These are emotions not often found in indoor, domesticated electric life. The 'exploding' movie house provided an experience of an 'electric city' that in some sense has always bubbled under the surface, with its potentials for displacement, control-at-a-distance, unexpected pleasure, and its inverse, the electrical 'uncanny'. In many ways, this was an extension of Elgin itself, which had offered related experiences for over a hundred years (spanning both theater and movies), at this location.

'Now playing' poster, activated from below.

Initially, as we were setting up the wiring and switches, the assumption in the neighborhood was that this was some kind of official celebration of Elgin as a heritage site, or that it was related to a film release. There were no signs or explanations put up, and slowly the lack of clear references undermined the popular theory. These were familiar pieces (the switches, the songs, the hero on the poster, the fog from the machine) in a strange party. It was very unclear in whose benefit, which after a while became liberating for some, and uncomfortable for others. In all this, the 'expert' was missing, or at least, his erasure was attempted. The technologies were transparent, the paths from the switches to the apparatus, obvious. There was an absence of 'representational' claims, or strategies, beyond what was apparent. In the event, the semi-official electrical 'hacks' became the only thing to hang on to, the only 'meaningful' material change, and therefore the subject of the work, and of discussion around it.

Many people ignored it, or tried to. For others, the switch presented a threshold they were not willing to cross, on their own. In general, the electric presences were rapidly assimilated into the noise of the street. Occasionally a disco-ball would light up, and people would look around to find the switch-pressing culprit, who would be embarrassed, or aggressive. Locals would point out these anomalies to visitors. Kids would come back with their friends. Drunks were fascinated, and would not leave. On the 'opening' day, a gaggle of foreign (mostly white) conference participants offered some action for a curious audience. Over the following days, however, this activity became so 'ambient' that many people looking for the 'art' missed it completely. The Public Works Department (PWD), which is on the lookout for electrical violations and the police passed by several times, without noticing.

I am interested in the idea that these potentials exist over a longer term; switches that just sit on the street, offering 'multi-media' choices, in a somewhat illegal-looking format. In time, the subtler dimensions of this push-button activity would emerge… these are switches that really do nothing until touched, yet represent a potential 'crime'. They are also switches that modulate behavior, switches that measure interest, and mark presence. Perhaps we would recognize elements of a broader 'digitization' of public life. Perhaps we would become wary of other 'embedded' states to come.

In computer science, the 'finite state machine' is a feedback loop that is seen as a building block for automata, or independent logic. This model explores the basic processes through which, using finite information (bits), higher-level machine 'intelligence' can be achieved. The finite state machine is called such because it contrasts with the human brain, which has the disadvantage

of coming factory-fitted with infinite states, and thus is a fuzzier, more unreliable thing. Electric 'changes of state' permeate human activity at scales from the switching of a power grid to digital memory flip-flops (one of the basic finite state machines). These simplest of electrical acts are somewhere activated by a human threshold, of desire or need. By extension, for even the most complex machine systems, autonomy or isolation from the 'messy' human brain, or human society, is a somewhat pointless objective...humans aren't leaving. It follows, then, that we do not have to look to Artificial Intelligence or other advanced utopias to tell us important stories about our ongoing relationship with machines. Electricity, that old friend, is still around.

Temporary switch interface on lamp-post

Porosities, poetics, forms of communication and manipulation are characteristic of, not just anomalies within, the electrical grid. They are present in the trillions of acts of daily switching, and in the phantasm of real-time electrical 'wholesale markets'. The question that remains interesting is who controls things at which scale, what are the boundaries of influence, and what may move across these boundaries.

Electricity is still 'currency'. We are constantly developing new uses for it. It is unencoded, 'open source', it fills our world. In the spirit of ongoing change, these experiments attempt to create new, alternative electric grammars, languages that draw from by our exposure to other technologies, and discourses around newer media. This may, in turn, offer techniques for *detournements* of other centralized media, on the ground: community radio, guerrilla television, movies, maps, surveillance systems.

The 'feedback loop', a central engine for technical evolution is thus implemented as a broader exercise involving public libraries of parts and processes, exposed to (and exposing) reservoirs of common knowledge.

ARTeries: Networks of an Art Route
Notes on the World Information City Exhibition

Ayisha Abraham

"As an artist curator for the project, working with lawyers interested in the politics of media, visual culture and representation opened up a new way of thinking for an 'exhibition'. For many artists such collaboration opened up the realm of the legal domain to artistic practice. The curators hoped it would in some way shape interdisciplinary ways of thinking of an exhibition, with a perspective that would bring together the social and theoretical issues around the World Information Conference with specific art projects. Observing, recording, and reflecting upon the rapidly transforming city of Bangalore from as many interesting points of view, seemed like an organic way of planning an exhibition. Many of the art projects assembled together were thematically and formally distinct, though some connecting strands existed. An unpredictable outcome, and the continuously morphing nature of the work, became an integral and dynamic part of the whole exhibition".

- Ayisha Abraham

> The art exhibition was not meant to be just a spectacle. The attempt here was to try and create a fluid and permeable context, where new relationships would trigger off activity and collaboration.

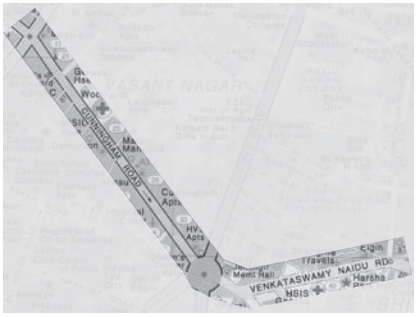
The Projects: multiplex facets

Many of the projects were specially created by artists for the World Information Exhibition; most of them selected work between media in interdisciplinary ways. The artists were invited to participate in the exhibition and consider the theme of World Information City. They were given the choice of a space within the planned walk, located geographically in the center of town; moreover they had the freedom to interpret the theme of the conference and the exhibition. The result was a wide range of projects varying from a networked performance, a sound piece, sculpture installation, a tactical media intervention, an interactive light work, happenings, performance art, video, drawing, and interactive media.

In much of the work for a diverse group of artists, 'networks' of the past and present take different forms. For the curators, exhibiting a series of art objects was not the intention. Instead, a context for collaboration and the encounter with the socio-political life outside of an inscribed space such as a conference or a gallery were more relevant criteria. It was important to give room to the artist to search and experiment within their practice, and to independently consider the processes of a 'networked' society that exist. The ephemeral presence of the work became integral to the show. If the projects had been less temporary, and were absorbed into a community life, they would have constituted a different set of projects and interventions altogether. The ideas displayed were performed as they were, and these very improvisational quality, made the exhibition difficult to define in a single framework. The not-so common collaboration between artists and lawyers broke a kind of art-world formalism and pushed the exhibition into multiple modes of reading a 'networked information city'.

Many of the projects at the WIC exhibition

could be read in multiple ways. They could be seen as functioning documentary/ documentation, as in Christoph Schaefer's work 'Melrose Place', or as tactical media/ community television as in Shaina and Anand's work. Her television channel 'Wi City TV' was meant to rupture the neat confines of an academic conference, into the messiness of real life on the streets. The projects at Elgin theatre can be seen to illustrate this point. *Now showing, The Cinematograph Act* looks at how The Cinematograph Act works as an "interpretative archive of various pleasures and practices (licit and illicit) around cinema". The Elgin theatre and its owner feature in this interactive work by Lawrence Liang and Namita Malhotra, and for WIC exhibition, the theatre itself becomes a site for an intervention, an installation like Ashok Sukumaran's *Changes of State*, which was an attempt to bring to notice the networks of electricity. This work could be read as an architectural intervention, or light sculpture or interactive new media work.



Map of the art route

"Walking the city connects different spaces together. A map is given to the visitor of WIC points to the sites, where the art installations are placed. The possibility of freeing yourself from this map always exists as you discover the route and the smaller paths that lead you off elsewhere. Every visitor will only experience a part of the exhibition and its activities at any given time. This instability produced between the mapped route and the happenings that unfolded everyday was characteristic of a sense of play that the installations brought to the sites they inhabited".

A Disaggregated Form for the Exhibition

One of the unique aspects of the WIC art and media exhibition was the dispersed way it was located in different venues, strung together in the center of town, what is commonly referred to as the old British Cantonment, from Cunningham Road to Tasker Town, into Shivajinagar's Elgin Talkies (see map). This route connects disparate worlds of living and social functioning in Bangalore. The disaggregated exhibition spread over a short stretch (1 km) and was intended to take the visitor through the city, its smells and crowds, the traffic and pollution. This continuous walk acted as a connecting strand between the different works on display. The idea of a disaggregated exhibition facilitated moving away from such conventional art exhibition, to something more multi-faceted, complementing the very nature of the projects chosen. A disaggregated exhibition also facilitated us to work with a number of different groups in the city, whether film societies, educational and training institutions (Center for Film and Drama), galleries (Colab for Art and Architecture), cinema halls (Elgin Theatre), and even venues such as a community hall (Jehangir Kothari Memorial Hall) maintained and used largely by the Parsi community in Bangalore. As difficult and tenuous the negotiations for the different exhibition spaces for permissions were; it eventually enriched the exhibition to move from the dynamics of one space to another.

Neither Spectacle nor Object d'Art

The art exhibition was not meant to be just a spectacle. The attempt here was to try and create a fluid and permeable context,

where new relationships would trigger off activity and collaboration. The exhibition as we conceived it would become an integrated part of the day-to-day of the city. The inside of an exhibition venue would permeate into the outside. A kind of osmosis would break through the membrane of separated worlds. The form of the work, so much a part of the tropes of daily life, would fail to be seen as a disruption of daily life in the city. Instead, its role would be to subtly shift expectations of what art interventions should be, and how it should be shown. Sites chosen were not located in conventional museums or galleries, nor were they protected; corporate or commercial spaces, but were spaces that could be quite easily accessed by the general public. They also included Center for Film and Drama a more formal film school and screening space, Colab a gallery for Art and Architecture, a private gallery which has subsequently closed down, a branch office of a NGO, The Lawyers Collective etc. The inclusion of three film screenings in the evenings, a performance and a play meant that a fairly focused audience could then congregate and interact there. In addition, we had hoped that the public would proceed to visit the other exhibits by walking down the one km exhibition stretch.

Permeable Sites

Our interest in the city was about trying to understand the vital ways local conditions change and morph in today's global economy and a backdrop of standardized consumption/ commodities. The exhibition tried, by bringing together such diverse practitioners, to thrust the world of the fantasy and often surreal/hyper-real worlds of art practice into the real world. Thus, the sites and their utilitarian function remained an important and integral part of the exhibition and the installations, punctuations in the everyday world of architecture, roadways, and public spaces. Except for the gallery *Colab for Art and Architecture*, all other sites were public spaces, not flamboyant in any way, but just there amidst people's bustling everyday lives. None of the others were meant to be exhibition spaces, furthermore in getting permissions and negotiating with local authorities for the venues, became a part of the process of conceptualizing the exhibition. In this way public space could be transformed, recycled and reinterpreted. To transform the façade of a film theatre into an interactive art project, or the bringing of a broadband connection into the basement of a community hall, or setting up an editing suite in a lawyers office, meant that the activity and the methods that art practices were to deploy, had to be explained to a set of people who had little knowledge or contact with such activities. In the process, as people help and interact with one another, many norms and rules could be shifted, modified or improvised with.

Chance Encounters

The WIC exhibition set out to create spaces for reflection on a city caught in the information age, and where the notion of 'public' is rapidly changing. In more than one way the exhibition did more than what the curators set out to achieve. It made possible new friendships between artists, curators, members of the organizing teams, and acted as a catalyst for communication between practitioners, activists, lawyers, curators and others, including all those who helped innovate on site and provide services. When the tables were turned, whereby, what may have set out to be a service; became the subject matter and focus of a politics of representation, and then something vital was seen to be taking place. With the local cable operators of Shivaji Nagar and Wi City TV, Lokesh at first was merely providing the cable network and connection. Every time Shaina and her team met with him, a picture of the

smaller cable operators being pushed out of the business, by the larger business players, began to unfold. The outcome of this was a discussion in the form of a television talkshow with a group of cable operators, at the home of Kasheef, also called Surroor television. His family used to run a small Urdu channel with programs targeting the Muslim community of Bangalore. This enterprise blossomed in their home. Shaina brought together a group of participants from the conference and the concerned cable channel operators, with whom she conducted a talkshow, in the middle of the night in this middle class neighborhood of the city. The group of discussants included lawyers, who later, followed up the legal issues independently. Even though the art project, Wi City TV, may have culminated with the beaming of the seven films, over approximately 100 television sets during the last three days of the exhibition, other dynamic and longer lasting relationships were formed. Was the talkshow an example of community media, or was it merely a tactical intervention? These were some of the conceptual questions that could be asked about the exhibition, given that it is still not really legal to run an independent community television channel. Was the point of such an intervention, the fact that the community themselves were inspired enough to ask Surroor TV to revive their programming? Or that Kasheef was subsequently invited that night to address participants at the conference with, the kind of problems the smaller initiatives like his face, with big business monopolizing the media.

Between the Inside and Outside

To define the exhibition in its entirety, as art, activism or community television is a little more difficult. The exhibition works as an example for more porous and interdisciplinary practice that also attempts to break the predictable and enclosed circuits of primarily art viewers. We were hoping that through a wider involvement of young people, and those in other fields, such projects could make sense to artist practitioners, lawyers, activists, and even an ordinary citizen-worker, alike.

Some of us walked the streets of Shivaji Nagar the night the television programs were broadcast on Shaina's 'Wi City TV'; stepping into small shops, where televisions were being watched. These were the exciting moments of the event, when one felt that the exclusive world of art practice had permeated on to the streets. It was also opened up further, by talking to

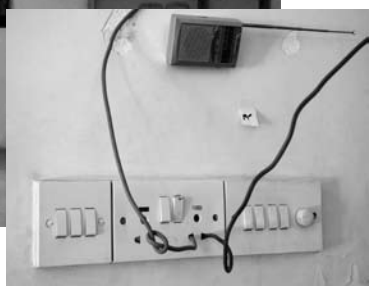
Shop playing WIC TV

people, as they watched programs on themes of interest to the community. These included representations of everyday, in Shivaji Nagar, and Russell Market, like a portrait film of Elgin theatre, to discussions on land acquisition by the IT corporates, open source and copyright piracy etc; and through these local depictions an interested public, could be shaped on site. People in the marketplace would step into shops, homes, down by lanes, to see the films. The excitement of being able to recognize a familiar face, a known building, a voice, was quite palpable. We were told that there continued to be debate and discussion about the making and telecasting of these short films long after the cable television 'art project' went off air. There were people who wanted to know more about why these films were made, and many wanted such programming to continue.

An artist however, may not want to commit to any long-term project, associating with a single community, becoming a social player resembling the work of a NGO. Sustaining the project would mean that Shaina in this context, would be a facilitator and subsequent projects spawned from this project, would have to be taken up by other interested participants or community groups. Ideally the community, if it was *legal* to set up a television community channel, should be assisted in setting up its own channel. Such projects could spawn others, but it would be up to a community to control the outcome. The artist here acts as a catalyst!

Exhibits that incorporated media from video to lighting to performance, pipe sculpture, paint, drawing, music and sound, thus became more like workshops and sites for young people to interact with the artists, learn and enable them to become a part of the process of doing and shaping of the work. Many projects were thus, sites of pedagogic learning too.

For Rajivan's work, a networked performance, yards of wire were thrown across streets, houses and trees to enable a Skype internet connection in the basement of the Parsi community hall. This hall had to be cleaned out of old furniture and traces of many parties in the form of garbage stashed away. Inhabiting this desolate space, and the improvising of the internet connection along with an Airtel engineer, to make possible this ephemeral concert, became for Rajivan, a part of the concept of the project. The inhabiting of a derelict room in such a building has also made him think 'obsoleteness' for subsequent concerts.



Air Around

by Rajivan

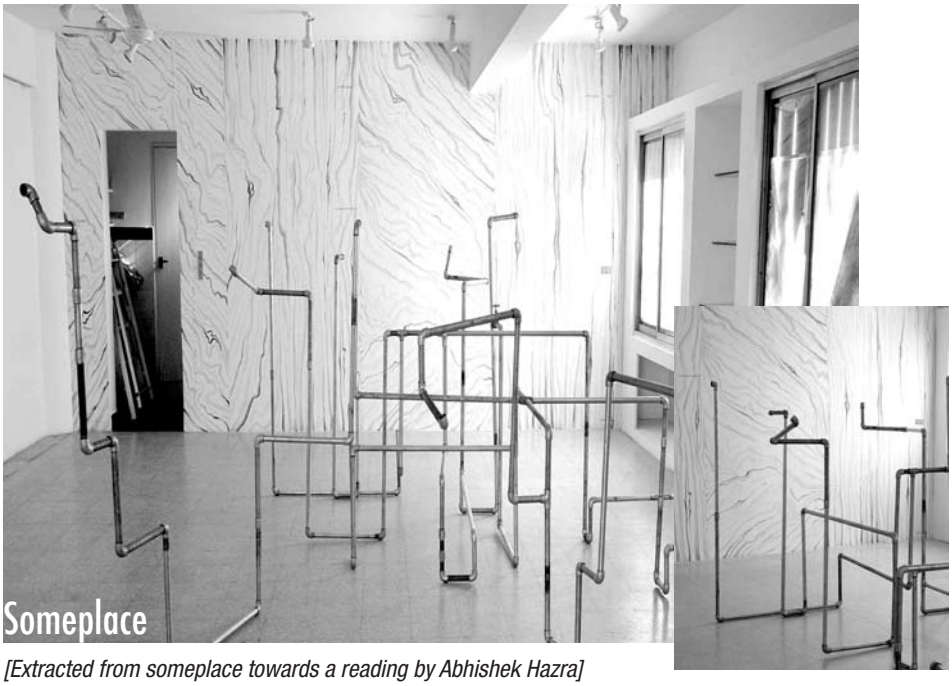
The Installation, *Air Around* is a sample space; a composite space of many samples of spaces that are offered by people from around the world; a compound space heard through real time audio events accessed through the telephone over the net. The network was made with the help of 213 sound artists including Hans Koch, Annemie Maes, Peter Bosch, Laura Naukkarinen, Paulo Rapso, Roland Cahen, Lorenzo Brusci, Michael Northam, Petri Kulijuntausta and many more…

Air Around installation lasted for four days from the 16th till 19th of November 2005. Between 3 pm and 6 pm two computers with an automated script, dialed 213 telephone numbers, with a specified call duration that had different functions within the installation:

1. six min fixed time/date decided by the artist
2. six min fixed time by me
3. three min fixed time/date decided by the artists
4. two min repeated call, for all four days
5. one min repeated/unexpected call all four days

Air Around installation was more about composing these calls (time duration) rather than sound event. If the participants decided not to offer any sounds, *Air Around* installation might have ended up with just a set of electronic noises.

The installation used around 25 small radios, and three stereo systems to monitor the sounds. It was mainly a radio network for the reception.



[Extracted from someplace towards a reading by Abhishek Hazra]

Someplace was housed within a single large room, with the work 'framed' by two planes perpendicular to each other: one constituted a flat wall surface and the other a row of four, large ungrilled windows. Frame, is perhaps a Janus-faced word here, since two sections of this 'triptych' installation were located on those very planes.

Each window was covered over with translite films and transformed into a 'readymade' light-box. The photographs printed onto these translite films were of other translite boxes that one typically encounters in the relatively newer bus stands in Bangalore. The difference here was that these photographed translites were blank and didn't bear the expected consumer product or real estate/property development advertisement. In fact, its blank surface was torn, ripped apart and from the gashes one could clearly make out the luminescent, tubular forms of the fluorescent lights that would have otherwise made the advertisements visible. The photographs were printed to scale, i.e. in the same dimensions as the bus stand translites. With the sunlight streaming through these photographs, the windows appeared to reproduce the real-time optical/electromagnetic attributes of the object it was supposed to photographically represent. In a deceptively simple act, these light-boxes thus rendered turbid any residual notion of a clear indexicality between the photograph and the object. Sheela accentuated this 'representational' crisis further by naming these light windows as 'self-portrait.'

The wall surface was painted white and drawn over with loose, gestural black and grey brush-marks that made it resemble a marble surface. Interspersed within the brush marks were dotted lines that guided the eye to textual annotations usually associated with Vaastu Shastra like, 'Moola

Sthana' (place of origin), 'Kuberana Sthana' (place of wealth) and 'Sthana Mana' (social status). Along with these evocative descriptors of place, one also came across abbreviated declarations of location and communication: 'You are here', 'Are you there?' The original inspiration for the marbled surface came from the faux-marble facades that Sheela had noticed in houses dotting the margins of the city, quite close to her own house. Occupying the liminal space between urban and rural these houses were what an official demographer would call "lower/middle income group" housing. A by-product of financial constraint and material aspiration, these marble simulations are usually generated by painting marble-like brush strokes onto fresh plaster: a process not dissimilar from the classical fresco bueno. If we now trace back, and accord the status of the original only to the mineralogical entity known as marble, the marble-wall of the installation becomes an interesting second generation imitation: a copy of a copy.

The third section of the installation was a sculptural assemblage of pipes (the GI pipes usually used in plumbing) where segments of pipe were linked up together. Two pipes emerged out from the wall and appeared to ramify into a labyrinth like space from which the terminal ends of the pipes stuck out like mechanical proboscis. Users were encouraged to lend an ear to the pipes. As one pressed ones ear to these openings, voices made themselves audible. One had to listen carefully to pick out the contours of this aural texture. It was in fact, a recording of a popular Kannada radio program that is aired from the local (Bangalore) All India Radio station. Conceived and performed by the popular Kannada social commentator, A. S Murthy, the one-hour program is an extended 'conversational' monologue in which Murthy taking on the persona of 'Heeranna' holds forth on a variety of contemporary topics. Alert to the nuances of colloquial Kannada, the dialects of non-urban Kannada and the conversations that circulate across streets, bazaars, devasthanas and other contemporary public spaces, Murthy's speech is an interesting hybrid of social critique, political analysis and humorous repartee sustained with a lively performative energy. Not all the pipes however were 'tuned' to A.S. Murthy. The second audio stream was produced by layering the outputs of different radio stations at various intensities. The specific nature of this layering ensured that though one could detect the simultaneity of two audio sources, it was difficult to disentangle them. In a further extension of the metaphor of flow, Sheela also attached an actual valve knob onto one of the pipes. A careful torsion of the knob did indeed produce a mixing of the two audio streams.

Sheela spent long hours at the Doordarshan office, the Government television and radio station; trying to get permission to use A R Murthy's radio shows, religiously listened to in the past. When she located him and struck a relationship, he took an interest in her work, and visited her exhibit, *Some Place*. Her sculpture of pipes subtly channelized this voice of a man who was a household name that is of a past life in the city, barely remembered. Plumbers came to help her construct this network of non-functional pipes; the wall was decorated with marble by painters who could only work at night. They were specially brought from out of town.

Ashok Sukumaran had to negotiate the use of the Elgin talkies façade, on a day-to-day basis. With unusually heavy rains that year, the 19th century construction was seeped with water, and was close to being pronounced unsafe. The manager was expecting an inspector from the municipality. Therefore

dismantling the work and reworking the light decorations along with other devices sourced from down the road at a local electricians, marriage decorators etc, added to the unexpected spectacle that came alive each night, for the street community around the theatre (also see: Electric Fences, Human Sheep elsewhere in this publication).

Christoph Schaefer's original exhibition plan fell through, as he was not allowed to mount the televisions for his video directly on a wall at Lady Jehangir Kothari. He decided against constructing false walls and then made a decision to incorporate all the existing furniture, old tables and chairs, and instead of drawing on a wall, he drew on paper making mock tablecloths out of them. The final installation thus took off from the existing space, and its archaic deco. The video document; an ethnography of residents at a new housing development, called 'Melrose Place', generated interest and controversy alike, among the visiting public.

Naveen Thomas' sound piece on call centers came about from his one-year-long night job at a call center, where he surreptitiously recorded the transnational conversations made; he then recycled this to reinterpret a soundscape of voices from the world of outsourcing.

The events that drew the public were still those that fit within a conventional understanding (of film screening, performances etc.), but since many of the works (ranging from video installations to exploratory databases such as Sarai Media Lab's *no_des*, or ALF's *now showing*) were at the same venue, many people did interact with these works. The film screenings included three films, each with a uniquely different entry point into information politics and the range of issues that WIC was attempting to highlight. *A Human Question* by T. Jayashree is an exploration of the human realities behind the changing regime of patents and its impact on drug prices. Ayisha Abraham's film *Straight 8* is a poetic encounter with the world of straight 8 cameras and amateur filmmaking in Bangalore in the middle of the last century. Gautam Sonti's *Fun@Sun* is a lively and unabashed peep into the corporate world and the lives of those enmeshed in the jargon of productivity and efficiency. A performance of Ram Ganesh's play *Dancing on Glass* was the story of two isolated, lonely individuals, and their very real negotiations with life in call centers.

Outcomes

World Information City Exhibition's success was the inclusiveness it achieved, in bringing together a broad community of practitioners that comprised of trained artists, filmmakers, architects, lawyers, media journalists, activists and numerous student volunteers from local colleges, plumbers, lighting guys, theatre owners, workers, watchmen, film audiences, street children, shop keepers, painters, broadband providers, agents, managers, a local community, film students, college students etc.

When I look back, I think our roles as curators were merely to facilitate the realization of the artist's projects. Whether it was delivering gallons of water each day or transporting mattresses to enable the participants to catch some sleep, ferrying artists and others, from point A to point B or making sure that those working day and night were eating enough, not to mention the endless negotiations with the management of all the venues. Thus, our role was to support and create spaces for temporary communication; where art could act as catalyst for other unpredictable relationships to be formed. Not insisting on absolute control over what

the exhibition would finally turn into, and welcoming all the run away, unpremeditated moments that took place, makes for a somewhat organic way and yet a critical form of thinking, exhibition and art practice. In retrospect, our disappointment at not having drawn a wider public to see the exhibition may not have been that justified. Our disappointment that the events did not attract the kind of crowds that may go to book fairs or cultural fairs, may not necessarily reflect such a yardstick of failure. Such an exhibition would have to be more than just a managed form of entertainment. The relevance of projects such as those seen at WIC is that they can possibly act quietly as catalysts, for larger projects and interactions; that is what should be appreciated! A slower way in which ideas permeate are assimilated; influences provide complex ways of looking at an issue. They may be critically more valuable, than an event that attracts a large public in one go where the activity and dialogue is not necessarily kept alive later, because they seemed complete in themselves. So there may be something to say for the incompleteness of some of the projects seen at WIC; that they were ideas that needed to be honed later sometime in the future, and this method could enable and generate a range of different forms of art practices. That kind of multiplicity and diversity of practice, seen at the WIC exhibition was what made it a stimulating experience for all those who participated in it.

Some Thoughts

A month after the WIC exhibition Jan 2006 with Namita Malhotra, exhibition co-curator and lawyer, ALF

Any event happens in a city not only because of the deliberate planning and efforts that were underway for months, but for all that it accidentally pulls together at the last minute. The people it attracts from different walks of life, the connected events that spiral off, the lives of those involved and the changes that it creates. A month later World Information City seems smaller, as it shouldn't need to have so much effort and heartbreak; the city has absorbed the event and made nothing much of it, not a ripple on the surface or ostensibly so. It takes effort to see the changes that it has caused in different directions – whether the curiosity and interest of those in Shivaji Nagar about the cable channel that sporadically burst on their screen for a brief sharp moment and disappeared, or the lingering traces of some posters on the walls of the city. Now a month and a half later, these traces are disappearing, the people who brought the event together are only too willing to lose touch, not having to relive the humongous and painstaking efforts of organizing.

WIC was meant to engage with a range of different publics through the very choice of the exhibition spaces. This did help in re-evaluating what we would call public space or public art, because it became evident that placing events, objects and displays in what are public spaces (like parks, public venues like *Centre For Film And Drama*, *Jehangir Kothari Hall* etc.) is not necessarily all that is required to draw in the public. What might actually be required would be to create a space, to carve a niche in an existing paradigm, where a certain public visits for a limited purpose – whether a cinema theatre that specifically caters only to the local population, or a cable channel with an established monopoly. Both these spaces in some senses were pre-existing, but were closed to outsiders, and had to be prized open with a lot of effort.

It takes effort to continually sustain interest and involvement by the public, in what new media artists like to call 'public art',

but what can often be a just desolate object left in the middle of a public space, where people circle carefully around it and avoid it entirely.

While some projects were meant to engage a large audience, others were meant to be stumbled upon, in small and secluded corners and through their inner perambulations and convolutions bring the person back into the city, its submergence in art, media, technology and the law. Another aspect of the 'public-ness' of WIC, would be to evaluate, not only in terms of public campaign (including billboards, posters) and their reach, or the number of people that attended the conference or walked into the exhibition, but also to look at the nature and commitment of the people that were drawn into the event.

Reflections

A year after WIC Nov 2006, with Vasanthi Das, film critic and theorist, Bangalore.

"A rhizome ceaselessly establishes connections between semiotic chains, organizations of power, and circumstances relative to the arts, sciences, and social struggles."
- Gilles Deleuze and Felix Guattari

The Interior Organs of a City as I write this, is a year since WIC happened in the very belly of the city. Although the Cantonment, Shivaji Nagar, Cubbon Park, Cunningham Road etc. are known as the heart of the city, the metaphor of the belly for the myriad and often contradicting and conflicting aspects of the space is apt. Walking up Queens Road, a one-way road, with its incessant flows of traffic, it suddenly bifurcates into two. One leads you to Shivaji Nagar, the other down Cunningham Road. On your left is a lively inner city with a local economy, and on your right an equally lively up-market commercial street, with global brands illuminated on billboards. They are a part of a reality of vast contrasts in consumption, and lifestyles, conspicuous in our daily city life. The center of every city is a zone of production, consumption, ejections and rejections: the internal organs of a city coil around the place, in a network of road and vehicles, footpaths and internet connections.

Distant and not so distant pasts haunt the interstices of the globalized city. Fresh architecture is born amidst literal decay and a renewed fertility exists in such relationships. There is a vital sense of something new being born, new people, new projects, new ideas and amidst this sense of decay and dazzling emptiness, exists a sense of hope. Until now the growth and development in cities and towns in India was more organic, and gradual, and the reason could be mainly due to India's protected nationalized economy. The open and liberal market has thrust the city to coexist in 'bizarre' contradictions and it blurs/breaks many boundaries. Despite its rapacious appetite to remake the past, creativity is spawned. Amidst the innumerous fly-by-night businesses and a mania for building, where rampant construction bring down familiar landmarks, give way to an image of a very different city. In this upheaval, people reorient their lives, in often perplexed, dysfunctional ways. Perhaps the artist inserts her presence to make some sense of this, bringing fore the invisible; the unsettled worlds.

The growth of the city may be compared to the structure, of a rhizome; an appropriate configuration that Deleuze introduced to openly confront the analytical and rationalizing principles, which endlessly repeat themselves again and again. Rhizomatic structures link and de-link themselves, according to contexts and their developmental process occurs as eruptions and fissures at unpredictable

intervals. The development of the present growth of Bangalore City could parallel the Deluzian delirium: not necessarily a negative delirium, but as a site where the rational and irrational, death and life and other opposites, coexist comfortably and uncomfortably.

The art installations manifest this impossible possibility by picking on the different strands of the city: they work in the interstices of time, the present and past, rich and poor, useful and useless, the rural and the city, old and new technology. The traversing art installation in turn traversed by city and non-city audiences, made the city a 'raw material for people's experience'.

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Ayisha Abraham

Born in 1963. Lives in Bangalore, India.
Ayisha Abraham is an installation artist who makes short experimental films. She curated the World Information Exhibition in Bangalore in Nov 2005, along with Namita Malhotra and Kiran Subbiah, For Netbase, Vienna and Alternative Law Forum, Bangalore.
She works as a visual arts consultant at the Srishti School of Art, Design and Technology, Bangalore, India. She studied Fine Arts at the MS University, Baroda, India, BFA 1987, Rutgers University, New Jersey, USA (MFA) 1995, and did the Whitney Independent Study Program in 1991-92.
Her short film 'Straight 8' (2005) is the first in a series of films on amateur filmmakers. She has just completed another short film titled 'One Way' (2006), chronicling the journey taken by a Nepali Security guard from the Himalaya's in Nepal to Bangalore, India.

WIC TV

Shaina Anand

Those were the DIYs…

In 1972 Black & White TV transmission came to Bombay. My parents acquired a TV set, a few years later, I was born. Under the Wireless Telegraphy Act (1933) all apparatus capable of receiving wireless transmission needed a license, and we had to register the TV at the General Post Office, in much the same way my father had registered the first radio set that he had built (when he was 10). My father designed power amplifiers as a profession, took photographs as a hobby and tinkered with anything that could transmit, as his education. I grew up in a middle class milieu of Do-It-Yourself (DIY) technological marvels. When I was four, he built a booster antenna which enabled us to expand our reception from one channel - DoorDarshan (the state channel, literally translated as 'far vision' or 'tele vision') to include *darshans* from the Middle East, from across the ocean dividing us. On holidays we would tune into the Air VHF band (100-200 MHz) and listen to pilots converse with Air Traffic Control as they took off from Bombay airport. I had to identify the airline by looking at the logo on the tail fin as the plane would pass by our window 3 minutes after takeoff. We talked on Ham radio and Citizens Band; listened to the police communicate on the Police Band and eavesdropped on local area conversations leaked from cordless telephones. We had access to many streams. One day my father sold his vast collection of LPs to buy curtain material for our new home in Bandra, but not before he had recorded them onto metal tape. People continued to flock to him for this music, which he would copy at a modest price with liner notes and indexes neatly written on each tape. When I was seven, the Asian games came to New Delhi and color transmission arrived in India. Imports were heavily restricted in those days, but for a short time color TV's were allowed to be brought, if they were gifted by someone abroad. TV's came to Bombay in large consignments during this 'gift economy', and were soon followed by VCR's. Official import duties were at 245% of the cost, most electronics were still restricted and smugglers were the harbingers of information and entertainment, bringing in not just hardware but bootleg video of a dazzling variety from all over the world. For Rs. 10/- from our neighborhood lending library, we could choose what we wanted to see and copy what we wanted to keep. Even audio was recorded onto VHS tape using PCM (pulse code modulation), giving better quality sound (as the tape was thicker) and 6 hours of recording on a 180-minute tape.

> In the name of a preserving Indian culture (and the minister of culture) came IPRS raids (Indian Performing Rights Society). Local DJ's who made a living making assorted tapes for clients were raided and shutdown.

Then came liberalization, the STAR was

born, and with it the cable TV cottage industry. Some locals started a network; I remember being up on the roof watching them catch an early bundle of coax cable being flung from the neighboring terrace. Cablevision's transmission was erratic and Prime Sports was on a low frequency, irritating my father who bought a satellite receiver from Taiwan for USD 50 and an antenna for Rs. 1500/- and set up his own dish on the building terrace. This worked for some time till one stormy day the dish flew off the terrace and crash-landed into the compound. We were back to cable the next morning, and saw that now we had a lot more than the five Star Channels: we had not just the BBC, but CNN too.

Almost the entire graduating class from my film and video production course (which I did alongside regular college) joined TV companies; some were startups running from small hotel rooms in Juhu. Our cable guy ran a couple of his own channels too. One showed a constant stream of Hindi movies, musical programs, and sometimes local festivities and *Dandiya Raas* marathons from gymkhanas in the neighborhood. BBC World Service radio would be on a blue screen even when transmission or cable was down. We even had a text-only channel advertising local services, everything from information on *mehendi* classes and private tuitions to lost pets and emergency blood requirements was flashed periodically, while the latest music played in the background. I remember staying on standby for a family in Khar that needed B-negative blood. When I called, they said it wasn't so urgent anymore, as they had found a few people already. Cable operators were in big business and territorial wars had already begun. The cable guy changed often, but the cables and the network, however hastily placed, have survived till today. This was the time when Shiv Sena had virtual control over the city. There was a channel (still is) owned by the Hindujas called IN Mumbai which was controlled by Sena goons. Soon, through might, they captured and consolidated the cable operation of most of North Bombay. Our cable operator now collected for 'them'. I remember watching an important cricket match where at the end of each over, 2 minutes of ads were 'telejammed' out, to be replaced by a long film trailer for *Agni Sakshi*, a Bollywood movie starring Nana Patekar and Manisha Koirala; produced by a Binda Thackeray. Over and over and over again, playing well into match time. The Sangh Parivar think-tank had already proved their mastery of tactical media strategy: VHP propaganda VHS tapes in our letter boxes, VCDs inside magazines, flyers, electoral databases, and now tele-jamming. It was 1995. Bombay had been recently burnt with state complicity. Every startup channel in Bombay had collapsed, except IN, Murdoch had bought all of STAR and Zee and He had jointly ventured into SitiCable- a cable distribution service. An NRI had invented hotmail. I stopped watching cricket for ever.

In the name of a preserving Indian culture (and the minister of culture) came IPRS raids (Indian Performing Rights Society). Local DJ's who made a living making assorted tapes for clients were raided and shutdown. All play-lists and lyrics at concerts had to be cleared before performance, and you had to say '*Vande Mataram*' before you began to sing Rage Against the Machines' "Killing in the name..." We went nuclear and then to war. Barkha Dutt got embedded into Kargil and Kargil came home. So did 'K' serials. Seattle happened, Indymedia was born. Sarai was launched with a reader called *Public Domain*. 9/11 happened. Enron collapsed. There was pogrom in Gujarat. A World Social Forum in Mumbai. More 'K' serials. And more conferences.

What would it be like then, if Russell Market had its own TV channel?

In November 2004, I was asked to do a workshop at the Srishti School of Art, Design and Technology, Bangalore as part of their 'new-media semester'. Having abandoned a scholarship and dropped out of a Film and Media art MFA program in Philadelphia soon after acquiring film and video skills, I looked forward to making some sort of pedagogic intervention into the navel-gazing domain of an art student. They would have to learn requisite video-making skills on the job, and their job was to offer those services with a smile to the people of Russell Market, Shivaji Nagar. A media 'utopia' was created in the microcosm of the enclosed market, and a fluid and visible process of making a TV channel for the market was set into motion. The various unions were presented with a 'manifesto' and permission to shoot and telecast was granted. Over the next fortnight footage was generated on site in the market documenting this concerted collision between 'insiders' and 'outsiders'. Confronting the content by learning to edit, led to range of serialized programming: portraitures, poetry, singing, dances and remixes, film spoofs, talent shows, an essay and photography film, short features, time-lapse, montages, promos for live events and programming, signature animations and tunes. *Rustle TV* was telecast for three days inside the market. 12 TV sets and a two-way projection were cabled to receive feed from two desks; a G3, an old 'Shaadi' analog video mixer and modulator functioned as control room and studio. Programming was expanded to include live events such as checkers tournaments, quiz competitions, talk shows and open stage. Video became the canvas, container and the site for a feedback mechanism of 20 days of shared memories and experiences.

We had run into Mubarak in Russell Market. He worked for Lokesh, who was a local cable operator. We had struck a generous deal. They would cable the TVs if they got to keep the 1500 metres of coax that would be used. Rustle TV had been a runaway hit at Russell Market. In the end, the market had one grouse, it was fun in the market but they wished that the films show outside to the world as well. Lokesh too had found our idea of cabling the market absurd, "Why not just show it on my channel to all of Shivaji Nagar?"

Why City TV?

Back in Bangalore almost a year later and remembering Lokesh's offer, we found our way to his front office after doing a couple of loops between Chandi Chowk and Elgin Talkies. Lokesh agreed right away to air our programming, and even suggested we give him promos for the 'channel' a week in advance. He would insert them in between prime time movies on his own channel which had a loyal viewership as it showed the latest Hindi and Tamil movies. "If its local programming, everyone will watch."

World Information City Tele Vision or *WIC TV* would telecast programming to 3000 homes in Shivaji Nagar, Bangalore

independent of, but parallel to the World Information Conference, between 6-10 pm on Lokesh's widely watched 'channel number 2'.

It was postured as 'protest act', an intervention into an alternative international conference on information; in keeping with current trends of hosting parallel celebratory events:

If WEF has a WSF and the WSF in India had MR (Mumbai Resistance) then if WSIS had a WIC, the WIC in India would have WIC TV!

Beyond the tongue-in-cheek renegade moorings of the project that implicated the conference and its setting in Bangalore, WI City TVs intent was to go local and pull outwards from the conference, its themes and participants. This was in one way complicit with the conference. WI City TV was one of the small 'art projects' curated as part of World Information City Exhibition, a side event of the conference.

A week prior to the conference, an open studio was set up in the terrace room of Lawyers Collective in Tasker Town, 500 metres from Lokesh Control room in the heart of Shivaji Nagar. It had been given to us on the good faith of ALF. ChitrarKarKhana's beat up old P-4 and two dual-processor P-4s donated by Srishti and a mixed bag of DV cameras, including one belonging to Ayisha Abraham curator for the exhibition and a small one lent from Waag Society formed the hardware resources for our studio. Sleeping mattresses and bamboo mats were found in the back room. Now we needed a crew.

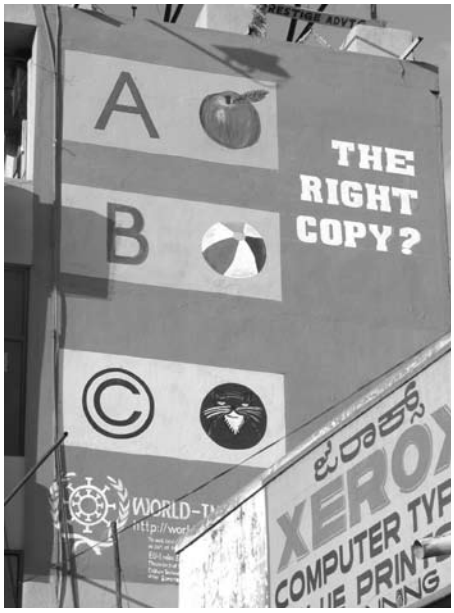
From Bombay came Gaurav Chandelya, a young aspiring filmmaker who often edited with me and Sanjay Bhangar, a young and wired individual with a myriad past of indymedia (mis)deeds and demeanors. Paul Keller from Waag Society volunteered and said he would spend as much time as he could in the studio. The next day Sravanthi, a literature student from St. Josephs College and Jayshree Reddy and Priti Prakash, fresh students enrolled in a documentary diploma course showed up. We were short on both man power and skilled labor, the crew was small and only Gaurav and I had experience in consummating the process from concept to edit. The rest of the greenhorns would have to develop on the fly.

The 'chaorganization' had begun. The crew was to generate programming for the 'channel'. Content would have to be about Shivaji Nagar or other parts of Bangalore and would celebrate, excavate or comment on informal economies and media and information politics. The day crunched to include long discussions and readings and 101 labs on rules and techniques of engagement with the public and camera. And promos needed to be made soon:

The winning entries from the World Information Poster Campaign were going up all over the City. Prime hoarding spaces had been rented out, on the stretch from Queens Road to Shivaji Nagar Bus Station; the outer edge of the spectrum of our cable reach. Bang opposite the Bus Station, recessed between a cluster of small hoardings offering DTP, internet, STD, language translation and match making facilities on the left and a temple on the right, a new hoarding was being painted; a late addition, we were told. Someone had raised objection to the fact that the call for the Bangalore poster campaign competition had been open to only EU citizens. A save face late edition call had been sent out to Indians, and this was the winning entry by an NID student called Vasu Dixit.

The background was chalky pink, the stenciling was skinny. Over the course of the

day, we filmed the poster reveal itself: A for (picture of) Apple, B for (picture of) ball, © for (picture of scrawny cat.) And a punch line: The Right Copy. We didn't fully get it and we decided that others wouldn't either. The work needed interpretation or else kindergarten kids would think it cool to copy alphabets from their friend's books.



A promo was born:

EXT DAY Shivaji Nagar Bus Station

Pan to hoarding being painted; the background pink, one lone guy on the scaffolding.
Voice over girl # 1: What's going on here? Lets look...
Voice over girl # 2. What's to see, they are painting another hoarding. Come on, let's go shopping.
Montage of makeshift shops near the bus station, Close ups of clothes and wares in fake and obscure brands; A tape recorded ad plays in the background. "China bazaar, aapke kidmat ke leeya... for your services, China Bazaar.
Voice over girl # 1 Wow, you get everything here...
Voice over girl # 2: Come on, it's getting late. Lets go back to the station.
Montage ends.
Long Shot of finished hoarding/cut to Mid shot of hoarding.
Voice over girl # 1 A for apple
Voice over girl # 2 B for ball....what the © for?
A cheeky boys voice from the distance: C for copy cat!
Voice over girl # 1 Oh... this is the copyright symbol... we see on everything these days...
Voice over girl # 2 Copyright? What does that mean... ?
Voice over girl # 2 That means we can copy everything!
Copyright symbol floats over montage of books, cassettes and clothing on the street. Music begins. Copyright symbol turns into flash animation of cat, whose whiskers and smile move out to form WI©ITY TV. A VCD cover is inserted into a Xerox machine and a copy shoots out. So do words: World, Information, City, TV.

Voice over: World Information City TV, For Shivaji Nagar only. Coming soon, November 15th -19th on this channel.

Programming had begun. Sanjay and Sravanthi chose National Market/ Majestic area as their beat. On Day 1 of their first shoot ever, they encountered an agitated group of shop owners near Burma Bazaar, who drew their attention to a demolished wall. The entire bazaar, a 3 storey building, built only 15 years ago and in good condition was going to be torn down to make way for a mall and this sudden demolition was another threat tactic, said an agitated shop owner. Jayshree and Preeti went off on their virgin shoot and filmed the entire process of making custom car number plates with vinyl stickers at a DTP facility: 'Why City TV 420' found its way into another promo on Shivaji Nagar that Gaurav edited before he went off to an old building near Russell Market called Picture House, which housed a hundred year history of photo studios. Paul kept us alive by bringing in coffee, Ayisha would replenish drinking water, and Lawrence lent us his mother's electric kettle and cellphone. Food was a repetitive diet of idlis and dosas from Sanman.

Stories were emerging. Sravanthi and Sanjay went back to Burma Bazaar and

National Market and spoke with more shop owners who had been given eviction notices.

Whether they wanted to or not, they would be forced to vacate; a 'compensation package' would be given to them. The chief minister's son was rumored to have bought the bazaar. They also ventured to National Market, the grey electronics and black DVD haven with their camera to talk with shop owners and get some ambient shots. Jayshree and Preeti had decided to spend the entire weekend in Shivaji Nagar's dense warrens that comprised the Gujri market, Bangalore's oldest market for junk and recycled automobile parts and an old still thriving, lucrative grey and black economy. Gaurav made a short; a portrait of an old photo studio at Picture House which had been reborn in the 'digital moment'.

The film shows documentation of a young girl and her father showing up at the photo shop with an urgent request for a photograph needed for her *madrasa* education. The phrase 'new technology' was cited 9 times as the proprietor articulated the process- posing, shooting, transferring from camera to desktop, cropping, color correcting, tiling and printing- "without any developing". Gaurav planned to go back to other shops in the building and serialize episodes to include the range of photographic techniques and facilities; some very old, still available in that building.

Paul, in his anxiety to document the hoardings and posters plastered all over Shivaji Nagar, fell off his bicycle and broke his camera. It seemed fixable though. We called information and got the address for a Canon Authorized Service Center in Malleswaram. It was almost closing time when we got there; their office was located on the first floor of a residential building, a Canon hoarding hung on the façade and on the door, legitimizing the presence of a 'front office'. The secretary greeted us and took us back down, through a small alleyway into another building, a 'back office'. Epson signage adorned the walls. The technician informed Paul that the whole body part would need to be replaced, the camera would have to be sent to Delhi just for the estimate and that alone would take a week. He also hinted that it could be 'fixed', but left the space between his authorized service and his legitimate service in abeyance…; we were recording this interaction.

We proceeded to Majestic Bus stop, to the international market of goods and services. From the voice-over in the film we learn that Paul knew about this market from a DVD bootlegger in Amsterdam from whom he had procured a copy of Maqbool (Bollywood adaptation of Macbeth) even before its release. Sales shops in most arcades had shutters down, probably because the cops had leaked out information about a routine raid; part of their 'protection' plan that comes at a high 'weekly' cost. In Bajaj arcade we were directed to a small stall, whose shelves were crowded with camera parts and cameras. We had an illuminating conversation with the proprietor, who repaired not just film cameras but digital video and still ones. He said he learned his skills at a service center in Dubai, and his brother who still lived there updated his directory of manuals, keeping his service up-to-date. The camera could be repaired, he said. It would cost Rs 250/- and take a couple

of hours. But it wouldn't be done today as he had a lot of pending orders to finish.

Like the voice-over of the film tells us, "Paul needed his camera today. How else would he take pictures of the conference? Situated in a tiny lane between National Market and Bajaj Market, Paul met his 'angel', Ajith, the eponymous proprietor of the repair shop said the job would talk 15 minutes and would cost a 'simple amount.' "You won't get the spare parts here and there wont be any 'finishing', but it will work." He heated the dented metal on a candle annealing it to its original shape and fixed the push button with super glue. He spent almost 45 minutes working on it and gave the camera a thorough check up before handing it back to us. "We call this Kaam Chalao", he said. Make Do. It cost Paul two hundred rupees. (euro 3.33) Paul thanked Ajith and told him that in Amsterdam, this would have taken 4 weeks and a lot of money. While we were leaving, Ajith placed a book in my free hand, "I give you a gift". It was a little tract printed somewhere in Africa: *Why you must be born again.*

The next day Paul re-enacted the missing parts of the story. The parts before his camera came crashing to the ground. Gaurav shot him biking down Queens road at full speed, pausing to take photographs of cows, wall signs and *Good Question* posters (a winning entry of the original poster campaign) that were plastered in the Elgin Talkies Lane. The faked bike fall was unconvincing as Paul was wary of dropping his camera again. Paul's Fall (the born again camera), had a descriptive voice-over which I had written and Gaurav had recorded in a smooth one take. He was introduced as a quirky and lovable foreigner, who had come from Amsterdam's society of old and new media for the World Information Conference.

Four of Sebastian Lütgert's *Good Question* posters, which were mute color blocks in the Shivaji Nagar landscape were localized and translated, situating very everyday acts like Xeroxing pages of texts, burning CDs to share music, buying a 'number 2' VCD for your children; buying a computer but not paying for software, as transgressions, misdemeanors and crimes in the face of a newer regime with stricter IP laws for the IT city.

Sravanthi went to ALF to get her facts straightened; Jagdeesh who works on issues pertaining to PAP (Project Affected People), grounded the realities for her and placed the demolitions in the larger context of 'development' and within the larger machineries of corrupt states. She also mapped the demolitions and the temporary closure or sealing of roads and entrances into the area that had led to less traffic of customers.

Jayshree and Priti were back after an educating weekend in the labyrinth of junk and stolen parts conversing with many Gujri owners and workers. They even arranged a roundtable meet at the Gujri Market Members Association. "We talked with everyone for long", they said. "Only then did we shoot people at work and we were even shown photographs of the market from 100 years ago." This from the two girls whose footage from their first camera exercise only a few days ago had been rigorously questioned during group crit session and deemed 'erasable', as they had been found to appropriate a journalistic fervor.

Moreover, in the enthusiasm of 'making a promo', they had gone on to planting their "Why City TV 420" number plate in various locations around Shivaji Nagar, pushcarts, flower sellers and even over the body of a sleeping man.

We had 2 days worth of programming to edit. Hours of footage to be gleaned, digitized and then cut. Gaurav and I were stretched between the three computers and getting the media on the machines and teaching the basics of editing was exhausting; carving films out would take ages, no sleep and more than 2 editors. For a while, it almost seemed like we were screwed. Then as part of the process - or divine intervention - into the studio walked Vasu Dixit, Sooraj Ravindran and Chinmaye, students from NID eager to volunteer and replete with editing skills.

Vasu Dixit nailed in on the digitized, scripted and storyboarded timeline of Paul's Fall and raced it to a smooth finish at the end of which was added a music video that Paul made by mounting a camera on his bike, which he set to the cover-super-hit Bollywood version of 'It's the time to disco.' Sooraj took on the Gujri film which wasn't easy at first, as Jayshree and Priti having immersed themselves in conversations at the Gujri were now keen to edit their presence out and instead make an analytical 'talking bytes' kind of cut, where people and places would be removed from their moorings and their speech re-structured in new syntax. Their digitized list had short clips coming from nowhere and cutting off mid sentence. We went back to the tapes and watched them again. A long 24-hour edit with Sooraj and they had an up front, dry, irreverent and

revelatory 45 minute film on Shivaji Nagar's oldest and most (notoriously) famous Gujri Market.

Chinmaye, came in for one night and helped edit *Mall Practice*, Sravanthi's topical and relevant film on the passing away of yet another Bazaar. Gaurav, now free to roam as we had more editing support, disappeared into Elgin Talkies for a long 12-hour shooting shift He watched the B grade Hindi reruns by day and Tamil flicks at night. Elgin Talkies is yet another old treasure hidden under the veneer of Shivaji Nagar's perceived grime.

Older than cinema itself, Elgin used to be a play house first. The proprietor Mr. Krishnamurthi still has a brittle yellowed notebook, a journey through the history of cinema; a log of every movie that played from 1907 onwards, (Bangalore was the first city in India to be electrified) including the director, country of origin, dates of run and a valuable section for 'remarks'. It chronicles the export of silent cinema, Hollywood's growing predominance, the coming of the talkies, including India's first Alam Ara, and censored entertainment during the war… Elgin still uses carbon arc projectors and is run by a loyal staff who have grown up as Elgin has aged. Gaurav spent three days inside, documenting the cinema's 24-hour clock from mundane to magical and then spent a whole night editing it.

Kahani Elgin ki (Elgin's Cinema Scope, the untold story) almost personifies the space; one that is an old familiar bosom for men in Shivaji Nagar who throng into the light and darkness for her company and even to just drink and sleep in her trusting arms where all is an escape with the world. As Khan, who was 'adopted by the theatre' and runs the space says, "When you pay Rs 100/- for a ticket, you have to sit with respect. Here, for 15 rupees, they come, eat, smoke, drink, watch ten minutes of a movie, go to sleep or get up and dance. You won't find such facilities and safety anywhere else in all of Bangalore". "Amitabh Bachhan doesn't run here; that's for City #1.

Here, its Mithun and Sanjay Dutt". Untold story is told in parts by parts by the caretakers, the projectionist and Zameer, the caretaker's son in charge of changing posters. There is a detailed account of Zameer's commemoration of Sanjay Dutt movies and posters and his massive fan following in the 'Black Palia' area.

The film also featured two songs; and infrared night visuals of the crowd dancing to a raunchy tune in a Tamil flick and Govinda and Kimi Katkar in *Dancer* as the magic and special effect of cinema leaked out into the façade and street during Ashok Sukumarans *Changes of State* electrical installation at Elgin, also part of the World Information Exhibition.

As a one-year anniversary of *Rustle TV*, we also packaged a two-hour 'Best of Russell TV' special, completing the circle of how we got here in the first place. 20 sets of double CDs were dispersed in Russell Market to spread the news that they would be telecast on cable TV.

Sanjay in the mean time had been scouring all of Shivaji Nagar looking for its digital ecology. He documented numerous cybercafes, DTPs, language translation facilities, photo studios, video studios, VCD makers, computer classes, software programming classes, call center training courses. He sought a long interview with an instructor at a computer class, who succinctly gave a demographic background of computer usage, ownership and literacy. He cited examples of schools and IT colleges making use of non-legal software; this was not just inevitable, but necessary he said, so that the technology could spread homewards at least for students who could afford computers. A brilliant moment was when he spoke about the die hard spirit of the hacker, "Nowadays you even have hardware locks for software, but what is a lock? Nothing.

It's only a code, and someone creates it or cracks it". Another interview was with an owner of a cyber cafe, who at first said that he didn't support piracy and didn't allow illegal downloads or porn surfing in his café. When asked about the software on his computers, he said "to be honest, it's pirated." Sanjay also interviewed a radio jockey and musician who sourced all his music and movies from national market. In his own words, "Why would you want to go anywhere else, when a copy what you want is available at National Market for 1/10 the price. If they really and truly want to have an anti-piracy drive, they will have to arrest all of Bangalore".

Shooting at National Market had irked some of the DVD sellers. There had been more 'unforeseen' crackdowns, 'protection' came at a high price and in any case, why would they trust us? More importantly, why did we need that footage? We only asked ourselves this question when we were stopped from shooting.

Perhaps piracy needed advocacy at conferences and academic gatherings, and where empirical data needed to be infused with luscious examples and visuals from the everyday. Why exactly would we need to make a film on it? In India, software, audio and movie copying and piracy were so innate to our psyche, such a way of everyday life that we'd taken them for granted; forgotten about the spirit and it's linking to a larger world view.

The need for such a film then was philosophical and Sanjay went off to meet Lawrence Liang, former Shivaji Nagar Boy, and renegade IP law-breaker. He came back with a 45-minute intellectual property primer of sorts in Hindi shot on the flattest background ever and with a rather odd frame - Sanjay's first tripod shoot. Lawrence's 'lecture' would form the backbone of the film, the blank section left of the frame would play as his visual aid, alter ego, parallel movie and 'PIP' channel, with a will of its own.

A gleaning of ALF's IPR database and media compilations on copyright, a selection of clips from Sanjays other interviews, and a bank of visuals from Shivaji Nagar, Forum mall, Silver Jubilee Park road, ITPL, and another 24-hour edit session with Sooraj , on the last day of the conference completed 'Copyright This', a potent speedball of a movie; a fast paced, visually provoking sideways but local view on media and technology history, piracy, IP, censorship and the continuum of culture through copying and sharing. There is even karaoke remix of a remix of a remix thrown in for the pure interactive visual pleasure of Bollywood cinema -featuring Helen vs. Truth hurts vs. Lata Mangeshkar.

Twelve total days of communal working with shift-changing sustenance sleep, an endurance for which grew more and more with time. The loop between our studio at Tasker Town, Shivaji Nagar Bus Station, Russell Market, Police Station, Gujri and Elgin Talkies, was roughly the ambit of Lokesh's cable network spectrum. Shivaji Nagar still has small cable operators some serving 250 households. Lokesh is one of the bigger 'daddy's' who had a consolidated network of operators, ever-shrinking or growing, the total reach somewhere around 3500 homes.

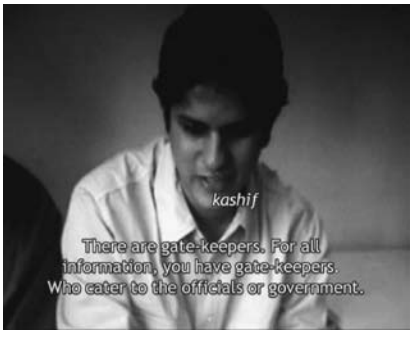
His collection of fees is not uniform, depending entirely on the 'income levels', and the percent or cut he collects from some smaller operators, none of which was fixed; even allegiance changes time and again. Added to that an undisclosed fee for 'police protection.' Lokesh had spoken at length about the precarious state of small and medium sized cable operator, especially the prospects of a future in the face of MSO monopoly and bullying, CAS, and an eventual strangulation of cable networks in the face to DTH (direct-to-home). The territorial fight for surviving slivers of spheres of influence ensured that local cable operators would always be in competition with each other rendering their collective bargaining and demanding power unorganized and ineffective as it was never strong to begin with. The latest cog in the wheel was the introduction of entertainment tax, which the MSOs had evaded, saying they were service providers, leaving it to fall on cable operators, who in turn would have to increase monthly fees yet again, eventually enticing home owners to look at 'other' viable options that could be directly provided by the MSO's themselves.

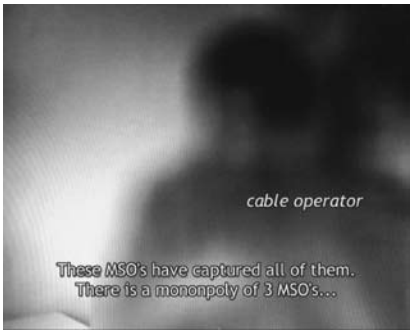
Lokesh had also told us about a local Urdu channel for Bangalore, 'Suroor TV', a 'free to air' channel that a young entrepreneur had run from his home. One morning, we asked Lokesh to invite Kashif Haq to meet with us. They both ended up having a very transparent and candid conversation with us about the messy workarounds they had

negotiated in order to telecast 'Suroor TV' in Shivaji Nagar, home to the largest Urdu and 'Deccani' speaking population in Bangalore. Suroor TV had run out of Kashif's family home in COX town, which had functioned as set, editing studio and control room and had been sustained mostly by members of the family and a close knit group of actors and technicians from the area. In order to 'air' he had been paying a monthly carrier fee of one lakh to SitiCable, the now fully Zee owned MSO. Lokesh, however got his signal from Hathway.

It was crucial that Kashif telecast to homes is Lokesh's network as they comprised his target Urdu and Decanni speaking audience. For this, Kashif had to pay a fee to a local operator who got Suroor TV via SitiCable (a rival of Lokesh's who operated from a building near our studio in Tasker Town) to demodulate it and send it to Lokesh. To do this, Kashif had to provide for the 700 metres of Coax.

It was worth it all, as Suroor TV was on demand and very popular in Shivaji Nagar. Its popularity led to its demise as SitiCable pulled it off air. Suroor TV eventually closed down under pressure form market forces as there was little chance of an independent, low budget channel flourishing despite of or because of its success and growing viewership.





The documentation of this conversation between 'an independent content provider and a local cable operator from Shivaji Nagar' formed the framework for a talk show, *Now talking TV* that was shot at 'Suroor TV' studio in front of a live audience. Safina Fazai, 22 year old sister of Kashi Haq and chief editor of Suroor TV helped us edit and author the VCD that would play at the talk show and feature clips that would lend themselves to an open discussion. Lokesh's face was blurred out on his request as he was exposing himself to his local audience thereby risking trouble from his own MSO, Hathaway.

Kashif and Safina were joined by Lokesh and two more small cable operators from his network. Conference speakers Jawahar Raja, who had done extensive research on MSO's monopolies in New Delhi, Shuddhabrata Sengupta and Lawrence Liang were invited to partake in the conversation that would be aired uncensored on WIC TV the following evening. They were joined by a live audience comprising of other participants from the conference and Suroor TV supporters.

The studio, a medium sized room on the first floor of Kashif's house had a series of backdrops on curtain wire that were once used for Suroors various programming. We chose a backdrop of large newspapers stapled together in a collage that had been used for a daily news analysis program that used to be

hosted by Kashif's father, a highly informed individual who had worked for DoorDarshan for over 25 years. He used to read and analyze daily news from English, Kannada and Urdu newspapers and elucidate and localize them, often inviting in other speakers. The cable operators sat with the backs facing camera and the invited members faced the audience. The pre-recorded clips played on a TV in a corner. Sajid, a colleague at Suroor TV did the online edit on a portable analog mixer that was sending the feed to a PC's captured the stream. The 'talk' lasted 75 minutes. The invited speakers were elevated by the 'Suroor TV' story and invited Kashif to speak at their conference the next day. This made us happy; we had not just 'pushed out' from the conference, but pushed in as well. We also aired a *Best of Suroor TV* special the next day before the telecast of the talk show. Kashif received several calls the next day from viewers who thought that Suroor TV was back on air.

Here are some excerpts from the talkshow Now talking TV:

Clip #1 plays from VCD menu: Gatekeepers of information:

KASHIF: For information, there are gatekeepers, who have bought over top officials and the government. In Bangalore, there are three major cable operators.

CABLE OPERATOR: The MSOs are capturing everything. They have a monopoly. Nobody else can survive.

KASHIF: They are InCable, SitiCable, Hathway. InCable belongs to… Rahejas or Hindujas?

CABLE OPERATOR: Hindujas.

KASHIF: Hinduja. Big construction firm. Hathway is?

CABLE OPERATOR: Hathway is Rahejas. Also big construction firm.

KASHIF: And SitiCable is Subhash Chandra's who also owns Zee. When I was starting Suroor TV- according to the TRAI, MSO's were supposed to carry my signal free of cost. They should not charge a penny from me since this was a free to air channel. But since they have the power, they all demanded a carrier fee.

KASHIF: At that time SitiCable gave us the lowest offer. I was paying them a monthly carrier fee of 1 lakh rupees. I thought I will pay it for 6 months too see what the demand for my channel was. The SitiCable people were also very devious. They carried my signal for two months, then when my channel was hitting its peak, they'd cut it.

CABLE OPERATOR: They began by cutting it on Saturdays and Sundays. Suroor TV was becoming very popular.

KASHIF: Definitely, because it was independent media.

CABLE OPERATOR: For three months that channel aired and customers were happy. When Suroor was cut, customers actually stopped paying me. They said, "Restart that channel, and we will clear your dues."

End of Video clip.

KASHIF: (to live audience and panel)

So, what do you have to say about it? How can a channel like mine, in today's atmosphere, in today's economy, survive?

JAWAHAR: The problem is not only in Bangalore. It is in other cities as well. We work in Delhi. We faced the same problem with MSO's there. They have a two-pronged strategy. Firstly, they will keep increasing the costs that you have to bear, and on the other hand, not allow you to operate on any level. They have the same strategy in all cities. This strategy is easy for them, because their monopoly is growing.

KASHIF: The cable operators that are there are neither here nor there. We are broadcasters, but we are not regulated by the

Information and Broadcasting ministry. We come under TRAI. Here is the latest copy of the regulation. If you see, it clearly states here that TRAI will provide on request the signals of free to air channels on non-discriminatory terms to all distributors of TV channels or agents within 30 days. But This Cable Regulation Act, 1995 – this does nothing. It is a very cowardly law. It doesn't state what you can do, or what powers you have. It does not specify how you can take legal action if there is something wrong happening to you. There is none of that. I have no idea what the State was thinking.

They have only given guidelines, on this paper but there are no rules and regulations. There is no law. Why is that? So to register myself I have to go to the GPO. Even when these people (cable operators) need to register themselves, they go to the GPO. And We get a license. Why is that? How many cable operators do we have?

CABLE OPERATOR: There are 2000 in Bangalore.

LAWRENCE: If you see the history of this Act – Cable Television Network Regulation Act, 1995, this was a panic Act. The scenario was such that there was no law to govern cable television at the time. Cable operators were flourishing in the cities and small towns.. At this time there were two major pressures. One was by copyright holders who were afraid that their works were being aired by these operators, and the second was that the anxiety over censorship – that they are showing a blue film here, etc. The State had lost control over what people saw. This legislation was passed in a panic situation and there was no clarity at that point. The response of the State is always of a regulatory nature. It is never a facilitative logic. And the mind-set of the logic of licensing and control got fixed onto cable TV. Because there are so many controls on small cable operators, it becomes easy for large MSOs. Historically, that was the problem with this panic Act. It went into a regulatory mode instead of a facilitative one. If at that time there was a little discussion on the possible role of cable operators and local culture, perhaps the legislation would have been different. When people think about their cable supply, very rarely do they think about where it comes from and what the structures behind it are. Its important for the viewer to be aware about the impact of this monopoly structure. You are trying to run this Urdu channel that can air your local culture. You will face maximum opposition, because today's globalization scenario is built upon information monopoly. Local content is never shown. One coca-cola advertisement is circulated all over the World in a local environment and that is called 'local culture'. So, if you want to make a strategy, you will have to raise viewer support.

SHUDDHA: I will take Lawrence's point further, in another direction.. Firstly, let me say – I really like the name Suroor TV. It is a lovely name. Because the 'pleasure' one gets from conversation between two people – those who know Urdu will know the meaning of Suroor. We are all in the 'Suroor' that we all should meet, talk, share ideas… And according to me, your channel was a very important part of this process, in the unfolding of this drama of people talking to each other. This also has a strong relationship to the right to the freedom of speech. In any city, or locality, if people meet up, whether they are friends, or family, or members of the same locality and they want to share their views with the World, any mechanism that stops them from doing this is a blow to the freedom of speech. And according to me, in our society, there are repeated blows of this kind. And as these blows increase, society becomes more and more cowardly. It becomes, coward and indifferent. Because if

there isn't the freedom of speak, there isn't the freedom to listen either. And societies silence becomes a dangerous thing.

JAWAHAR: Before 1997, when there used to be a discussion on censorship, it used to be about the govt. The govt. gave you the right to say something or not. But now the situation is such that the Govt. hold on things has become less, its now its media companies and there are just 2-3-4 of them who decide who can say what to who and how.

LAWRENCE: The thing about cable is that it is not like other industries, where the govt. had a big role to play and there were stringent laws. When cable was starting in India, it was due to the effort by local cable operators. It was only because of this that MSOs, etc. could enter the market.

CABLE OPERATOR: We made the efforts and they are reaping the benefits of those efforts.

LAWRENCE: Absolutely.

SHUDDHA: Because you built the base.

CABLE OPERATOR: We built the base, we made the investment. And now they are making the profits.

SHUDDHA: Can you explain, this 700 metres of Coax that you were saying…

KASHIF: See, what happened was that my signal was going through CitiCable. But these cable operators all had Hathway. So how could I give them my signal? I took one wire that could go from the CitiCable operators to these operators. It was 700 metres long. And I linked them and demodulated the signal. I had to take permission for this from CitiCable. They gave it. So after demodulating, I was giving the signal to them. There was such a demand that they agreed to air a competitor's signal. But that wire was cut after two months.

KASHIF: The public was upset. We gave them the numbers of the MSO's and told them to make their demands to them. Customer's called and asked why Suroor TV was not coming any more. There were thousands of calls like that coming everyday. The MSO said that if you call demanding Suroor TV, we will shut QTV also. (QTV is a Pakistani Urdu channel.) The customer gets afraid to speak anymore then.

CABLE OPERATOR: Now there is only one Urdu channel running – QTv. If they shut that also, there will be a problem. They shut all the other Urdu channels. Even Saudi was cut. One customer came and roughed me up and asked me why I cut the Saudi channel. They MSO's cut this channel during the month of Ramzaan, so people were angry but there was nothing we could do. If the public had knowledge about these things, they could go to the Consumer Court and make a case.

KASHIF: We did all this. We went to the root of the problem and explained it to people. We had petitions. But MSO's are very strong. They have a very strong political influence. Ordinary people cannot fight them.

CABLE OPERATOR: Suroor TV was a local channel whose popularity was increasing. Generally, when a channel's popularity is increasing, we air it. But Hathway, SitiCable, etc, they don't consult or ask. They don't ask whether we want this channel or not. Whether people in our localities would have an interest for this or not. A channel just released, for example Toon Disney, by Zee- they don't tell us the cost or what the rate is so that we can decide whether we want this channel or not. If it is profitable for them, they switch on that channel and we have to make the payment. In such a situation, the public has no freedom. The public wants channels like Suroor TV, but they do not provide these channels. They air whatever is profitable for them, even if the public does not want it and does not like it, they impose it on people.

CABLE OPERATOR: If you see, there is something called Prime Band in Cable. Prime Band, mid-Band and UHF. Now what these people should do is put the channels that the public wants most in the Prime Band, but

they do not do this. Now what they are doing is that they air the channels which pay them money to be put on Prime Band. For example, Aaj Tak will pay them some money, and then if Aaj Tak gives money, NDTV won't be far behind. They also give cash and get put on Prime Band. So now Prime Band is full of only news channels and cartoon networks. (laughter)

SHUDDHA: The issue that you raise is very interesting. Because the question is that the public wants to watch Suroor TV, but the MSO wants to air channels that are profitable to them. For example we had a spate of 'K' serials, we still do. Then reality TV, now cartoon channels. If you ask any television producer behind these shows, they will tell you they are created because the public wants them. But what you are saying paints a different picture. You are saying that the public also wants to watch Suroor TV. This means that in deciding television programming, public interest does not figure. And there is something else involved. Through cartoon network, you can advertise toys. Through news channels, you can propagate a certain political view and type of advertising. Through sports channels, you can get advertising. So, you will see that when this 1995 judgement came out, people thought that if the spectrum went beyond the ambit of law, then there will be diversity. We thought that the different colors of the rainbow could be expressed. If 50 homes in a locality each wanted to watch a different show, they could. That diversity will perhaps come. But the opposite has happened. Channels have cloned each other. There are two sports channels that both show the same thing. So that rainbow that could have been, never got formed. So my question to you is that when you started Suroor TV, you must have had an idea of who your audience is and what they wanted. You must have had some calculation and some relationship with that public. Otherwise you would not have invested so much capital and labour. So, I would like to know more about that picture that you have of your audience.

KASHIF: See, I don't want to know what is happening in America. I want to know what my neighbor is eating. This is our mentality.

SHUDDHA: Or we might want to know both.

KASHIF: But you are more interested in your neighbor because you can go to his house to eat. You can't go pay a visit to Bush.

SHUDDHA: And you shouldn't, even. (Laughter)

KASHIF: So, when we started, our main aim was to promote awareness amongst our people. There was no media here. Here there is a large Muslim population of 16-17 lakhs, 13 lakhs according to the census. Govt. policies, agendas, etc. were not reaching this area at all and we found out that there was this need to know in our society. So, we thought about how to bring about an awakening in these people, when right now they know nothing.

SHUDDHA: And you were seeing a demand for this.

KASHIF: There was a strong demand coming from the public. We have an Urdu press. But how many people can read and write Urdu? So we collected ourselves. People wanted to see their own taste and actors and poems from their own localities. We calculated all this and realized that there is definitely a need for this amongst the people. Even for local-level leadership to develop. And we thought about this, and this was the best kind of media to do because it was alternative media. So we conducted surveys and found out that some people are interested in *Qawwalis*, some in poetry, some in Islamic religious talks. Lots of Sardars told us that they had migrated from Pakistan and that their culture was different and they got to see no programming relevant to their culture. People's culture was not being represented.

SAFINA: Each individual wishes to

spend a moment in his own environment. For example, if I am seeing Suroor TV, or any channel, I will change it. But if I find out that something is being aired about my local culture, I will be very happy and definitely watch it, because I will understand what is going on and I will do it. So information is transmitted the most to people, not when it's in English but in a language that they do not understand.

SHUDDHA: Even the Hindi that comes on TV these days I do not understand at all.

KASHIF: What we kept in mind here is to use the type of Urdu that is commonly spoken in South India. Because, for a regular person, it is not possible to understand high-standard Lucknowi Urdu. He will only understand if we speak in the local Deccani dialect.

Programming from WIC TV was telecast to 3000 homes in Shivaji Nagar from November 17th -20th. The modest production budget given to the exhibiting artist, in this case Shaina Anand/ChitraKarkhana, was used to provide irregular meals for the crew. We had one added cost for a rented camera. The crew worked as volunteers without talk of pay. At the end, Alternative Law Forum gave each of them the same honorarium that had been set for volunteers at the conference.

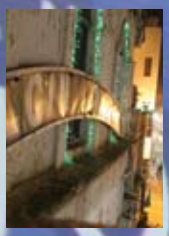
The films can be downloaded from chitrakarkhana.net/whycitytv.htm.

WIC TV crew: Gaurav Chandelya, Sanjay Bhangar, Sooraj Ravindran, Jayshree Reddy, Priti Prakash, Vasu Dixit, Paul Keller, Shaina Anand.

DH Lokesh, (Sugandha cable vision), Lawyers Collective, Kashif Haq and Safina Fazai (suroor TV) Lawrence Liang and Alternative Law Forum. Srishti School of Art, Design and Technology. Benjamin Solly and Rajan. Ashok Sukumaran, Namita Malhotra and last but not the least Ayisha Abraham for warmth and care.

Chitrakarkhana.net (image workshop/artist food) is a non-funded fully independent unit for experimental media. It was initiated by Shaina Anand, filmmaker and media artist.

World-Information City: a Photographic Review



















Above: Good Questions, series of posters by Sebastian Lütgert (Berlin) hanging in the streets.
On the right page: 'The right copy?' mural painting by Vasu Dixit opposite Shivaji Nager bus station (photos by Paul Keller).


2046104
PRESTIGE ADVTG
A
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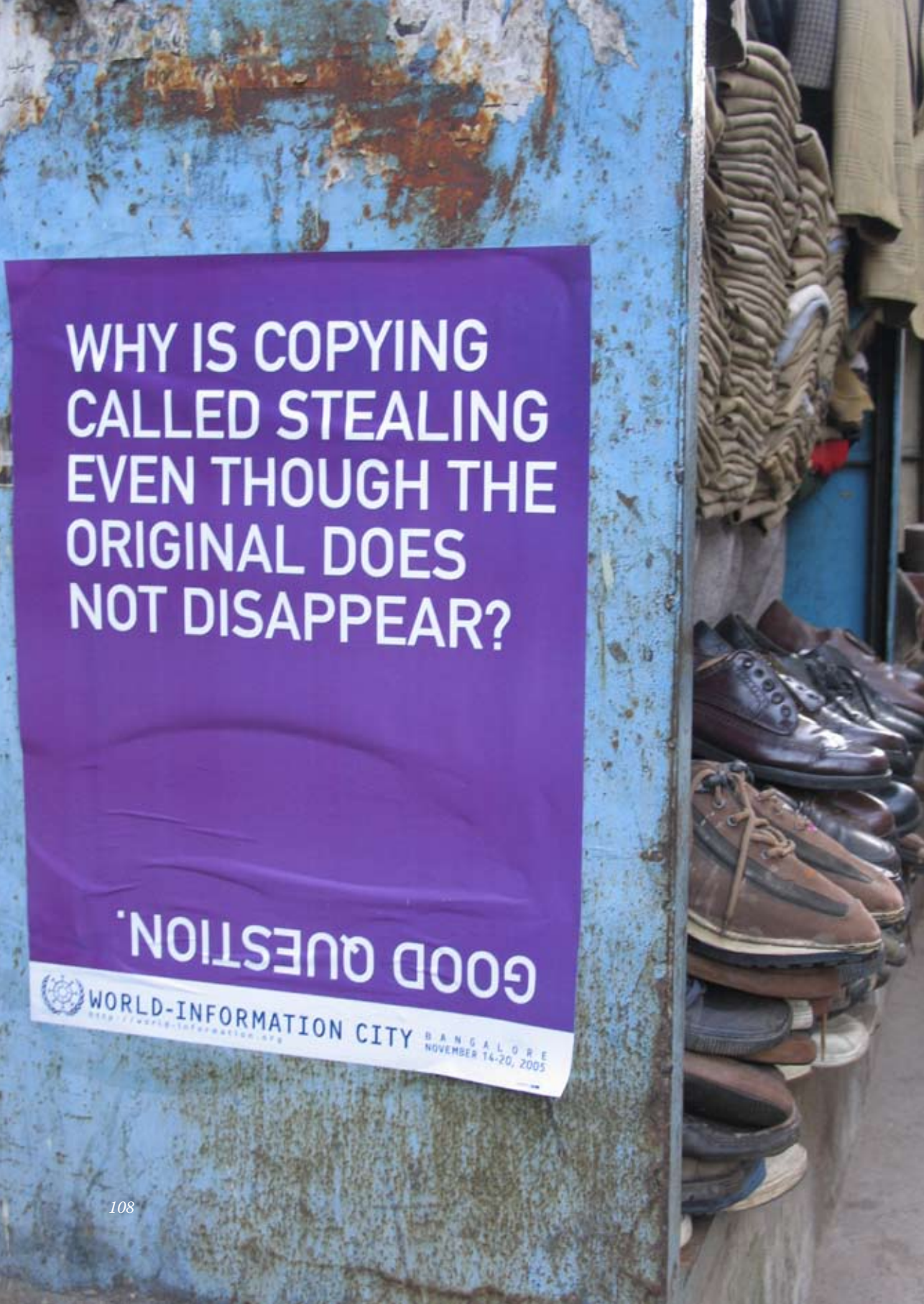
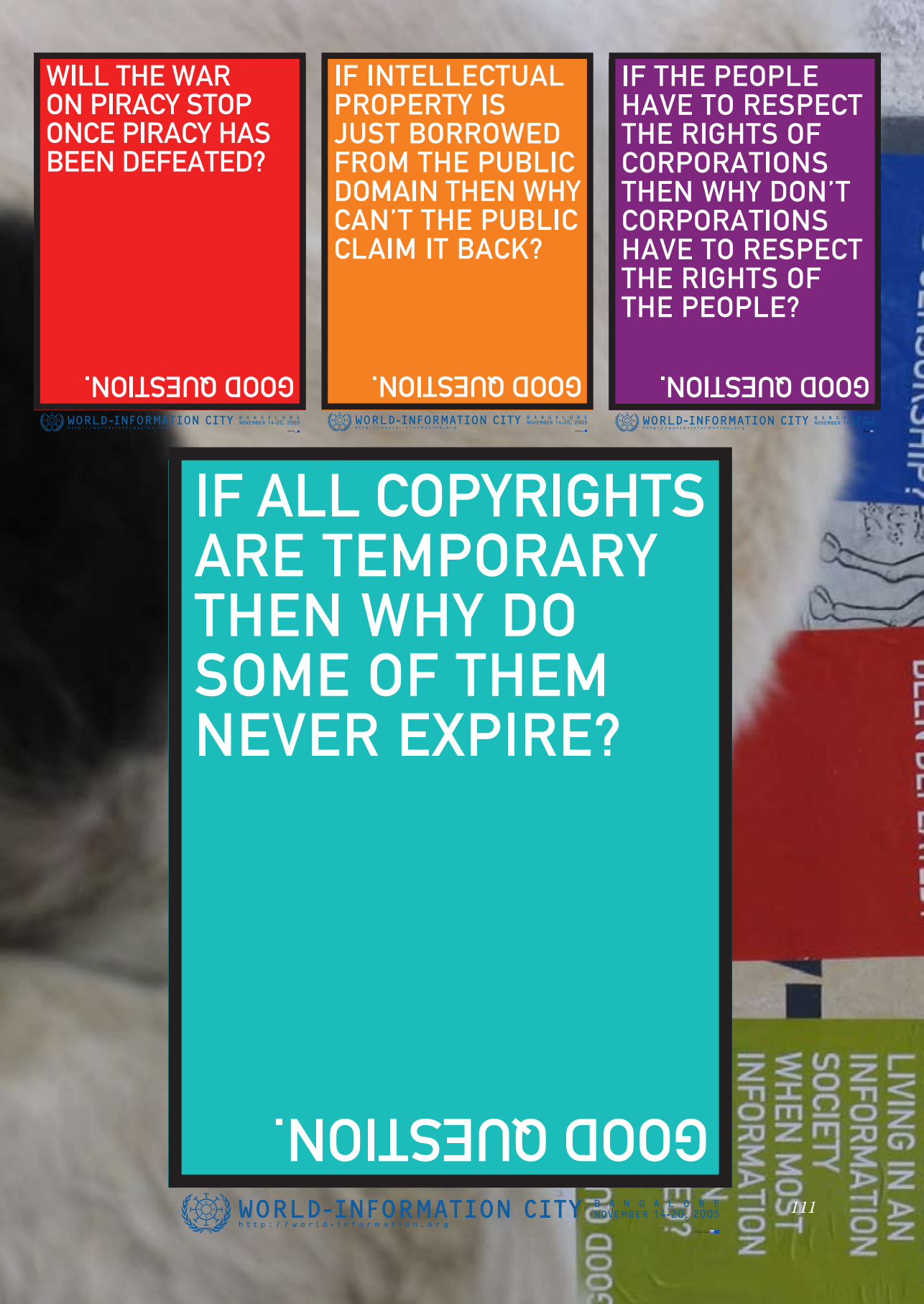
THE
RIGHT
COPY?


WHY IS COPYING
CALLED STEALING
EVEN THOUGH THE
ORIGINAL DOES
NOT DISAPPEAR?
GOOD QUESTION.
WORLD-INFORMATION CITY
BANGALORE
NOVEMBER 16-20, 2005

Good Questions, series of posters by Sebastian Lütgert (Berlin) plastered all over Bangalore during the World Information City event (photos by Paul Keller).


WHY IS A SOCIETY THAT IS OWNED BY RIGHTS HOLDERS STILL CALLED A DEMOCRACY?
GOOD QUESTION.
WORLD-INFORMATION CITY BANGALORE NOVEMBER 14-20, 2005
WHY IS COPYING CALLED STEALING EVEN THOUGH THE ORIGINAL DOES NOT DISAPPEAR?
GOOD QUESTION.
WORLD-INFORMATION CITY BANGALORE NOVEMBER 14-20, 2005
ARE WE REALLY LIVING IN AN INFORMATION SOCIETY WHEN MOST INFORMATION HAS BEEN PRIVATIZED?
GOOD QUESTION.
WORLD-INFORMATION CITY BANGALORE NOVEMBER 14-20, 2005
WHAT IS THE DIFFERENCE BETWEEN DIGITAL RIGHTS MANAGEMENT AND CENSORSHIP?
GOOD QUESTION.
WORLD-INFORMATION CITY BANGALORE NOVEMBER 14-20, 2005
http://world-information.org
WHAT IS THE GOOD THING ABOUT SOFTWARE PATENTS?
GOOD QUESTION!
WORLD-INFORMATION CITY BANGALORE NOVEMBER 14-20, 2005
http://world-information.org


WILL THE WAR ON PIRACY STOP ONCE PIRACY HAS BEEN DEFEATED?
GOOD QUESTION.
IF INTELLECTUAL PROPERTY IS JUST BORROWED FROM THE PUBLIC DOMAIN THEN WHY CAN'T THE PUBLIC CLAIM IT BACK?
GOOD QUESTION.
IF THE PEOPLE HAVE TO RESPECT THE RIGHTS OF CORPORATIONS THEN WHY DON'T CORPORATIONS HAVE TO RESPECT THE RIGHTS OF THE PEOPLE?
GOOD QUESTION.
WORLD-INFORMATION CITY BANGALORE NOVEMBER 14-20, 2005 http://world-information.org
IF ALL COPYRIGHTS ARE TEMPORARY THEN WHY DO SOME OF THEM NEVER EXPIRE?
GOOD QUESTION.
WORLD-INFORMATION CITY BANGALORE NOVEMBER 14-20, 2005 http://world-information.org
LIVING IN AN INFORMATION SOCIETY WHEN MOST INFORMATION

'Delinquents' by Ulrike Brückner (Berlin): Portraits of 'delinquents' accused of digital crimes point at the twofold character of intellectual and cultural property on Whitefield Road in Bangalore (photo by Paul Keller).


170
160
DELINQUENT:
WEB DESIGNER
I AM A CRIMINAL BECAUSE
I USED THE PROGRESS BAR
IN A LAYOUT.
170
160
150
DELINQUENT:
SCHOOL GIRL
I AM A CRIMINAL BECAUSE
I SEND A RINGTONE TO MY
FRIEND.
190
180
DELINQUENT:
TEACHER
I AM A CRIMINAL BECAUSE
I PUBLISHED LINKS ON A
WEBSITE FOR MY STUDENTS.
180
DELINQUENT:
TAXI DRIVER
I AM A CRIMINAL BECAUSE
I GAVE A MOVIE DVD AS A
PRESENT TO MY AUNT
IN BRAZIL.
RMATION CITY BANGALORE, NOVEMEBER 14-20, 2005 http://world-information.org
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Photo above: street scene with mural painting in progress (photo by Paul Keller). On the right: Solomon Benjamin during the 'Cities within Cities' tour (above) and banners between the trees in Bangalore (photos by Kiran Jonnalagadda).


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KFDC
MEALS
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WIC TV: In the office of a local cable operator and the studio of Kasheef's Urdu language channel (inserts). Photos by Paul Keller.


MUSIC WORLD
LG

This page: detail of the facade of the 'elgin talkies' cinema hall (photo by Ashok Sukumaran). Next page: watching WIC TV at A1 auto consultants on Elgin Road in Shavji Nager (photo by Paul Keller).


INDIA

Open Networks

Introduction to Open Networks
Power and Politics of Good Intentions

Geert Lovink

"Openness is one of the key founding principles and characteristics of the Internet. The open nature of the Internet is part of its uniqueness, and its importance as a tool to advance human development. Internet users trade ideas and information and build on both, thus increasing the wealth of knowledge for everyone".

- *Internet Governance Forum, Athens, November 2006*

The spread of Internet culture over the globe of the past decade has lead to a wider and deeper understanding of 'network architecture'. But what do we know about networks? Network theories have been around much longer, circulating inside social psychology or management studies. It is questionable how many of us had much of a critical understanding of its importance prior to the 90s, let alone knew back then in what domain to implement such knowledge. The issue how open or closed networks are, or should be, only came up after a while. Openness can be discussed as a (liberal) principle. As an intention it is the dogma of our times, a paradigm that can count on a wide consensus. It can also be seen as a pragmatist concept aimed to create sustainable structures that can last over time once the first excitement of networking has faded away.

The question raised in this section is how a critical theory of open networks could look like. What happens once we've passed the point of good intentions that openness is the better way to go? Who are the losers and gainers of this concept? Is it possible to break through the mantra that openness in itself is a good thing? It is not enough to, time and again, point our fingers at evil governments, from China to the US and corporations like Microsoft. Going beyond these political gestures, it's an easy job to deconstruct the 'open networks' concept as an ideology and show its hidden border control systems. We all know the carnavalesque parade of figures such as the troll and the spammer, the access geek, the moderator as benevolent dictator, and, not to forget, the worthy librarian. The children of post-structurism have all learned to be on the lookout. It is not hard to read the celebrations of inclusion as a rhetoric that hides actual existing exclusion mechanisms. Indeed, all too often enlightenment projects have blatantly refused to look into their dark sides, with disastrous consequences for human kind and blindness and fanaticism of some of open advocates fits into this tradition.

To conclude: open is never open, in the same way as closed is never closed. No matter how important these reflective remarks are we have to ask: is that all there is?

What energies are at play if we look at the fierceness of some of the free and open evangelists? The louder free software advocates and wireless activists emphasize the absolute openness of their platforms, and refuse to respond to critics, the more

suspicious we can be. It is not hard to sum up the complaints. Open Access only exists for those who made it to the machine and are literate enough to login. The freedom of free software is only for those who have the technical skills to write computer code. Open networks are carefully guarded against dissent. And so on. The weakness of these truisms is that is the disempowering aspect of such cynical knowledge. What starts as careful (self) observation and healthy suspicion can easily deteriorate into populism and indifference. In the same way we could say that it is relevant to put the free software/open source issue on the table in a country like India. What some classify as irrelevant because of the widespread 'pirate culture' may as well be seen as a germ for a new form of economic production that goes beyond globally enforced copyright and 'intellectual property' models. It is another discussion altogether whether the 'open networks' philosophy has got inherent post-capitalistic characteristics. Whereas the production of open source code in India is still at the low end, this should not shy us away from putting on the agenda as open access to documents, procedures and, indeed, software remains an uncomfortable demand.

Whereas it is good to know that the world is not perfect, it remains questionable to dismiss all intentions, the bad ones because they are evil and the good ones because they will inevitably end up creating new Gulags. The open network as a design to organize social and cultural life is not exactly utopia. It is a messy project that understood the hard lessons of the 20th centuries. How can proposals be developed and refined that do not present themselves to the outside world as idealistic. There is increased talk of 'necessary exclusion' and this is, again, a truism, as there is no absolute openness.

However, it still remains a political project to deconstruct the libertarian agendas of the free and open gurus that celebrate Creative Commons while making fortunes behind the back of the same users with hardware and telecom that we all have to pay for in hard currencies.

In his 2004 book Protocol Alexander Galloway asks how control exists after its decentralization. What happens when power is no longer visible or stable? A similar movement we should make with the open-closed dichotomy. We have to start training ourselves to learn how to allocate power within open systems. It is also important to move away from moral stand that open is good and closed is bad. We come closer to a workable truth if we see open networks as distributed systems. Open doesn't mean chaotic, let alone democratic. What we should investigate is 'protocological openness'. How can we read openness as a new power modality and not merely as an idealistic posture that is bound to fail?

Ludwig von Bertalanffy's and the Birth of Open Systems

Arjen Mulder

In scientific books, writers describe the process of evolution, from the Big Bang all the way to the destruction of the universe in 15 billion years or so, as if they had personally witnessed it.

The nice thing about health clubs is that you never have to be embarrassed about what you look like. No one looks good, that's the reason everyone's there in the first place. Nor is fabulous clothing necessary, for everyone is sweating like a pig and is actually so soaked after twenty minutes that even the hippest outfit has lost all glamour. In addition, in aerobics one is so busy trying to execute the correct step and dance movements, the arm and leg exercises, the ab and butt exercises, which require one to constantly look in the mirror – Am I raising my elbows high enough? Is my back straight? Is my knee above my foot? Is my stomach still tightened? – That one couldn't care less how the rest of the class looks or is dressed. Moreover the tempo of the exercises, unlike in bodybuilding, is too fast to scrutinize each other. People scarcely say hello as they enter the gym and must wait a few minutes for the instructor to arrive. And you don't touch each other at all. Conversation is not only impossible owing to the volume of the pounding music; there is nothing to say, besides perhaps the occasional groan.

The only other thing one concentrates on besides doing the exercises correctly is how one's body reacts to them. If your whole body starts to tingle, you're breathing too fast. If your stomach muscles start to burn, keep going. But don't take it too far: safety first. After a few weeks you discover what's so great about some exercises and after a month or two your body begins intensely enjoying all the working out. You get more and more energy because your metabolism has been raised, but not too much, as it would with cardio. Sagging bellies and spare tires disappear slowly but surely, and muscles that were once solidly developed come back surprisingly fast. Abdominal exercises may hurt, but as soon as you stop doing them and take a deep breath it goes away, and the next time it's not as bad. Taking a class from a different instructor once in a while is a good idea, for each one has his or her specialties and reaches parts of the body to which others pay no attention.

De Lamettrie

"The human body is a machine which winds its own springs. It is the living image of perpetual movement,"
- Julien Offray De Lamettrie in L'homme-machine (1748)

The bit about perpetual movement sounds too good to be true, and it is, for, De Lamettrie continues, if you put no fuel into it, this continuously ticking clock stops, "the soul pines away, goes mad, and dies exhausted." To keep the machinery running, it must be repeatedly supplied with matter and energy, whereas a perpetual motion machine needs only one push to keep moving for centuries. Too much fuel is not good for the mechanism

either, for this gives it digestive problems and these lead to malicious behavior: "In Switzerland we had a bailiff by the name of M. Steigner de Wittighofen. When he fasted he was a most upright and even a most indulgent judge, but woe to the unfortunate man whom he found on the culprit's bench after he had had a large dinner! He was capable of sending the innocent like the guilty to the gallows. We think we are, and in fact we are, good men, only as we are gay or brave; everything depends on the way our machine is running."

The human being is a machine that is susceptible to moods – unlike any other machine.

This fact does not prompt De Lamettrie to the conclusion that his metaphor might not be any good, but leads him to a more important insight: "[T]he diverse states of the soul are always correlative with those of the body." This statement is important because it says loudly and clearly that René Descartes' statement "I think, therefore I am" is false. To demonstrate this, De Lamettrie set about writing his treatise. Precisely because the soul is dependent upon the body, the human body can be called an automaton, a machine: it cannot claim a divine spark or other supernatural extra. De Lamettrie: "[M]an is but an animal, or a collection of springs which wind each other up, without being able to tell at what point in this human circle, nature has begun? If these springs differ among themselves, these differences consist only in their position and in their degrees of strength, and never in their nature." In this context, the soul is the central spring in the machine: that, but nothing more.

Descartes

Descartes saw things differently. Where De Lamettrie is a writer who delights in knocking down others' certainties without ever raising his own for discussion, Descartes depicts himself in *Discours de la méthode* (1637) as someone who has arrived at the devastating insight that everything he knows is built on quicksand, including his self-knowledge. His doubt extends so far that he is able to convince himself only after extensive investigation and profound thought that he actually exists, rather than being a mere figment of someone else's imagination. He accepts his existence only when it occurs to him that if he doubts everything, it is still him who is doubting, and no one else. Thus, "I think, therefore I am." Anyone else would say: I am, therefore I think (and do much more besides). Descartes' genius lies precisely in this remarkable inversion. It is not a case of a hilarious error in reasoning, as De Lamettrie tries to show, but rather a tragic truth, a young man's touching answer to the catastrophic revelation that all previous knowledge is false and the ensuing realization that any knowledge about his purpose in life remains to be discovered – by him.

Descartes describes how it took him ten years of travel to lay the first unwavering stone for the edifice of this new knowledge:

> "Then, examining closely what I was, and seeing that I could imagine that I had no body and that there was no world or place where I was, I could not imagine that I did not exist at all. [...] Therefore I realized that I was a substance whose essence, or nature, is nothing but thought, and which, in order to exist, needs no place to exist nor any other material thing."

In short, "even if I did not have a body, my soul would continue to be all that it is."

In Descartes' new thought, only thought itself actually exists, and the rest of reality can be thought away. Thinking is done by the soul, and my soul is therefore the only thing I know for certain must exist in order for me to be here (and I am here, for I am having this thought). De Lamettrie ridicules the idea that the soul exists separately from the body in his anecdote about Judge Steigner

von Wittighofen and in a number of other examples of the effects on the soul of coffee, opium, sex and so on. For De Lamettrie, the soul is not a substance but an effect of a mechanically functioning body.

This somewhat obvious critique ignores the fact that Descartes is actually saying something remarkable in his proposition of a soul that can exist without a body. That is, he writes that he is able to pretend that he has no body, the world does not exist and he is nowhere. Try to imagine that.

The young René Descartes set out to devise a method with which he could think himself out of the disorder in his head, and that in the science of his time, and could achieve certainty about who he was and what he knew. He based this method on four rules. First, he would never accept anything, he did not himself clearly see the truth of. Second, he would begin by dividing every problem into as many parts as proved necessary for solving it. Third, he would compose his argumentations in an orderly way, beginning with the simplest things and then ascending step by step to the most complex questions. And fourth, he would write out the individual steps in his reasoning so completely that he could forget nothing. These four rules still form the basis and touchstone for all scientific argument.

The first real truth Descartes arrive at using this method was the surprising insight that he existed, separately from body, world and place. How did he discover this? By imagining himself without a body, a surrounding world or ground beneath his feet. It was his capacity for imagination that revealed to him the truth of his first original thought: in his mind he could think everything away, except himself as the imaginer of the fantastic nothing in which he somehow continued existing. The truth of thought, or the existence of the soul, can be discovered only with the help of the imagination. 'Soul' is another word for imagination. Though Descartes appointed himself the champion of scientifically responsible, logical thought, he proves with his very first original thought to be the champion of imagination.

The fact that Descartes could find a logical foundation for truth only in his own imagination did not lead him to think that his original I-think-therefore-I-am idea might also have been a phantasm. On the contrary, from it he created the position outside space and time from which the scientific gaze has studied all earthly phenomena ever since, by analyzing them down to the smallest building blocks according to Descartes' method, logically reconstructing them, and publicly describing them in a testable way. In the natural sciences, the belief in a spirit that can move through space and time independently of a body has continued to exist up to the present day.

In scientific books, writers describe the process of evolution, from the Big Bang all the way to the destruction of the universe in 15 billion years or so, as if they had personally witnessed it. The scientist's soul moves freely through the eons, observing fascinating phenomena: supernovas, planets forming, primitive organisms creating an oxygen-rich atmosphere, Cambrian explosions, dinosaurs, comets crashing to earth, mammals evolving and humanoid apes moving onto the savannah, world wars and space travel, up to the sun going out and our Milky Way falling to the center of the universe. The scientist brings us an eyewitness account of all these thrilling moments. The same happens with the scientific proposition that every event in the universe, life included, can ultimately be reduced to physical and chemical processes: in this 'reductionism' the scientist's soul moves merrily from the macro to the micro level, seeing in the living cell only physical and

chemical changes taking place, and nothing more.

The scientist's gaze is not bound to his body, his world or his place in it. Every scientific statement is equally true for everybody, everywhere, in every world (natural laws have been valid everywhere in the universe ever since the first attosecond of the Big Bang). The classical natural sciences do not describe the world in which we exist, bodies and all, but an imaginary world, or more precisely, the ideal state of the world as regarded by an absolute observer. Isaac Newton in *Philosophiae naturalis principia mathematica* (1687) treats space and time, distance and duration, mass and velocity as quantities that exist independently of our sensory impressions – quantities that are only knowable to the mind. In practice, when measured every physical constant turns out to vary somewhat around an average, which is the only 'constant'. But how can we know that these variations are the consequence of 'measurement error' if we can never take an absolute measurement and thus can measure only measurement error? Nothing in the embodied universe is unchanging, not even the speed of light. The classical natural sciences, however, did not concern themselves with this fact; they were more interested in the abstract purpose of the world than in the concrete world itself.

After his I-think-therefore-I-am discovery Descartes immediately constructed an argument to show that God was the only perfect being, existing in an otherwise imperfect universe. It was the overture to the idealism of the natural sciences. The fact that the world does not follow natural laws precisely, but only approximately, is a shortcoming not of those natural laws but of the world, just as it is not God's fault that the world is imperfect, even though he created it. Truth and certainty exist only in His domain, not in that of our earthly fumblings. Instead of being made modest by this realization, Descartes became overconfident: he thought, therefore he was, and this meant that everything that did not think was not. Animals, for example, did not think: they were incapable of constructing meaningful sentences, and therefore had no immortal souls, unlike us. The same was true of black people, crazy people, plants, rocks...

With this thought, scientific rationality's transformation of reality was well and truly under way: nothing in the world had a soul any longer except human beings, and they had been given their souls by God. The step De Lamettrie, otherwise full of admiration for his predecessor Descartes, took after that was that he made clear that human beings, too, were soulless creatures: their souls were essentially no different than their willies. We experience wonderful things with them – but divine they are not. The soul is just as earthly, as any other organic effect. Human beings are animals, and animals are machines. According to De Lamettrie, this insight made one "wise, just, tranquil about his fate, and therefore happy."

To return to the present: if the soul truly springs from the body, just as the various organs spring from the identical cells of the young embryo, and if it can thus be directly manipulated by the body, then the gym is an excellent example of a place where people go to maintain their souls. "A healthy mind in a healthy body" is a moralistic expression of the empirical fact that exercising one's body refreshes one's mind. Exercise makes us like ourselves and our fellow human beings more; we become more honest; our interest grows in the solutions others have found for the specific limitations and possibilities of their bodies; our feeling is refined; our respect for what surrounds us becomes purer, our compassion greater, our outlook more charitable. Life becomes more real. Memory brings forth images we have not thought of

for ages, but which make us what we are. Ah, love!

By chasing the blood through the body, we not only help our stiff muscles to relax, we give our imaginations new energy. And then the philosophical problem of whether the body is a machine is quickly solved. Unlike machines, the body can repair and improve itself, or it can destroy and neglect itself. The choice is yours. The body is a wonderful entity that is continuously falling apart but at the same time tirelessly busy rebuilding itself again.

Ludwig von Bertalanffy

The first person to recognize this, in the late 1920s, was the Austrian biologist Ludwig von Bertalanffy (1901–1972). To clarify his insight, Von Bertalanffy called the body – every body, human, plant and animal – a 'system'. For him, a system was any entity whose coherence was the result of the interaction between the parts. Potatoes in a burlap sack do not form a system, since they owe their coherence to an external force, the sack. But each individual potato in the sack is a system, for a potato derives its solidity and structure not from the peel around it but from the interaction between the cells it is made up of, of which the peel also consists.

Von Bertalanffy specified, though, that living organisms were 'open systems': systems that maintain their coherence by constantly taking in matter and energy from the environment and discharging waste materials into it. Machines, by contrast, are closed systems: they process matter and energy and give off products and waste, but they do not use that matter and energy to build themselves up. The coherence of the closed system of the machine is maintained by a mechanic; a system manager – another machine, rather than the machine itself. An open system does precisely the opposite.

In *Problems of Life* (1952), Von Bertalanffy describes the characteristics of systems. Every system always naturally strives for equilibrium. Closed systems tend toward a static and stable equilibrium; open systems maintain an unstable, dynamic one. Closed systems obey the second law of thermodynamics, which says that spontaneous reactions always occur in the direction of the greatest entropy. This means that closed systems always do their best to decay into dust, for a collection of separate particles that can all be the same temperature exists in an unchanging equilibrium, a final state in which order will never again spontaneously arise.

Open systems are always actively busy disturbing the equilibrium they have managed to achieve. They do this because it allows them to release the energy with which they preserve themselves and keep themselves alive. They must also take up new energy and matter from the environment over and over in order to replenish that used up in their maintenance, or else their equilibrium will be too greatly disturbed and they will die. A tree takes in energy (sunlight) and matter (oxygen and soil minerals) and combines them into sugars and proteins, the materials out of which it is made. The tree gives off carbon dioxide and drops leaves in order to get rid of its waste products. We humans take in energy stored in plant molecules by introducing them into our bodies in the form of food, either directly or in a roundabout way through animals. Living bodies are open systems. When we die, our systems close, and "Dust thou art, and unto dust thou shalt return" comes true.

Von Bertalanffy said, "Living things do not just exist; they happen." In the case of the machine, we can differentiate between a structure and its function. The structure of two axes connected to each other with a total of four wheels attached, has the function of making a car move. When the car does

not move, the structure does not become weaker, and when the car does move, this is not beneficial to the structure's strength and flexibility (rather, the opposite is true). In a living system, nonetheless, no distinction can be made between structure and function, for they arise together and in interaction. As a leg is used, it functions better – for example, moving more elegantly – and because it functions better, its structure becomes stronger, more flexible and 'healthier.'

The leg's bones, muscles, tendons, nerves, blood vessels and skin are permanently being dismantled and reconstructed, but this occurs relatively slowly (it takes seven years to replace all a body's cells, although replacing those of the intestinal wall takes just two days). When a set of legs is used for walking, various constructive and destructive processes take place in its muscles, tendons, nerves, blood vessels and so on (an increased supply of oxygen-rich blood, the production of new muscle fibers, the removal of butyric acid and oxygen-poor blood, and so on). A leg as a whole is a 'structure', for it is a slow process that takes a long time; walking is a 'function', for it is a rapid process that lasts but a short time. The rapid process of the function influences the slow process of the structure. This cannot be said of a machine.

Living systems are constructed according to a hierarchy of subsystems that range from relatively simple to highly complex. The individual cells of a body are systems, for they maintain themselves by means of interaction between their organelles. The tissues of which these cells are a part are also systems, as are the organs into which the tissues organize themselves, as is the entire body of which the organs are a part. And bodies, too, organize themselves into systems: vegetations, ecosystems, societies, cultures, traditions. In the transition to more complex levels of organization, the larger system always takes on new characteristics, ones that cannot be predicted from the characteristics of the subsystems out of which the whole is constructed.

Thus our bodies are capable of walking, which is not true of the individual muscles out of which our legs are constructed; they can only contract and relax. The 'emergent' characteristics of complex systems are the reason the science of biology exists. The characteristics of living systems cannot be reduced to the physical and chemical processes that take place at the lowest level of complexity: they comprise a level of reality in themselves. Nor can the characteristics of a social system be traced back to the biological characteristics of the people who make up that social life. To understand something, we must interpret it on its own level of complexity, nowhere else.

Subsystems determine the functioning of a larger system just as much as the larger system determines how its subsystems function. Thus, when you get a stomachache, you should look for the cause not only in your subsystems (such as the stomach wall releasing too much acid), but also in the systems of which you yourself are a subsystem (for example, your job). Living systems have three characteristics that cannot be found in un-living or dead ones. First, they have a metabolism, through which they maintain themselves by continuously producing themselves. Second, they possess the ability to receive stimuli from the outside world and incorporate them into their own structure and corresponding function. And third, they are capable of changing shape: of growth, development, adulthood, maturity, old age, wisdom. What is exceptional about open, living systems is that they reach the same final state along many different routes, while closed ones always reach the final state

along the same route (disorder, death).

In nature there are no accidental processes and outcomes, no chance evolutions and developments: there are only dynamic, fluctuating equilibria, and these are biology's objects of study. If the sole point of evolution was survival, then only microbes would exist on earth, the same ones that were present in the primeval soup four billion years ago: they were surviving just fine back then. Everything that lives nevertheless shows an inclination to form ever more, ever different connections and ever more complex systems. Why is this?

Every individual is a complex and dynamic system. Do not, therefore, reduce him or her to one trait, for example skin color, sex, age or mental capacity. See the cloud of connections that is maintained by every person. People become machines only when you treat them like machines, as input-output units, as structures for which you can click on certain functions and suppress others. Von Bertalanffy's *Robots, Men and Minds* (1967) is one long complaint against the psychology and psycho-technology of his time, as applied, for example, in the advertising world, which was searching for stimuli that could be administered in order to elicit reactions in people such as impulse buying, feelings of fear and certain voting behavior. If instead you treat people as complex systems with an inherent drive to develop themselves and make themselves ever more complex, you give them the chance to create souls within themselves, completely on their own power, at any level of complexity. For this is what a soul is: the extra you get when a relatively simple system connects itself to a system of greater complexity, which still maintains its coherence through interaction between the parts it is made up of. What all the sciences have in common, according to Von Bertalanffy, is not that they can ultimately reduce everything that happens on earth and in the cosmos to physical and chemical processes, but that they study relationships, systems whose building blocks organize an order of their own.

In the biological worldview, everything has a soul once again. Everything that lives, everything that is an open system, everything that destroys itself in order to build itself up again, everything that builds itself up in order to become more complex, has a soul – not from a divine spark, nor an 'élan vital', nor any other cosmic force that breathes life into dead structures from the outside, but a soul it gives to itself through its own drive to become more and more complicated, and by conquering all the resulting difficulties by becoming even more complex, even more difficult. Every system seeks to become a subsystem of a larger, more complex system. To this end, it searches for like-minded systems, for a joint rhythm: it seeks to be asked to dance. Every living system seeks to become a means to an end by which it can transcend itself. Staying the same is not an option, unless one wishes to allow oneself to spontaneously lapse into disorder.

And if one can find no larger unit of which to become a part – if there is no larger entity to which one can provide one's unique contribution – then one must invent such an entity: this is why the imagination can be called the one true soul (animals are said to be without imaginations). The soul is the part of us – the effect, the function, the emergent trait – that allows us to understand that everything we are made up of is simpler than we are. But it is also the thing in us that makes us long to be part of a whole whose order is, as yet, beyond us. The soul is the surplus that seeks to be more.

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Arjen Mulder

Arjen Mulder is an Amsterdam-based media theorist who has taught at various art schools in the Netherlands and Belgium, and works with V2_ in Rotterdam. He has published six collections of essays in the Dutch language and co-wrote Book for the Electronic Arts with Maaike Post. In 2004 he published Understanding Media Theory: Language, Image, Sound, Behavior. The piece on Bertalanfy was first published in Joke Brouwer, Arjen Mulder (ed.) Feelings are Always Local (V2_/NAi Publishers).

Sometimes a Great Notion: a Reflection on Cybernetics, Isolated Systems and Open Beings

Kenneth C. Werbin

> The more life is mechanized, the more we must place the weight of our belief in the non-isolated parts of the isolated world; in the openness of other human beings and our interactions with each other–that's Wiener's message.

Viv closes the large book. For some time now she has been turning the pages in silence as Draeger watches, entranced by the flow of faces. "So," she says smiling. Draeger starts, his head coming up. "I *still* don't understand what happened," he says after a moment.

"Maybe that's because it's *still* happening," Viv says.
- Ken Kesey, Sometimes a Great Notion[1]

Sometimes a Great Notion, the 1964 novel by Ken Kesey, is about so much more than the Stamper family and the rivalries and betrayals that characterize a mill strike in a small lumber town on the Oregon coast. *Sometimes a Great Notion* is a book that touched me profoundly in my youth and comes back to haunt me now, like the crisscrossed thoughts of the central characters and the unique form of the novel, where no character is left alone in their thoughts or narrative for any one moment. Rather, the characters in this novel exist in a realm where all notions and thoughts, great or small, are highly intertwined; in a seemingly wide-open, non-linear, thought-space, where each character possesses the ability to interject their thoughts into those of the others, albeit (in parentheses).

Reading this book in the 1980s, in my late-teens, I was exasperated by the form of the novel, finding it difficult to wrap my head around a first-person narrative told by all the central characters in the first-person; which in addition to thought interjections (in parentheses), also allowed first-person narrators to engage in multiple strains of thought through the use of *italics* and CAPITAL letters. It all seemed like maximum disorder to me. Indeed, *Sometimes a Great Notion* was ahead of its time, well ahead. So ahead, that in the mid-80s, some 20 years after its publication, such non-linear form still appeared completely alien to a 17 year-old who had spent his youth reading *Choose Your Own Adventure Novels,* playing early *PONG* and *ATARI*, and mastering *BASIC* on his *APPLE IIE,* even regularly logging onto *BBS*' through a *1,200 baud modem*. Yet still, such a wide-open, non-linear thought-space was as foreign to me then as the term *cybernetics* is to Kesey's classic now; let alone how a hippie novel with a place in the pantheon of 60s-flower-power-acid-trip-odyssey literature could be a reflection of the implications of identification and control in isolated and open systems.

It is my argument that *Sometimes a Great Notion* provided a glimpse of the future in 1964, acting as a harbinger of things to come, namely the *internet* and the *blogosphere*. The tendency in this novel to disorder—its crisscrossing narrative form and its embrace of multiple strains of thought and varying first-person narration—is characteristic of movements in all isolated systems; towards maximum-disorder—and more specifically

entropy. The more these characters find themselves lost in a miasma of densely woven thoughts, the less open they are to each other as human beings. Indeed, as much as the *internet* and the *blogosphere* appear to be 'open' spaces with infinite possibilities, we must always be aware that they have the capacity to be quite the opposite; vast isolated (and isolating) mechanized systems, which in addition to facilitating powerful operations of identification and control, also obfuscate optimism, progress and order by alienating people from each other, from their tendency to be open in the everyday world. In this way, t*he internet (like the blogosphere, and open systems theory in general) is only sometimes a great notion*.

Like many of his contemporaries, including Timothy Leary, Stewart Brand, and Neil Cassidy, Ken Kesey had been *turned on* to *cybernetics* and notions of open systems in his Merry Prankster quests to experiment with alternate social forms and realities in thought, practice and pharmaceutical. Norbert Wiener was a cult-hero to these hippies, and his 1948 treatise, *Cybernetics: or Control and Communication in the Animal and the Machine*[2], was the ontology for their acid trips. But where the acid trips and back-to-nature communes ultimately proved to be dead ends, regulated through law and capitalism respectively, cybernetics as ontology remained, evolved and grew, proving to be the greatest legacy left behind by this generation, who came to fully embrace and pass down 'open' systems approaches as the pre-eminent ways of doing and being in a post-industrial and increasingly globalizing world. In many ways, the 60s had a final score; the naturalists and their back to earth notions lost; while the computer hippies with their 'open' systems approach won.

Cybernetics, like *Sometimes a Great Notion*, comes back to haunt me too. I first studied cybernetics as a graduate student in educational technology, engaging its techniques to model social organizations and design human learning interventions and performance-based technologies before and through the splintering of the new economy in the late 90s. Cybernetics was a livelihood and profession for me, and the idea of 'open' systems was fundamental to my vocation; the key to the design of efficient and effective learning solutions and organizations. Although I knew that the *Systematic Design of Instruction*[3] in its roots and at its core was an invention of the US military, I put little mind to considering the profundity of the connections between 'open' systems design and identification and control at this time, despite once even unknowingly interviewing for a position designing learning solutions for sailors on nuclear submarines! "How'd ya like to have the highest security clearance in the land, Ken? How'd ya feel about working on a nuclear submarine?", a Southerner drawled at me in a warehouse on the outskirts of Philadelphia back in 1998. Once I deduced what business this consulting firm was really involved in, I sabotaged the interview by suggesting that a Russian constructivist approach might be more appropriate to the design of learning solutions than the military developed, tried and true techniques involving the *Systematic Design of Instruction*. They were not impressed and summarily ended the interview. After all, I was advocating for the man (*sic*) over the machine; humanity before mechanized processes.

But still, at this time, I considered this to be nothing more than an odd brush with the military-industrial complex, choosing to ignore the broader, social implications of 'open' systems design and its inherent possibilities for dehumanizing isolation, identification, control and critical entropy. Indeed, it was only when I returned to academia for PhD

studies, fully extracting myself from 'open' systems design as vocation, and partially extracting myself from such ontology, that I too came to see that *'open' systems are really 'isolated' systems*, where the tendency is to maximum disorder for those inside them. Indeed, c*ybernetics is also only sometimes a great notion.*

Norbert Wiener was first and foremost a patriotic American, an MIT professor, who applied his tremendous intellect to questions of artillery and ballistics during WWI, and ultimately solved the biggest impediment to the defeat of the Nazis in WWII; namely, how to track and target a moving airplane in the sky so as to shoot it down before it has a chance to strike. It was in such a climate of uncertainty and dire consequence, where unlocking the key to identification and control (in the wide-open skies) was preeminent, that Norbert Wiener came to apply cybernetics and notions of isolated feedback systems to military-based problems.

Despite the seemingly wide-open nature of the sky, Wiener recognized that like the universe, the sky, and more specifically a pilot in symbiosis with their plane in the sky, were in fact isolated systems, that despite tending towards maximum disorder could through mechanized processes be probed for recognizable and predictable patterns—the basis of identification, control and communication in animals and machines. Indeed, where isolated systems do by nature tend towards maximum disorder—entropy—they can nonetheless be controlled by uncovering and honing in on regularities and patterns, which can be manipulated through feedback operations. This theory proved to be invaluable to the military-industrial complex, providing a series of underlying mathematical operations that solved a wide variety of identification and control issues in weapons, security and surveillance design and development.

How did such a man, and such a theory, seemingly anathema to the ways of flower power, become a cult hero to hippies like Kesey, providing ontological justification for their social and artistic experiments?

Our view of society differs from the ideal of society which is held by many Fascists, Strong Men in Business, and Government. Similar men of ambition for power are not entirely unknown in scientific and educational institutions. Such people prefer an organization in which all orders come from above and none return. The human beings under them have been reduced to the level of effectors for a supposedly higher nervous organism. I wish to devote this book to a protest against this inhuman use of human beings; for in my mind, any use of human beings in which less is demanded of him than his full status is a degradation and a waste. It is a degradation to chain a human being to an oar and use him as a source of power...Those who suffer from a power complex find the mechanization of man a simple way to realize their ambitions. I say, that this easy path to power is in fact not only a rejection of everything that I consider to be of moral worth in the human race, but also a rejection of our now very tenuous opportunities for a considerable period of human survival.

- Norbert Wiener, The Human Use of Human Beings (1st Edition)[4]

Following WWII and the victory by the Allied Forces, the USA began to embrace its newly defined role as world super power, and quickly, cybernetics hatched from its military shell, taking hold as a social strategy aimed at preserving worldwide hegemony. While WWII adoption of cybernetics was to military ends, post-war, the philosophy quickly extended to questions of social order, leading to a series of initiatives spearheaded by the US government aimed at 'connecting' people globally in the hopes of eliminating 'authoritarian personalities' and racism[5]. Simply put, the idea was that the more 'open' and 'connected' people could be—the more

opportunity they had to share their stories and experience in a vast but nonetheless isolated mechanized system—the less inclined they would be to take extreme, 'authoritarian' positions of hate; and of course, if they did, they could be tracked. In this way, cybernetics had the potential to promote a kind of worldwide panopticism, where hate and racism could be kept in check through an 'open' global awareness heretofore unimagined.

The gospel of cybernetics was evangelized to social and hard sciences through a series of initiatives including the Macy conferences in Chicago in the mid 1940s, which were initially attended by cybernetic and social science luminaries including Norbert Wiener, Gregory Bateson, Margaret Mead, Johann von Neumann, Heinz von Foerster and Kurt Lewin, as well as the CIA. These conferences ultimately gave rise to a series of 'open' social experiments including the LSD experiments at Harvard, Ken Kesey and the Merry Pranksters' acid-trip odysseys, and ultimately, ARPANET the predecessor to the internet[6]. In this way, by the time cybernetics came to the hippies, a new language of 'open', auto-poetic, self-organizing systems was taking root and finding more and more applications in both the hard and social sciences. From cognitive and computer science to neurobiology, anthropology and education, a discourse of openness and connection had begun to usurp the overtones of cybernetics' military-industrial legacy, effectively obfuscating critiques of the human alienation inherent in enveloping life in isolated feedback systems for the purposes of identification and control. And it is precisely this transformation of cybernetics that ultimately came to haunt Norbert Wiener, who withdrew from future Macy gatherings, and subsequently penned the 1st edition of *The Human Use of Human Beings* in 1950.

In this work, Wiener invests significant time in considering and warning against the social consequences and the possible de-humanizing effects of mass adoption of feedback systems as social order, arguing that the 'mechanization of man' through 'isolated systems' is the simplest and easiest path to power. Recognizing that isolated systems applied as social order allow people with ambitions for power to craft social organizations where orders come from the top and go down unquestioned, Wiener wrote *The Human Use of Human Beings* as a protest and warning against the dehumanizing possibilities inherent in such practice and the dire implications of identification, control and power in isolated systems to human survival. Indeed, enveloping a country, the world, or all of humanity in an isolated, mechanized feedback system could provide the incunabula for a new global totalitarianism, where the tendency is to maximum disorder, but for those who wield the technologies that constitute identification and control.

Critical to his warning is the relationship between progress and entropy, between the openness of human beings and the isolation of machines. Indeed, for Wiener, it is only in the non-isolated parts of isolated systems that optimism is to be found: In *human beings*, who are inherently *open*, existing as islands in a vast but isolated sea of entropy, the universe; and who defy this greatest of all entropy by displaying unique instincts, traits, and tendencies towards order, optimism and progress—*openness*. But where openness is marked by order, optimism and progress, and *is* the realm of humanity, it is not a given, as disorder, pessimism and isolation are the hallmarks of entropy, and the predisposition of molecules in isolated systems.

In 'The Dream Machine' Michael Waldrop[7] sketches out the history of information theory

and its direct ties to physicists' understanding of entropy, recounting the renowned computing mathematician Johann von Neumann's insistence to Claude Shannon, the father of 'Information Theory', that information and entropy were quite simply, one in the same. The story has it that von Neumann in a heated debate with Shannon insisted that 'Information' in his 'Theory' be re-named 'Entropy'. Firstly, because "…[your] formula for the information content of a message [is] mathematically identical to the physicist's formula for entropy," but more importantly, because "most people don't know what entropy really is, and if you use the word *entropy* in an argument, you will win every time!" , von Neumann pedantically intoned to Shannon[8].

Despite such stuffy and alienating offhandedness, his point was valid and Shannon considered it as such. In physics, entropy is understood as an indicator of the randomness of molecules in an isolated system; and randomness, according to the 2nd law of thermodynamics, always increases, never decreases. In other words, an isolated system will always tend towards maximum disorder—the greatest homogeneity known—and the more random something is at the molecular level, the 'less information' we have about the arrangement of the molecules. Entropy is, in this respect, 'missing information', that which Shannon's theory portended to elaborate.

Since early literacy we have indeed been engaged in a never-ending battle to manage never-ebbing flows of information, or entropy, as von Neumann insisted it to be. The earliest writings were lists of debits and credits owed, lists of events, and lexical lists of concepts, which represent very early attempts at bringing order to, and decreasing the entropy of life through isolated systems and mechanized processes aimed at organizing knowledge and society. And where such systems do provide unparalleled efficiency and effectiveness, they also produce the effects of endlessly new, and increasingly disordered questions and thoughts of all kinds, particularly for those whose lives are ordered by them. But despite being characterized by such inherent internal disorder, when probed for regularities and patterns, isolated systems can highlight all kinds of 'missing information' for those who wield the books; ultimately subjecting people to increasingly invasive forms of identification, control and power. Indeed, identification, control and power are achieved with the reduction of human beings to trackable entities in isolated systems[9].

And it is precisely this potential for isolated systems to reduce people to quantifiable cogs in a wheel that makes the 2nd law of thermodynamics, for Wiener, more than a cornerstone of physical science, but also a dire warning that life can be isolated and subjected to intense identification and control, despite an everyday existence that most experience as disorder and entropy. The danger of isolated systems as social systems is an obfuscation of the wide-open possibilities and light inherent in human beings, who despite existing in a miasma of ever-intertwining thoughts, notions and entropy find optimism, progress and order in our openness to each other. In this respect, human beings are the only inherently open systems, and the danger is that the isolated systems in which we live (from the universe, to the internet, to science in general) have a natural propensity to move us towards maximum disorder, making it difficult to see our openness and humanity through the dense isolation.

The question of whether to interpret the second law of thermodynamics pessimistically or without gloomy consequence depends on the importance we give to the universe at large, on the one hand, and to the islands of locally decreasing entropy we find in it, on the other.

Remember that we ourselves constitute such an island of decreasing entropy, and that we live among other such islands.

Norbert Wiener—*The Human Use of Human Beings* (1st Edition)[10]

For although we are embedded in isolated systems where communication and information flow freely and endlessly towards entropy, we are nonetheless in constant feedback with those around us; capable of critiquing, making decisions, imagining other possibilities, acting, learning and growing together. *Far from being isolated automatons, it is our continual, critical interaction with our environment and those around us, and the optimism and progress we see in each other, that makes us open.* But that is not to say that openness, progress, and optimism are a given. Placing the weight of our beliefs in humanity over and above our isolated mechanized systems is a choice, and such practices and fundamental beliefs must be fostered and maintained, and their demise must be guarded against vigilantly. The more life is mechanized, the more we must place the weight of our belief in the non-isolated parts of isolated systems—in each other's openness.

In many ways, *Sometimes a Great Notion*, the *internet* and the *blogosphere* are all nothing more than reflections of the grandest of all isolated systems, the universe; and like all isolated systems they are all tending towards maximum disorder—entropy. In *Sometimes a Great Notion,* the more one reads, the more disordered the pages become; disorientation abounds as the thoughts become so densely interwoven that it is impossible to see anything beyond a morass of loosely connected thoughts. With each interjection that appears in (parentheses), and each and every new strain of thought that manifests in *italics* and CAPITALS, we are farther from the characters, and they are farther from each other, from the humanity each and every one embodies. With so many versions of so many stories, and no one talking or listening, just interjecting thoughts, no one vision can hold anyone together; not of the mill, not of the union, not of the family, nor humanity.

And is it really any different on the *internet* or in the *blogosphere*? With so many versions of so many stories, and so many highly intertwined tales and hyperlinked positions, how are we ever to see the humanity through the entropy? How are we ever to be on the same page?

As human beings, existing as islands in a sea of entropy, we do have choices, and we do have instincts to order, optimism and progress—openness. But for some, the vastness of the mechanized sea means drowning; entropy is inertia and critical disengagement, there is simply too much information and even more missing information swelling in deeper and deeper waters. How to keep one's head above? They simply sink, drowning in isolation. Where some choose to sail in autopilot, relying on machines to set their course, with increasingly sophisticated navigation tools like 'ranking lists' and RSS feeds to ascribe value to the swelling internet and *blogosphere*, fully embracing the isolation of the mechanized world[11]. And still some choose to transform the entropy into progress, harnessing it in their day-to-day existence together; privileging critical thought and human interaction in the ascription of value; negotiating and ordering existence in face-to-face reality; *opening to each other*.

For there is always a sanctuary more, a door that can never be forced, whatever the force, a last inviolable stronghold that can never be taken, whatever the attack; your vote can be taken, your name, your innards, even your life, but that last stronghold can only be surrendered. And to surrender it for any reason other than love is to surrender love.

Ken Kesey—*Sometimes A Great Notion*[12]

The more life is mechanized, the more we must place the weight of our belief in the non-isolated parts of the isolated world; in the openness of other human beings and our interactions with each other—that's Wiener's message. And this warning was not lost on Ken Kesey, for it is a similar lesson that the central characters in *Sometimes a Great Notion* come to learn, only transcending their bitter rivalries and betrayals, once they finally come to see beyond the disorder and isolation of their multiple, crisscrossed strains of thought; finally honing in on, and placing weight, emphasis, belief and love in each other's presence, fully opening to one another's humanity. For in the end, Kesey's characters do transcend the disorder of their entropic thought-space, finally talking to each other, outside of their isolation, in a back and forth dialogue that is the sole realm of the non-isolated parts of isolated systems; *open human beings engaged and interacting in the here and now*. And it is only with this recognition that Kesey restores order to the novel; the CAPITALS, *italics* and (parentheses) are no more; the characters are finally open to each other.

(Are WE?)

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[3] Dick, Walter and Lou Carey. 1978. *The systematic design of instruction*. Glenview, Ill.: Scott, Foresman.

[4] Wiener, Norbert. 1950. *The human use of human beings; cybernetics and society*. Boston: Houghton Mifflin, p. 15-6

[5] Lutz Dammbeck's depth ful documentary, "The Net: The Unabomber, LSD and the Internet" (2006 – Other Cinema Release) traces the historical ties between cybernetics, the Macy conferences and the links between CIA sponsored mind-control experiments, the Internet and Theodor Adorno's 1950 study on racism in America. (Adorno, Theodor W. 1950. *The Authoritarian personality*. New York: Harper.)

[6] Contrary to many accounts of the impetus for the Advanced Research Projects Agency Network (the internet's predecessor) stemming from a fear of nuclear disaster, Lutz Dammbeck's documentary, and specifically his interviews with the former head of ARPAnet, Robert Taylor (1965-69, also founder and manager of Xerox PARC's Computer Science Laboratory 1970-83), make a strong case for the idea of an 'open', highly-connected, global, mechanized system to encourage the sharing of information and a world without hate as the fundamental goal behind the advent of the internet's predecessor.

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Biography Kenneth C. Werbin

Descending from a long-line of Marxist thinkers and activists, Montreal-based Kenneth C. Werbin works as a Doctoral Researcher in the Department of Communication Studies at Concordia University. His nearly finished dissertation, The List Serves: Bare Life in Cybernetic Order, probes questions of list culture; arguing that the Third Reich's engagement of a conjunction of early Hollerith/IBM computing technology, listing practices, and discourses of surveillance, identification and control, represents the first cybernetic feedback system for maintaining social order around bare life; and investigating how this conjunction continues to resonate and reverberate in today's increasingly cybernetic order. Also a part-time lecturer, Kenneth participates as a moderator for the University of the Streets Public Dialogue Series in Montreal, coordinating a discussion series on 'Technology, Culture and Power'. Kenneth is also a student researcher with the Canadian Research Alliance for Community Innovation and Networking (http://www.cracin.ca) where he is investigating the 'third-spaces' that emerge around Canadian-government sponsored community-networking initiatives.

In Defiance of Existence: Notes on Networks, Control and Life Forms

Alexander Galloway and Eugene Thacker

In computer networks, science professionals have, over the years, drafted hundreds of protocols to govern email, web pages, and so on, plus many other standards for technologies rarely seen by human eyes.

In recent decades, the primary conflict between organizational designs has been between hierarchies and networks: an asymmetrical war. In the future we are likely to experience a general shift downward into a new bilateral organizational conflict – networks fighting networks. John Arquilla and David Ronfeldt, two researchers at the RAND Corporation who have written extensively on the hierarchy-network conflict, offer a few propositions for thinking about future policy:

- Hierarchies have a difficult time fighting networks. [...]
- It takes networks to fight networks. [...]
- Whoever masters the network form first and best will gain major advantages[1].

But what is an actually existing example of networks fighting networks? We often point to the agile, flexible American Special Forces fighting the elusive cells of Al-Qaeda, or email worms exploiting weaknesses in networked software, or the paper airplanes of the Zapatistas' 'air force' fighting a media war with the guerrilla marketing campaigns of the multinationals, or SARS exploiting global transportation networks. Networks of control have invaded contemporary life to such a high degree – in the form of ubiquitous surveillance, biological informatization and other techniques – that their preponderance, their hegemony, cannot help but bring into existence intra-diagrammatic conflict.

The question then remains: what happens when "the powers that be" actually evolve into networked power, creating a sinister new symmetry? If we can imagine for a second that this has already happened – to varying degrees in varying locations – does that mean that the Left has lost its strategic foothold?

Rhetorics of Freedom

While tactically valuable in the fight against proprietary software, open source is ultimately flawed as a political program. Open source focuses on code in isolation. It fetishizes all the wrong things: language, originality, source, the past, status. To focus on inert, isolated code is to ignore code in its context, in its social relation, in its real experience, or actual dynamic relations with other code and other machines. Debugging never happens through reading the source code, only through running the program. Better than open source would be open runtime, which would prize all the opposites: open articulation, open iterability, open practice, open becoming.

But this is also misleading and based in a rhetoric around the relative openness and closedness of a technological system. That rhetoric goes something like this: technological systems can either be closed or open. Closed systems are generally created by either commercial or state interests – courts

regulate technology, companies control their proprietary technologies in the marketplace, and so on. Open systems, on the other hand, are generally associated with the public and with freedom and political transparency. Geert Lovink contrasts "closed systems based on profit through control and scarcity" with "open, innovative standards situated in the public domain"[2]. Later, in his elucidation of Manuel Castells, he writes of the opposite, a "freedom hardwired into code"[3]. This gets to the heart of the freedom rhetoric. If it's hardwired, is it still freedom? Instead of guaranteeing freedom, the act of 'hardwiring' suggests a limitation on freedom. And in fact that is precisely the case on the Internet, where strict universal standards of communication have been rolled out more widely and more quickly than in any other medium throughout history. Lawrence Lessig and many others rely heavily on this rhetoric of freedom.

We suggest that this opposition between closed and open is flawed. It unwittingly perpetuates one of today's most insidious political myths: that the state and capital are the two sole instigators of control. Instead of the open/closed opposition, we suggest the pairing physical/social. The so-called open logics of control, those associated with (non-proprietary) computer code or with the Internet protocols, operate primarily using a physical model of control. For example, protocols interact with each other by physically altering and amending lower protocological objects (IP prefixes its header onto a TCP data object, which prefixes its header onto an HTTP object, and so on). But on the other hand, the so-called closed logics of state and commercial control operate primarily using a social model of control. For, example, Microsoft's commercial prowess is renewed via the social activity of market exchange. Or, to cite another example, Digital Rights Management licenses establish a social relationship between producers and consumers, a social relationship backed up by specific legal realities (DMCA). Viewed in this way, we find it self-evident that physical control (i.e. protocol) is as powerful as social control, if not more so. Thus, we hope to show that if the topic at hand is one of control, then the monikers of 'open' and 'closed' simply further confuse the issue. Instead we would like to speak in terms of "alternatives of control", whereby the controlling logic of both 'open' and 'closed' systems is brought out into the light of day.

Feedback vs. Interaction I

In the twentieth century there came to pass an evolution in the nature of two-way communication within mass media. This evolution is typified by two models: feedback and interaction. The first model consists of what Beniger calls the mass feedback technologies:

> "Market research (the idea first appeared as 'commercial research' in 1911), including questionnaire surveys of magazine readership, the Audit Bureau of Circulation (1914), house-to-house interviewing (1916), attitudinal and opinion surveys (a U.S. bibliography lists nearly three thousand by 1928), a Census of Distribution (1929), large-scale statistical sampling theory (1930), indices of retail sales (1933), A. C. Nielsen's audimeter monitoring of broadcast audiences (1935), and statistical-sample surveys like the Gallup Poll (1936)"[4].

These technologies establish two-way communications; however, here, as in the media they hope to analyze, the communication loop is not symmetrical. Information flows in one direction, from the viewing public to the institutions of monitoring.

Contrast this with the entirely different technique of two-way communication that is called interaction. As a technology, interaction does not simply mean symmetrical communication between two

parties. Instead, we use 'interaction' to refer to an entire system of communicative peers: what Paul Baran called a 'distributed network' of communication. We can offer here a list of interactive communications technologies to complement Beniger's list of feedback technologies above:

- Paul Baran's description of distributed communications (1964)
- Recombinant DNA and the practice of gene-splicing (1973)
- The ARPANET's mandatory rollover to the TCP/IP protocol suite (1983)
- Emerging infectious diseases (1980-present)
- The Gnutella search protocol (2000)

Thus, interaction happens in an informatic medium whenever there exists a broad network of communicative pairs or multiples, and in which each communicative peer is able physically to affect the other. It doesn't happen in mass media like cinema or television because the audience is structurally unable to achieve a symmetrical relationship of communication with the apparatus (no matter how loudly one yells back at the screen). Interaction happens in the technology of gene-splicing because both sides are able to physically change the system: the scientist changes the physical system by inserting a genetic sequence; while DNA is the informatic code that teleonomically governs the development of physical life. Interaction happens in the Internet protocols for the same reason: protocols interact with each other by physically altering and prepending lesser protocological globs.

Feedback vs. Interaction II

As models for two-way communication, feedback and interaction also correspond to two different models of control. Feedback corresponds to the cybernetic model of control, where, although communication occurs bidirectionally between two parties, one party is always the controlling one and the other the controlled. A thermostat controls temperature, not the other way around. Mass media like television and radio follow this model. Interaction, on the other hand, corresponds to a networked model of control, where decision-making proceeds multilaterally and simultaneously.

Many today say that new media technologies are ushering in a new era of enhanced freedom and that technologies of control are waning. We say, on the contrary, that double the communication leads to double the control. Since interactive technologies such as the Internet are based on multidirectional rather than unidirectional command and control, we expect to see an exponential increase in the potential for exploitation and control through such techniques as monitoring, surveillance, biometrics, and gene therapy. At least the unidirectional media of the past were ignoring half the loop. At least television didn't know if the home audience was watching or not. Today's media have closed the loop. They physically require the maintained, constant, continuous interaction of users. This is the political tragedy of interactivity. We are "treading water in the pool of liquid power," as Critical Art Ensemble once put it[5].

Protocol, Control, and Life Forms

The principle of political control we suggest is most helpful for thinking about biological and informatic networks is 'protocol,' a word, which is derived from computer science, but resonates in the life sciences as well. Protocol abounds in techno-culture. It is a totalizing control apparatus that guides both the technical and political formation of computer networks, biological systems and other media. Put simply, protocols are all the conventional rules and standards

that govern relationships within networks. Quite often these relationships come in the form of communication between two or more computers, but 'relationships within networks' can also refer to purely biological processes, as in the systemic phenomenon of gene expression. Thus, by 'networks' we refer to any system of interrelationality, whether biological or informatic, organic or inorganic, technical or natural – with the ultimate goal of undoing the polar restrictiveness of these pairings.

In computer networks, science professionals have, over the years, drafted hundreds of protocols to govern email, web pages, and so on, plus many other standards for technologies rarely seen by human eyes. The first protocols for computer networks were written in 1969 by Steve Crocker and others. If networks are the structures that connect people, then protocols are the rules that make sure the connections actually work. From the large technological discourse of white papers, memos, and manuals, we can derive some of the basic qualities of the apparatus of organization which we here call protocol:

- Protocol facilitates relationships between interconnected, but autonomous, entities;
- Protocol's virtues include robustness, contingency, interoperability, flexibility, and heterogeneity;
- A goal of protocol is to accommodate everything, no matter what source or destination, no matter what originary definition or identity;
- While protocol is universal, it is always achieved through negotiation (meaning that in the future protocol can and will be different);
- Protocol is a system for maintaining organization and control in networks.

In many current political discussions, networks are seen as the new paradigm of social and political organization. The reason is that networks exhibit a set of properties that distinguishes them from more centralized power structures. These properties are often taken to be merely abstract, formal aspects of the network – which is itself characterized as a kind of meta-structure. We see this in 'pop science' books discussing complexity and network science, as well as in the political discourse of 'netwars' and so forth. What we end up with is a metaphysics of networks. The network, then, appears as a universal signifier of political resistance, be it in Chiapas, Seattle, or Geneva, or online. What we question is not the network concept itself, for, as a number of network examples show, they can indeed be effective modes of political struggle. What we do question is the undue and exclusive reliance on the metaphysics of the network, as if this a-historical concept legitimizes itself merely by existing.

Political Animals

Aristotle's famous formulation of "man as a political animal" takes on new meanings in light of contemporary studies of biological self-organization. For Aristotle, the human being was first a living being, with the additional capacity for political being. In this sense, biology becomes the presupposition for politics, just as the human being's animal being serves as the basis for its political being. But not all animals are alike. Deleuze distinguishes three types of animals: domestic pets (Freudian, anthropomorphized Wolf-Man), animals in nature (the isolated species, the lone wolf), and packs (multiplicities). It is this last type of animal – the pack – which provides the most direct counterpoint to Aristotle's formulation, and which leads us to pose a question: If the human being is a political animal, are there also animal politics? Ethnologists and entomologists would say yes.

The ant colony and the insect swarm have long been used in science fiction and horror as metaphors for the opposite of Western, liberal democracy. Even the language used in biology still retains the remnants of sovereignty: the queen bee, the drone. What, then, do we make of theories of biocomplexity and swarm intelligence, which suggest that there is no 'queen' but only a set of localized interactions which self-organize into a whole swarm or colony? Is the 'multitude' a type of animal multiplicity? Such probes seem to suggest that Aristotle based his formulation on the wrong kinds of animals. "You can't be one wolf," of course. "You're always eight or nine, six or seven[6]."

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[1] Arquilla & Ronfeldt, *Networks and Netwars*, p. 15, emphasis removed from original.

[2] Geert Lovink, *My First Recession* (Rotterdam: V2_, 2003), p. 14.

[3] Ibid., p. 47.

[4] Beniger, *The Control Revolution*, p. 20

[5] Critical Art Ensemble, *The Electronic Disturbance* (New York: Autonomedia, 1994), p. 12.

[6] Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (Minneapolis: University of Minnesota Press, 1987), p. 29

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Open Source, Open Society?

Felix Stalder

The situation is different in developing countries where knowledge is more abundant than money. Open source software, because it is much cheaper, allows more people to use the amplifying power computers. Here, however, open source software has to compete with pirated commercial software, which is also very cheap, if not free of costs.

Can the freedom inherent in "free and open source software" (FOSS) foster greater freedom in society, including for people who are not expert users of computers or do not have access to them at all? It is important to stress that 'freedom' in the context FOSS is a legal concept, with a clearly defined and limited meaning. Software is said to be free (or open source), when the user has the irrevocable right to run, distribute and modify the software according to his or her intentions. If these conditions are given, software is free, even if it forces the users up a (too) steep learning curve, or does not provide essential functionality. Freedom, then, does not mean usefulness. It can come out of it, but it does not have to. While there is much open source software that is great, there is also much that is terrible. This last statement, of course, applies also to proprietary software, yet, the differences between the two are nevertheless very consequential.

Transparency

From these rights defining FOSS, two things emerge which are important in the present context: transparency and distributed development. The first is mandatory, the second is a mere possibility, but one that is realized often. In order to make the right to modify software practicable, the source code of the software – that is the code as written by programmers, rather than just the ones and zeros read by the machine – needs to be accessible. This means that a skilled programmer can read the entire code base of the program and thus see exactly the functionality built into it. In effect, it's impossible, or very difficult, to hide something. Knowing that functionality which allows, for example, back door access, or spying on users, can be seen by anyone who knows how to look, the temptation to put such features into the software in the first place will be much smaller. Thus, free software functions on the very foundations of our technically-enabled societies, the software, is open to ongoing, public scrutiny. This can be likened to the archives of parliaments or courts, where citizens can go and see what the officials have been doing. Even if only few might actually go there, knowing that records are available to everyone interested already makes a big difference, because, sooner or later, someone will go and look. In free software, the archives, so to speak, are heavily used, because the source code is scrutinized not just by investigative journalists or historians, but also by everyone who contributes to the development of the software, which can be dozens, hundreds, or thousands of people, depending on the particular project. Thus, in effect, open source software is probably the

most transparent, accessible body of complex technology ever created, even if the vast majority of people in practice don't know how to read it.

Distributed development

The second feature of open source software, distributed development, builds on this in important ways. Because everyone can access the source code and make changes to his or her liking, but cannot, in virtually all cases, develop a program alone (advanced programs are far too large and complex for that), developers tend to collaborate, which is supported by a range of custom-built, internet-based tools, which can be used at little, or no, costs to the individual developer. Thus most open source software is the result of a collaborative effort of different people who each pursue diverging personal and collective agendas when participating in this process.

By 'agenda' I mean simply someone's reason(s) to do a certain thing. Some of the reasons to engage in open source development are peer recognition, efficiency, aesthetic pleasure, financial gain or a particular social/political belief. Proprietary software is also developed by a number of different people, who arguably work on it for many different personal reasons (being paid is but one of them). However, there is – and this is the difference to the open source process – a single dominant collective agenda: the agenda of the company that owns the software and hires the programmers. For a publicly traded company, this agenda has to be to maximize value for its shareholders. At the end of the day, this single collective agenda overrides all others.

The combination of a single agenda that lies outside of the software itself and opaque source code makes it easy to put features into the software that are controversial, or even unpopular, but serve the agenda which dominates the developmental process. If Microsoft (or Sun, or Oracle, or Apple, or...) reaches the conclusion that its interests are best served by working against the users, then the necessary work will be implemented by the programmers, no matter if they personally belief this to be a good thing or not. The examples for such behavior range from the banal – low quality software released with great hype in order to conform to a marketing schedule – to the politically unacceptable, such as back doors which allow security agencies to access computers without their owner's consent or even knowledge. Both problematic examples reflect overarching agendas of the commercial companies, which are unchecked, and cannot be checked, by outside developers or users. Open source software is very unlikely to contain such hidden features. Not only because it is open, hence the features would be visible to literate users, but also because the agendas of the people working on the development of the software are very diverse. It would, most likely, be impossible to get an agreement of such features, or, they would cause so much discussion, that they were no longer hidden. Even more important is that in the open source development there is no mechanism by which someone could force someone else to adopt something against his or her own personal conviction, no matter what these convictions are. Given the impossibility of imposing an overarching agenda it is unlikely that there will be features embedded in the code that clearly promote any particular non-technical goal, such as gathering data for marketing purposes, or improving relations to government agencies through secret deals.

Does this matter? It does. Software needs to be clean and it needs be accessible to the full range of social actors. Computers and

software can be thought of as amplifiers. They amplify the user's agenda by giving her access to means of, say, communication that she would not have otherwise. But computers and software also amplify the agendas of their makers. For example, the software that enables people to listen to music online allows millions of users to listen to whatever they personally find worth listening to. The software amplifies their power to gain access to recorded sounds. On the other hand, these players also promote the agenda of their developers. In case of open source developers, the overall agenda (that on which all developers can agree) is to develop the best player.

Commercial software, on the other hand, the overall agenda is to make money. There are many ways of doing that, apart from creating good software. One is to collect data about what the users are doing and sending that secretly back to a central server where it can be aggregated and acted upon to the benefit of the company. There are numerous cases of software that has just done that. In such cases, we can say that now millions of users are amplifying the agenda of the developing company, creating an imbalance that is not in their own interest. Tracking music usage might be a benign thing, but imagine the same functionality built into a word processor. Open source software reduces this imbalance. The various agendas of the developers cancel out one another as they meet on a relatively restricted common ground: the development of technically superior software. Consequently, open source software empowers the user vis-à-vis the developer for the simple reason that the non-technical motivations of each individual developer become less important, because they are checked by others, who cannot be assumed to share these motivations. Checked from a wide ranges of angles, the software becomes not only more stable, but also more clean or neutral.

Paradoxically, this political neutrality is a radical political feature in a context where software that is biased towards the developer is the normality. Software needs to be cheap. While clean software addresses the imbalance of amplifying power between the developer and the users, cheap software allows more social groups to use that power than simply those with money. At the centers of technological development this is not such an important point because the connection between knowledge and money is more direct. The situation is different in developing countries where knowledge is more abundant than money. Open source software, because it is much cheaper, allows more people to use the amplifying power computers. Here, however, open source software has to compete with pirated commercial software, which is also very cheap, if not free of costs. But the costs factor is, perhaps, not even the main issue here. Commercial software, even if pirated and hence free of costs, is still software developed with a commercial agenda, dividing people in developers and users, sellers and consumers, and so on, and not addressing any need that cannot be fit into this framework. Hence, non-commercial communication will never be provided by commercial software, except to aggregate people to sell their attention to advertisers.

Thus, open source allows one to create software outside the domain and the imperative of the market. In effect, open source software is a high-tech product that is developed outside of capitalism, neither reflecting buying power of clients, nor in-house commands of managers. It is not anti-capitalist in any political sense, rather it is a-capitalist. Now, there is considerable debate whether it should be likened to pre-

competitive collaboration (as in basic research) thus stands in the chain of development before capitalism, or, if, in fact, it represents some new form of post-capitalist production. Given the heavy involvement of major publicly-traded companies (such as IBM) which are, by law, required to put the financial interests of their shareholders above all other interests, I would be hesitant to claim the latter. Nevertheless, within open source, the boundaries between for-profit and not-for-profit are becoming blurry, which at least gives the possibility, and we see evidence of this, of strengthening the non-commercial sector by catering to their particular needs regardless whether these constitute a profitable market or not. If only, by giving NGOs and other non-market, non-public actors powerful tools at their disposal, effectively leveling the playing field in regards to communication, between the rich and poor, large and small organizations. And this, I think, will also benefit a wide range of people irrespective of their computer literacy.

(This text is an update, in October 2006, of a talk originally given in November 1999).

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Biography Felix Stalder

Felix Stalder teaches media economy at the University of Applied Sciences and Art Zürich and works as an indepedent author and organizer in Vienna. He's interested in how digital media affect social landscapes, both in physcial and in knowledge spaces. His work is acessible via
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On the Plane of the Para-Constituted: Towards a Grammar of Gang Power

Jamie King

History of Gangs

Boss Tweed: You killed an elected official?
Bill: Who elected him?
Boss Tweed: You don't know what you've done to yourself.
Bill: [taps his glass eye with a knife] I know your works. You are neither cold nor hot. So because you are lukewarm, I will spew you out of my mouth. You can build your filthy world without me.

Gangs of New York is, at least in part, a tale of passage from the pre-constituted to the constituted, through the straits of the Five Points: from the fluid violence personified by William Cutting, leader of the city's Nativist gangs, to the measured violence of the State. The film culminates with the Draft Riots of 1863, in which Abraham Lincoln sent several regiments to control the thousands of rioters in the city. The military suppressed the mob, but not before approximately a hundred civilians were killed, hundreds more injured and numerous buildings, including homes, ransacked or destroyed. At the film's close the violence of the likes of Bill the Butcher is transposed–forcefully, of course–into the hands of State. Gang rule is ended in New York as the 'filthy world' of representative politics takes its place.

But the gangs never quite leave when the State comes to town – most of the rest of Scorsese's work exhibits considerable enjoyment of this fact. It's only in fictions that gangs are ever really stamped out *as a category.* In the harshest political regimes, in prisons, dictatorships, political parties, churches, the gang-form persists – thrives, even.

> The mafia survives, according to Chubb and other commentators, because it has developed a network of ties throughout the social strata, allowing its interests to penetrate deeply into the institutions that would prosecute its members.

The Italian state of the 70s and the 80s faced serious threats on two fronts: terrorism and the mafia. On the left, the *Brigate Rosse* had by the early 80s been decimated by State institutions, politicians and the security forces, who waged 'an out-and-out war' against the BR's threat to the stability of their regime. Once the organization's structure and goals were disclosed to the State, a subsequent wave of arrests dismantled the group almost completely.

In distinct contrast, the struggle of the Italian state against the mafia continues to this day. As historian Judith Chubb points out, this struggle has been characterized by "a strikingly lower level of commitment not only in terms of men and means but, most importantly, in terms of political support". The reason for this, Chubb argues, is the 'distinctive nature' of the mafia, and its relationship to political power and institutions. Where left-wing organizations tend to constitute themselves as 'external', an 'enemy'

to dominant elites but also removed from ordinary people, the relationship the mafia takes to power and people is quite different. The mafia succeeds in "penetrating deeply into the very institutions which are supposed to be fighting it. It is this presence of the mafia within the very structure of the Italian state which renders it a much more insidious and ultimately a much more dangerous threat to democratic institutions than was the more openly subversive but more vulnerable and exposed phenomenon of left-wing terrorism".

The mafia survives, according to Chubb and other commentators, because it has developed a network of ties throughout the social strata, allowing its interests to penetrate deeply into the institutions that would prosecute its members. Indeed, some say, it does not make sense to consider mafia an organization in the ordinary sense. Rather, mafia is "the sum of activities of individuals groups whose mode of behavior [...] defines them as Mafioso"; there is no mafia "central headquarters coordinating the activities of a far-flung criminal empire", but rather "a fundamental identity in the values, in the goals pursued, and in the social functions performed by each mafia boss and his subordinates in each local setting".

Although the single mafia family or *cosca* is strongly centralized, this takes the form of a series of dyadic relationships between the capo-mafia and each of the individual members. The mafia as a whole is thus seen as a complex of social networks, held together by traditional bonds of honor, kinship and 'instrumental friendship'.

In the first part of this essay, *Openness and Its Discontents,* originally written for *Mute* magazine in 2004, I was attempting to answer some specific problems. I had been very involved in what was then simultaneously calling and refusing to call itself the 'anti-capitalist' or 'anti-globalization' movement, and had noted, like many, the intense excitement and expectation accruing around ideas about organization–networkedness, horizontality, openness and so forth. We in the social movements, we told others, and ourselves were 'open'; we used all the virtues of networked organization to our advantage, and we didn't need 'their' closedness, just as we didn't need 'their' proprietary attitudes.

I knew that this was not the complete truth, and that it didn't even begin to specify sufficiently the complex 'mixed economy' of open and/or networked and closed and/or hierarchical organization that was being deployed in organizing events such as the anti-G8 summits in Genoa and Geneva. I believed, and still do, that a relatively small number of individuals took a good deal of responsibility for the ideas, motifs and organizational strategies that defined this period of engagement.

Openness and Its Discontents was intended as a first investigation into the 'gang'-like structures that lurk beneath the 'idea of openness'. I argued there was a real crisis of organization in the social movements, as they were then understood. Beneath the 'distributed, horizontal' form that was already being hailed as the true shape of the anti-capitalist movements, what I termed 'supernodes' or 'crypto-hierarchies' were discovered everywhere. I grounded this assertion on my own first-hand observations, but also found useful an essay by Jo Freeman, *The Tyranny of Structurelessness*. Originating from the experiences of the 60s feminist liberation movement, the essay argues that informal structures can be treacherous, since they can function as a 'smoke screen' for tacit – and what would today be called 'emergent'– forms of power. "As long as the

structure of the group is informal", Freeman writes, "the rules of how decisions are made are known only to a few, and awareness of power is limited to those who know the rules". Ours was a "tyranny of networkedness", not a tyranny of structurelessness, but of course her observations were perfectly pertinent.

In the same essay, I briefly mentioned a open letter by Jacques Camatte, *On Organizations*, written in 1969 to explain why revolutionaries had to reject the form of political parties and groups. For Camatte at this point, the whole social fabric 'under capital' seemed based on competition between organizations and 'rackets', with the state as "a gang mediating between different gangs". I think Camatte's proposition is very clear: *the gang is the basic form of contemporary organization* – even with those working towards what is today loosely defined as 'social change'. This is because the conditions of living 'under capital' are adverse to other formations: individuals cluster into gangs because of the pressures of an aggressive and competitive external environment, says Camatte. They seek solace in 'strong leaders' because they cannot think for themselves; they fear exclusion (that is, what is 'outside' the gang – violence, loneliness and so on). In short, their weakness in the context of their environment compels them into gang-like relationships with others.

Thus, writes Camatte,

"Capitalism is the triumph of the organization, and the form the organization takes, is the gang. This is the triumph of fascism. In the United States the racket is found at all levels of society. It's the same in USSR. The theory of hierarchical bureaucratic capitalism, in the formal sense, is an absurdity, since the gang is an informal organism".

Thus, the gang is not the exception, but the rule – and there are today very visible examples manifesting themselves within State, like the US Neoconservatives. Constituted power is everywhere in crisis, revealing (indeed, making little secret of) the gangs and cabals that have always existed behind it. Transversal, para-constituted social processes are seen more and more to be the rule of real power, articulating themselves increasingly clearly in the chaos of modern institutions and civil society. This is, I realize (contrary to what Hardt and Negri write in *Empire*), which is that the new world order represents a new form of imperial sovereignty "composed of a series of national and supranational organisms united under a single logic of rule". The 'absurdity', Camatte is right to point out, is our constant acceptance of the facile delineations of organization with which we are presented and with which we present ourselves (government, party, movement and so on). At every level, the real existence of the gang-like structures that define the operations of any organ makes a mockery of its public manifestos and systems of representation.

Camatte and Guattari agree on this: there exist unchecked ('transversal' or 'gang-like') social processes that corrupt or rupture hierarchical forms like the Party or the clinic. The disillusioned party man Camatte sees this corruption in fairly apocalyptic terms; the post-party proto-Deleuze-Guattarian. Guattari sees in it the possibility of destroying "deathly organizational reproduction" in institutions.

What if Camatte is *right* about gangs being the basic form of contemporary life, right about their inevitability, and lengths they will go to hide themselves in organizations in many cases, but *wrong* about their inherently totalitarian or fascist nature? What if, as a once Marxist-Leninist theoretician who saw a Communist Party as a necessary stage

towards revolution, Camatte was naturally inclined to view negatively the gang-like structures that he observed disrupting his once-beloved party? What if Camatte is right that conditions 'under capital' force us into gang-like structures, but wrong in insisting that these are necessarily themselves vile or violent?

What if the gang can be rehabilitated as a political form?

Transversality

'Transversality' is a description of social processes originating with Felix Guattari at *La Borde* clinic in the 60s. It relates immediately to the nature of the group within the psychiatric institution. Guattari, in two papers *Le Transfert* (*The Transfer*) and *Introduction à la therapie institutionnelle* (*Introduction to institutional psychotherapy*), argues that people make their subjectivities at the level of social groups–producing a 'subjective unity of the group' inconsistent with what might be called their 'institutional identity' as it takes shape in, for example, the workplace. This 'transversal' ideal would be achieved in hospitals when there was "a maximum of communication among different levels and, above all, in different meanings..." Guattari reconfigured his clinic along similar lines to the Socialist Patients Collective (SPK), noting that the analyst/analysand and doctor/patient binaries ignored and/or denied the constant non-hierarchical, social processes underlying them. In the clinic's reconfiguration, such processes were actively calculated into the therapeutic process. "Broadly speaking", writes Susan Kelly, "Guattari used the term transversality as a conceptual tool to open hitherto closed logics and hierarchies and to experiment with relations of interdependency in order to produce new 'assemblages' and subjectivities. In his activist work, Guattari used transversality as a critique and a rupture with inherited forms of political organization such as 'the party' ".

Later theorists of transversality like Bryan Reynolds tend to pose transversal social processes as 'dissident movements' against the official discourses of the repressive (Althusserian) state. Where State is seen as operating a cohesive set of structures producing a subjective consistency, transversal processes are carriers for transgressive and subversive experience. In fact, transversal territory is a 'mechanism for experiential alterity', which enables 'enunciation', and 'amplification of transition states'. In his essay *The Devil's House*, or worse: *Transversal Power and Anti-theatrical Discourse in Early Modern England*, Reynolds contends that transversal processes can subvert official state machinery thoroughly, posing "a real threat to all organizational social structures"–and that these processes cannot be permanently recuperated.

Likewise, theorists such as Gerald Raunig have seen transversality as subversive in the contemporary context: "As the precarious practices of the No-border network, the border camps and caravans work to overcome national frameworks, their transversal lines also break through the hermetic of particularist partial public spheres and exclusive subcultures [...] a multitude of temporary alliances, as a productive concatenation of what never fits together smoothly, what is constantly in friction and impelled by this friction or caused to evaporate again". Transversality is in such terms "a new, a-hierarchical praxis of networking, which has been developing increasingly clear contours since Seattle, Götenborg and Genova in the heterogeneous protest against economic globalization".

It is no good, of course, trying to make this sort of complete equivalence between

networks and transversality. Rather, the development of the *form* of the network post '61 (as described embryonically in Leonard Kleinrock, *Information Flow in Large Communication Nets* (1961); J.C.R. Licklider & W. Clark, *On-Line Man Computer Communication* (1962); Paul Baran, RAND: *On Distributed Communications Networks* (1964)) produces a new informational scene, one which ultimately gives rise to the massive increase in transversal communication that Guattari was looking for. Paul N. Edwards, *The Closed World* is amongst those theorizing an epochal shift from the 'grand systems theories' of the Cold War to what he calls 'network discourses'–a loosely defined cluster of technologies and social architectures including 'the internet', 'corporate supply chain management', 'military 'net war" and 'social software', 'six degrees of separation', and 'thousands of other formulas and formulations of the node-link architecture of the post-Cold War, post-post-modern world'. While this is also a bit fuzzy, it's clear Edwards thinks networked structures are now the *dominant* structures of the West. Along these lines, as I wrote in *Mute* magazine after 9/11, networkedness is now seen as the shape of the 'post-Fordist' world economy, with its 'fluid' work in the 'factory without walls', 'just-in-time' delivery and 'transnational outsourcing'. The military, also, wants to be networked, having for some years been turning over the idea that a distributed, non-hierarchical communications system could give the armed forces enough of the adaptability and speed evinced by anti-globalization and 'terror' groups to achieve what is unblinkingly called 'full spectrum dominance'. Military strategists argue that terrorist cells' use of non-hierarchical, 'distributed' command structures helps them produce sturdy and flexible organizations. The Chairman of the Joint Chiefs of Staff has called al-Qaeda "a dispersed enemy who basically is operating on a <peer-to-peer> system, at a very low level".

So 'networked' is the shape of terror, it is a shape the US military wants and as numerous commentators say, it is the shape of the social movements. It happens too, to be the shape that some in business want. In a foreword to the Demos report *Disorganization: Why Future Organizations must 'Loosen Up'*, Orange UK's Vice-President of Business Solutions preaches network organization:

"You may feel uncomfortable with the idea if you actually run an organization, but [...] we have to 'let go', or 'disorganise'. Otherwise the employees that we all need, the brightest and the best, will gravitate to more open, more flexible set-ups that fit their values and respond to their aspirations. This will present some real dilemmas".

Everywhere, we might say, people are less and less convinced of the efficacy and relevance of top-down organizations and more and more convinced of the potency of networked actors working transversally to, (i.e., not 'within', but neither 'outside') them. And yet we have to cope with the fact that the global 'co-efficient of transversality' has, via the network, increased beyond all possible imagination since the 60s and yet the revolutionary effect apparently expected by Guattari has failed to happen. In fact one might forcefully argue, as Anustup Basu has, that networked distribution of information is today key in creating the 'informatic affinities' on whose resonance social order is produced (he gives as examples the two 'disparate propositions' – "Saddam the evil one, and 9/11, the horrible crime"–that gave in key nation states public consensus for the invasion of Iraq). In this reading, the explosive propagation of transversality in the last half decade has served only to radically potentiate massification, towards the fascist peak, 'extinguish[ing] pluralities, and

replac[ing] them with a monologue of power that saturates space with, and only with, the immanent will of the dictator'. This is because informatic exchanges do nothing but replicate the mega-utterances of a distributed dictator: 'fascism becomes a political reality when knowledge based exchanges between entities of intelligence give way to a technologism of informatics'.

All of us who have argued for the liberating or radical potentials of various information technologies have to contend with the fact that the production of consensus for war has continued with disturbing efficacy at the same time that producing and distributing media technologies have been ceded more and more into the hands of the general population. It is safe to say this: "just because many disruptive or radical practices are transversal, it is evident not all transversal processes are disruptive or radical. A little transversal disruption in the corporation, after all, can be a new business model'.

As Oliver Marchart points out:

"The problem with a term like transversality is that it acts as though it were already the answer to this question, whereas it [...] actually [only] raises the *question of the form of organization*. This is at the root of all the problems: networking can be wonderfully evoked, but how can it be organized? In the works we would feel compelled by theory fashion to consult, namely by Deleuze/Guattari and Negri/Hardt, *we do not find a single answer to the question of the form of organization:* with the aged hippies Deleuze and Guattari, transversals proliferate in quasi natural abundance (which is why Deleuze/Guattari especially liked to use botanical and geological metaphors) and do not need to be organized. The case is similar with Hardt and Negri, even though their bestseller Empire is generally (mis-) understood as an answer".

Multitude

It's hard to go further without invoking the name that has been at the center of so much dispute in contemporary political discourse: *multitude*. The term in its recent apparition is a placeholder and banner for an attempt to break with representative politics, ditching the Ciceronian axiom that only when unified into a people can the multitude become a political agent (such as a 'commonwealth'). Michael Hardt and Toni Negri claim the multitude is now a political quantity in its own right. According to them, their multitude is the only basis today for 'political action aimed at transformation and liberation', conceived as 'all those who work under the rule of capital and thus potentially as the class of those who refuse the rule of capital'. It is a multiplicity, a plane of singularities, an open set of relations, which is not homogeneous or identical with itself and bears an indistinct, inclusive relation to those outside of it. The people, in contrast, tend toward identity and homogeneity internally while posing its difference from and excluding what remains outside of it. Whereas the multitude is an inconclusive constituent relation, the people are a constituted synthesis that is prepared for sovereignty. The people provide a single will and action that is independent of and often in conflict with the various wills and actions of the multitude. Every nation must make the multitude into people.

Previously, in other words, the multitude was seen as the raw material of the political: now it is supposed to become the political. Though no-one, as Oliver Marchart writes, really knows *how*:

"With Hardt and Negri there is a secret automatism that turns this 'mass intelligence' into a political subject with no further ado. Yet no one knows how that should work in reality. How isolated immaterial workers are linked and thus organized into a political force is not even investigated

and conceptualized, but only celebrated with the poetic concept of the multitude".

Hardt and Negri indeed write as if they know the formula that will transmute the base metal of multitude into political gold, but don't deign to utter it. Nature constructs individuals, they say, and then, through cooperation, "an infinite number of singularities are composed as productive essence" producing "a multitude of ['unmediated'] cooperating singularities". This 'cooperation' is a kind of voodoo, not a political proposal. The original question has always been how the multitude can become a political agent, and mere exhortations to 'cooperate'! not only fail to answer it, but are infinitely more asinine and annoying than the solutions of the 'bourgeois' theorists like Hobbes, Rousseau and the rest.

We *know* the multitude appears transversally – coevally with State/Capital/Empire – but as hip as that might sound, it's nothing Hobbes didn't realize right from the beginning. The multitude *always was* both what gave rise to sovereign power and what remained during and after it. Malcolm Bill, *The Limits of Multitude* is quite right to point out that what is called 'multitude' by Hardt and Negri is in fact precisely what Hobbes calls a *faction*:

"A crowd of citizens, united either by agreements with each other or by the power of one man, without authority from the holder or holders of sovereign power. A faction is like a commonwealth within the commonwealth; for just as a commonwealth comes into being by men's union in a natural state, so a faction comes into being by a new union of citizens".

Hobbes notes quite sagely that these 'like-minded' factions have a tendency to cast themselves as 'the people'. In my view, the 'multitude' of Hardt and Negri is a just such a faction, calling itself the multitude. *Multitude* is a quite bizarre attempt to bring into being the world's largest faction, largely by tautological insistence on its existence. But the greatest weakness of *Multitude* as a political proposition is the treacherous errors in identity in its basic formulation. While Hardt and Negri narrate an epic struggle between the generative, plural forces of immanence and the recuperative, singular forces of transcendence, they themselves never escape the production of a singular from the many, with distinct and singular qualities they are not afraid to enumerate. Their multitude is not the people, but singularities acting in 'networked concert' united by 'the common', by the highly interesting but highly problematic term 'general intellect'. Thus, at various moments, we swoop from heights of theory to bizarrely trite statements like 'The White Overalls [were] leaders in the movements of the multitude'. Not only is the multitude defiantly singular here, but it is capable of being 'led', like a sheep, by a specific cohort with whom Toni Negri was personally familiar.

Blunders like these point to the danger of Hardt and Negri's argument: the possibility of the assumption of an identity of will, purpose and subject in a self-ruling multitude that doesn't exist.

As Slavoj Zizek writes:

"What one does and should expect is a description of the notional structure of this qualitative jump, of the passage from the multitudes RESISTING the One of sovereign Power to the multitudes directly RULING themselves. Leaving the notional structure of this passage in a darkness elucidated only by vague homologies and examples from the movements of resistance cannot but raise the anxious suspicion that this self-transparent direct rule of everyone over everyone, this democracy tout court, will coincide with its opposite".

In this light, Hardt and Negri's call for

a 'new science' of democracy – a kind of 'network constitution' – is particularly urgent, if only to insist on plurality and multiplicity rather than the 'one' of the multitude which keeps rearing its head in their work. The key problem to answer here posed, again, by Oliver Marchart:

"Whereas the party form was oriented along the 'party line' according to the model of unity, today the counterproposal consists of the celebration of the multitude along no line at all: now there are only countless little dots left. This means that every individual is their own favorite party, knows everything best themselves and operates politically à la carte, composing their own personal party line from the offerings ranging from Amnesty International to Tute Bianche".

In the 'faction' feared by Hobbes, it is possible we find a way forward. *A* (not *the)* multitude of people acting *transversally* to (not outside) State, commonwealth, and other institutions (and factions) not necessarily *against* any of them but according to *their own ideas.* This is what I mean here by 'gang'. The network-form makes it possible for such gangs to unite not only territorially but to cluster transversally, around practices, ideas and goals. In my view these sorts of groups are what Brian Holmes is observing when he writes that:

"What I see in reality, over the last few years, is [...] relatively small and 'consistent' groups mesh[ing] temporarily into larger and pretty chaotic formations, then dissolv[ing] back into their consistent groups [...] it's possible to imagine that the networked paradigm [...] could unleash political formations other than a party seeking the creation of a state. The thing is to achieve enough intermeshing to formulate powerful statements–and then back them up with strikes, demonstrations and so on".

Here, something which is really just a grammatical mess (multitude) becomes something, which is bound by qualities we can lay hands on: node/faction/gang.

Countless Little Dots

Marchart's 'countless little dots' objection only seems strong, if one ignores the real organizational novelties behind the manifestations and appearances that have characterized the last years of political activity and generated so much excitement amongst theorists of organization. The 'countless little dots' keep bringing themselves together *en masse,* temporarily, without clear lines of command. Each dot *does not* appear to believe it knows best, but in fact seems able to share knowledge and skills with others quite effectively. How does this happen? What is producing this 'spooky' cooperation between our 'countless little dots'?

Rejecting the idea that emergent, distributed control has real meaning in social organization, my contention is that it is *gangs,* small groups working both in institutions and transversally to institutions, who produce these temporary binding ideas and motifs – not to mention the network infrastructures – that allow others to temporarily align with, affix to or network with them. In other words, there is no single binding force at work, a sort of 'radical invisible hand', but rather an array of purposes, identities and projects that produce singularities. What has changed, with the mode of information described in, for example, Bell's *The Coming of Post-Industrial Society*, 1976; Toffler's *Third Wave*, 1991; Jameson's *Postmodernism, or, the Cultural Logic of Late Capitalism*, 1991, is that singularities become much more extensive and powerful taking on a *distinct, commanding and actualizing power*. In the influential view of Manuel Castells, what is most important about this phase is a de-coupling of the circuits of information and production: in the industrial mode, information organizes the mobilization

of labor and production, as well as the exploitation of energy; in the informational mode it is said to mobilize the generation of new knowledge. In my view what is crucial, is this: as individuals ('dots') we now command, often completely unconsciously, entire chains of automated production, interlocked with machines and code, other individuals, institutions, and globally distributed infrastructure. Even as tiny as we must become, we are capable of issuing commands, and initiating processes, that can move the world.

In this context elements of singular will become 'generalized' for a while: ideas and identities take form, are conveyed transversally through on- and offline networks, and function *qua singularities* as binding motifs for gangs. Quite naturally anyone looking at the multitude, which thus gathers, may perceive a temporary binding motif as the 'we', the combined will. This, as has been amply demonstrated, is where the problems begin. Compared to the internet, social networks are much more fluid, since they have no necessary relation to any particular physical resources. Though certain ideas, motifs and purposes may become central for a period; in social networks, they need not persist; indeed, they may be rather incidental to the binding action itself. For example, one often had the feeling, at the contra-G8 gatherings in Genova, Geneva and so on, that 'No to G8' had less to do with the gathering, than experimenting with all sorts of new ideas about organization, tactics, ecology, economy and so on. 'No to G8' was the binding motif, in other words, that produced a gathering 'demonstrations against the G8'. It is wrong in kind to ask from where the 'command' to gather issued. Rather we would draw a 'semantic map' of the temporary binding ideas at this point, which would include Zapatista, Attac, Empire, White Overalls, Disobedients, People's Global Action and so on. We would then look at how these ideas articulated themselves, through which technologies and individuals, and in what contexts – as much as it is possible to say – they took on meaning and 'bore fruit'. Lastly, we could examine *how* the binding occurred, looking both at the infrastructure for physical and informatic conveyance and the qualities of the scene at which the gathering takes place.

In the context of this informatic moment, we have to consider the capacity of individuals to create [conjure] immaterial, informatic entities and the capacity of these entities to create subjective resonances and affinities.

In the informatic mode, software radially extends the capacity to create, calculate, analyze, produce, and enact. A single piece of software, running on its owner's computer or on a foreign server, may allow a user to produce an operation in the world that would otherwise have been impossible or prohibitively expensive. Yet the software (and the operation) may multiply endlessly, and, by its nature, undergo extensive permutations as it does so. It adapts to the needs of new constituencies and mutates randomly, or suggests new uses, and produces new constituencies in doing so. We see this, playing out rapidly in the case of Free Software, whose license and culture make for easy re-use, alteration and re-combination of code. There a skilled programmer may make use of base libraries and ready-mades to construct new code, much more swiftly than she may write it herself. Thus – at least in the field of free co-operation, ingenuity actualizes itself intensely, able to draw on resources in increasing abundance. *A dot grabs a computer, describes its desire. The idea multiplies this and that way, and binds other dots, in small groups. They begin to*

discuss, and produce other ideas, other desires, that they describe, and these bind... and so on. No one remembers the first dot's name, and it forgets it ever described its idea in the first place.

An interlocutor will obviously say: but this is always how things have been. Yes: but now there is increasingly extensive of production of singularities and increasing intensity to their binding power. The circuits between individual, singularity, gang and crowd are becoming the defining ones. Borne on the network, they increasingly burn through and are visible behind the old facades of constituted power, *which can no longer constrain the gangs that exist right inside it.*

First attempt to delineate a gang grammar, distinguishing between internality and externality – and focusing on what Galloway and Thacker call the *conveyances* between gangs; a 'network of factions' can be much more than warring chaos. Conveyance is the chief concern of the series of memorandums written by Joseph Licklider at MIT in August 1962, part of a discussion of his *Galactic Network* concept, a globally interconnected set of systems through which everyone could quickly access data and programs from any site. "Consider", Licklider wrote in a memo of April 25th, 1963:

"the situation in which several different centers are netted together, each center being highly individualistic and having its own special language and its own special way of doing things. It is not desirable or even necessary for all the centers to agree upon some language or, at least, upon some conventions for asking such questions as 'What language do you speak?' At this extreme, the problem is essentially the one discussed by science fiction writers: "How do you get communications started among totally uncorrelated sapient beings?""

To be networked, Licklider saw, incompatible mainframe computers had to mediate their differences. These comments of Licklider's in fact describe the conceptual superstructure of a networking, requiring not that all machines speak the same language, but that there should be rules which mediate and machines to process these rules. Licklider's conceptual work at ARPA, in which he conceived this idea, was eventually to underpin a network that would facilitate today's internet. His concern with connecting the unconnectable, with interfacing alien machines, may translate well into a basic gang grammar.

Licklider's model which follows closely the American Constitution form, in which society is conceived as a set of individuals united around an agreed constitution, and in which separate agents within the social body are able to act effectively as a group, but retain their discrete 'highly individualistic' identities as 'equals', or 'peers' in society. The task of the Constitution was to provide for stable existence of and interaction between the States whilst protecting against the emergence of a totalized, central power structure feared by many Americans, not just hard line anti-federalists. A strong central government could mean top-down power of the kind that had been wielded by England, which was precisely what the American people had won freedom from in the Declaration of Independence; a Constitution could mean new taxation powers in the hands of a national government that would prove to be 'as unqualified by the restraints of the states as [England's] Parliament[...] had been by the colonial assemblies'. This attempt at provision against any single point of control arising in the United States has been seen by many as the most significant provision of the Constitution. "The dialectic was very much between the creation of a federal, national power system that would preserve individual

liberties and national political stability", writes Berard Bailyn,

"and one which would not put in place the kind of centralized regime that could be productive of tyranny. Discussion focused on the fear of centralized power and [was] rooted in the belief that free states are fragile and degenerate easily into tyrannies unless vigilantly protected by a free, knowledgeable, and uncorrupted electorate working through institutions that balance and distribute rather than concentrate power [... the colonists'] ideas were critical of, and challenging to the legal authority they had lived under".

The Constitution's formulators attempted to prevent power being held by a single group or individual in two key ways: Articles I, II and III provide for three independent, and indeed contending, centers of governance – the executive, the legislative and the judiciary, which operate directly on individuals, not just on states. Article IV, meanwhile, sets out the ways in which citizens interact with government on both a federal (national) and state (local) level. S.E. Finer points to this as the most original of all the Constitution innovations. The American citizen has a dual role: one with their state, and one with the federal government, direct and unmediated by that of the state. Together, these provisions were meant to solve the problem of creating a 'more perfect union' of the states without setting the conditions for tyranny. On the one hand, federal power is divided, between the President, the Congress and the Supreme Court. On the other, the individual, at the same time as accepting the authority of the federal government retains her responsibilities and rights under the jurisdiction of her state. Localized governance is not superseded by central power, and the central power is itself divided and separated.

As with the Constitution, Licklider's model attempts an architecture of cooperation rather than one of authoritarian control. The name which would eventually be given to the rules of mediation he first suggested was 'protocols', a term otherwise, and rather tellingly, employed to describe diplomatic relations, but which here refers to a 'strictly technical' process, "by which any node can speak as a peer to any other node, as long as it obeys the rules". Peter Salus contends the use of the term originated in a conversation between Steve Crocker and Jon Postel, who had thought of it in terms of diplomats exchanging handshakes and information. 'Transmission Control Protocol/internet Protocol' (TCP/IP), was the internetworking protocol then devised and the one that survives to this day as the basis of the internet. Its three core concepts are critical here:

1. Each discrete network within the internet has to stand on its own. It should not be necessary to make any internal changes to a network in order to connect any of it to the internet.
2. 'Routers' and 'gateways', originally called 'black boxes', are used to connect the networks. Originally no information was retained by the gateways about the individual flows of packets passing through them, thereby keeping them simple and avoiding failures.
3. There should be no global control of operations.

In this schema, each internal network, just like each internal machine within the original ARPANET, retains its own discrete identity whilst being part of a networked whole: that identity does not have to be ceded in order to become part of the internet. There is no central point of control, and no single place at which a disruption would cause the whole network to malfunction.

Can we export this basic structure to a

gang grammar? To some extent, once we have dispensed with the ontological 'problem' of the big multitude, and think instead about little multitudes, gangs/factions/nodes bound by singularities. We can begin to imagine the minimal compact that, like the protocols which structure mediation of difference for the internet, can provide for internetworking between groups working transversally in and through other institutions and each other. We may consider what mediating structures (for it is clear Hardt and Negri are largely ignorant of how important self-mediation has become to the social movements) we would need to process our connections and disconnections, as gangs coming together for specific purposes, moments or tasks, and splitting again. Some of us may agree to fight centers of control, encouraging small groups and individuals to take their own identities rather than creeping into the ready-mades they find around them. A "fantastically complex composition of different kinds of imperfect micro-solidarities" was how Brian Holmes once described the social movements to me, and I believe a gang grammar is a good way of understanding and describing that.

At the level of node analysis, we may consider what gangs do (what functions they have); the resources and knowledge they contain; how many links they have to other organisations and gangs; what quality and strength and durability these links have; the power of a gang in relation to other gangs and its capacity to control others; the security or secrecy level; its geographic and topographic location, and so forth. We can express clustering, groups of nodes that are tightly linked together. Or we may choose to represent none of these things: what is crucial is that, quite simply, gangs exist inevitably in every organizational structure, whatever its topology. But we are only free to theorize gangs positively when we know they are there, and factor this into the work we do.

The attempts of People's Global Action (PGA) to organize around networked distribution have so far failed, in my view, because its 'hallmarks' have been too little focused on protocol or rules of engagement between groups and, *pace* Hardt and Negri, too much focused on producing statements of attitude and ideological orientation (e.g., 'rejection of capitalism, all trade agreements'; 'rejection of religious fundamentalism', 'a confrontational attitude' and so on). While PGA rejects the representative mode, it has not examined seriously enough the guiding principles of internetworking between cooperating groups beyond vague statements of 'horizontality', 'anti-hierarchy' and so forth. And yet this is precisely what must happen, if we want to step beyond the current *impasse.* "We want to ask the [...] question, how could we win?" the publication *Turbulence* announced recently. 'Indeed, what does it actually mean to win?' When there is no 'we' to ask the question, and no 'they' to answer it, then something will have been won.

What we are learning, as information technologists, is the power of dis- and re-aggregation. Each molecule of social activity must make itself ready for attachment to others, prepare for purposes it cannot imagine. We can refuse, of course, because as a gang grammar suggests, we can be violently different. But others' uses of us are beyond our imagination, and indeed beyond theirs: we should not imagine we always know best. "Only connect", E.M Forster said; "we may add, 'and disconnect.' This is a time for becoming tiny".

In 2003, during a discussion on the Free Co-operation mailing list, Brian Holmes told me about a bulletin written by Felix Guattari for La Borde clinic, called *Where does group psychotherapy begin:*

Here, he talks about something they established, a 'Basic Therapeutic Unit' (BTU), which is like an artificial family in a way (artificial, so without all the frozen unconscious roles). It's small enough for people to have to respond, and so it gives them a chance to develop what he calls 'subjective consistency'. He says: "Suppose you're in a crowd, for example, defending a barricade against the cops. If you don't know the people you can always just split. If you're with your BTU, it's completely different. Then it could have all kinds of consequences later: people will say this or that... Speech doesn't slip away. It's about promises made, wagers met, transactions concluded.... With the BTU, everybody's the psychoanalyst in turn.... Speech circulates in a recognizable field, a finite but open field, which has, let's say, a certain subjective consistency".

'Subjective consistency' is not a theoretical problem in the gang, because if a member doesn't feel it, they *leave*. It is not so clear what happens if one disagrees with Hardt and Negri's multitude. Probably it never comes into being. As nodes, gangs, factions, we know our own reasons for taking part in a network, with whom we interact and why, and in what modalities. Our motivations, aspirations, emotions, passions and ideas — which intimately affect the way a network develops — are nonetheless unrepresentable at a macro level. While we have occasion now to consider protocols, conveyances and so on, we also have to enjoy the immediate passions that impel all our activities. What we learn from *Cosa Nostra*: transversal power, built on lines of affective relations, is robust. It crosses institutions and organs of power; it protects us and infects others. Perhaps we come together for the strength of an idea, or for friendship, for some 'purpose'. But in whatever instance, *like-mindedness is crucial*. I share like-mind *on some key ideas* with two or three of the gangs in which I work. While I am highly uncomfortable with people like Negri and Hardt telling me about my identity with a global multitude, who I know very well do not share all my experiences, I am very comfortable with each instance of like-mindedness I experience in tiny gangs. Indeed, this like-mindedness is pleasurable; I would be lost without it.

The comments in 'Give up Activism' in the pamphlet *Reflections on June 18th,* produced 'as an open-access collection' of *contributions on the politics behind the events that occurred in the City of London on June 18, 1999*, resonate with me here:

"The role of the activist creates a separation between ends and means: self-sacrifice means creating a division between the revolution as love and joy in the future, but duty and routine now. The world view of activism is dominated by guilt and duty because the activist is not fighting for herself but for a separate cause: 'All causes are equally inhuman'."

As an activist you have to deny your own desires because your political activity is defined such that these things do not count as 'politics'. You put 'politics' in a separate box to the rest of your life–it's like a job... you do 'politics' 9-5 and then go home and do something else [...].

Self-sacrificing politicos stunt their own lives and their own will to live–this generates bitterness and an antipathy to life which is then turned outwards to wither everything else. They are "great despisers of life... the partisans of absolute self-sacrifice... their lives twisted by their monstrous [sic] asceticism".

This might be a bit tough, but anyone who's been involved in the social movements will know the kind of activists referred to here. Many will prefer and seek out the warmth of personal relationships, within their gangs,

not in identities whose imperatives we can't understand, with occluded leaders, and whose 'will' can never be ours (if it can even be theirs.) Clearly one cannot claim 'warmth' and 'love' as radical qualities any more than one can claim 'transversality', but it is ironic that corporate workplaces are becoming more and more like playpens while 'radical activism' becomes more and more the workhouse. A gang can be slack. It has no truck with the imperatives of the professional global activist.

"The novelty of the coming politics", says Giorgio Agamen, "is that it will no longer be a struggle for the conquest or control of the State, but a struggle between the State and the non-State (humanity), an insurmountable disjunction between whatever singularity and the State organization".

This has nothing to do with the simple affirmation of the social in opposition to the State that has often found expression in the protest movement of recent years. Whatever singularities cannot form a *societas,* because they do not possess any identity to vindicate nor any bond of belonging for which to seek recognition. In the final instance the State can recognize any claim for identity–even that of a State identity within the State (the recent history of relations between the State and terrorism is an eloquent confirmation of this fact). What the State cannot tolerate in any way, however, is that the singularities form a community without affirming an identity; the humans co-belong without any representable conditions of belonging...

Gangs are the 'whatever singularities' that Agamben proposes, which can bind and have binding power, can grow and shrink but which never merge. This refusal is the one and important way in which they are *in common but never one.* Quite certainly this is the relation Hardt and Negri were trying to express in *Multitude,* and these first few notes towards a 'gang grammar' are an attempt to understand how a 'para-constituted' power works. Much more, of course, remains to be done.

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Open Communities and Closed Law

Joseph M. Reagle Jr.

What does the recent news of a Wikipedia CEO who is also a lawyer, an 'oversight' function that makes hidden revisions to Wikipedia, and the threat of the Debian Project severing its relationship with its legally chartered non-profit have in common? These recent events demonstrate that open communities with a formal legal standing are a conflicted beast.

The sociologist Max Weber (Wikipedia, 2006) made an important observation of how leadership often shifts from a charismatic leader to a more bureaucratic form of governance as a community matures[1]; Wikipedia is no exception. An interesting question in the Wikipedia case is to what extent can the shift occur while decision-making remains in the open, within sight and control of the larger community? The delegation of power from Jimbo Wales to the Mediation and Arbitration committees is an example of what Weber called 'routinization.' Both of these committees are open. However, in matters of law, maintaining openness is a difficult task. As Wikipedia has grown in size and repute the likelihood of the Wikipedia being subject to legal action has similarly grown. The tension between openness and closeness in such a community is no better demonstrated than by the WP:Office action (Wikipedia, 2006).

On the Wikipedia one is expected to discuss the editing of an article with fellow contributors. Arguments are made in the open with reference to public policies. However, for those with a proprietary interest, this process of reasoned discussion can be circumvented via a call or letter to the 'Wikipedia office,' and sometimes, rightfully so. What obligation did Seigenthaler[2], someone completely unfamiliar with Wikis have to edit the Wikipedia in order to remove the libelous claim that he was implicated in the assassination of a Kennedy? None. As Jimmy Wales[3] wrote, "The problem we are seeing, again and again, is this attitude that some poor victim of a biased rant in Wikipedia ought to not get pissed and take us up on our offer of 'anyone can edit' but should rather immerse themselves in our arcane internal culture until they understand the right way to get things done".

Yet, in an amusing and sad irony WP:Office soon became a red flag to those who dislike this intervention or otherwise like to make trouble for Wikipedia (e.g. copying sensitive or contentious materials off Wikipedia to continue to cause trouble).

However, unfortunately, the office mechanism can be abused by those pushing a non-encyclopedic point of view (POV); such as promoting (or censoring negative views of) a commercial product. If such people can't win their arguments on the merits of notability and neutrality, having their lawyer call the office might prompt an office intervention -- such as blanking or deleting the contentious article which should then be labeled with the WP:Office tag.

Something like WP:Office is an unfortunate though (probably) necessary mechanism whereby reasoned discussion is excepted so as to avoid legal problems. Yet, in an amusing and sad irony WP:Office soon became a red flag to those who dislike this intervention or otherwise like to make trouble for Wikipedia (e.g. copying sensitive or contentious materials off Wikipedia to continue to cause trouble). Whereas office actions were intended to quickly and quietly remove a potential liability, they became a flash-point. This led to the genuinely sad case in which office actions were taken without being labeled as such and a 'good-faith' administrator was desysopped and blocked indefinitely, because he had reverted the hidden landmine of an unlabeled office action. (Fortunately, his response[4] was an exemplar of Wikipedia tact and his position was soon restored).

Recently, the realities of this tension between open collaboration and legal action are indicated by two announcements: the appointment to a CEO position[5] who will also act as general counsel, and the deployment of a 'oversight' (revision hiding) feature (Wikipedia, 2006) which permits edits to be hidden from an article's history page. Legal threats are clearly a top priority.

Edgar Schein[6] argues that organizations are shaped by the crises they face in interaction with the external environment and how those events are internally integrated within the organization. This integration is not always smooth or successful, particularly for an open community. Another example of this has been the recent dispute in the Debian GNU/Linux distribution project. In a thread entitled Who can make binding legal agreements[7], the Debian community came into conflict with the SPI Board, it's own legally chartered 'umbrella'! Can SPI pre-empt Debian decision making processes? Can Debian decisions foist liability upon SPI it is unwilling to accept? These are difficult decisions when we lack a legally robust and safe means of the open collaboration that Wikipedia and Debian represent. This has lead Larry Sanger[8] to argue that Collaborative Free Works Should Be Protected by the Law; a proposal that deserves serious consideration.

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On the Differences between Open Source and Open Culture[1]

Felix Stalder

What makes a work of art a good work of art? How can we reliably judge the ability of one artist as comparable and superior over that of another? These are intractable questions that most people, even art critics, try to avoid, for very good reasons.

How would culture be created if artists were not locked into romantic notions of individual authorship and the associated drive to control the results of their labour was not enforced through ever expanding copyrights? What if cultural production was organized via principles of free access, collaborative creation and open adaptability of works? As such, the practices of a collective and transformative culture are not entirely new. They were characteristic for (oral) folk cultures prior to their transformation into mass culture by the respective industries during the twentieth century, and as counter-currents – the numerous avant-garde movements (dada, situationism, mail art, neoism, plagiarism, plunderphonics, etc.) which re-invented, radicalized and technologically up-graded various aspects of those. Yet, over the last decade, these issues – of open and collaborative practices – have taken on an entirely new sense of urgency. Generally, the ease with which digital information can be globally distributed and manipulated by a very large number of people makes free distribution and free adaptation technically possible and a matter of everyday practice. Everyone with a computer already uses, in one way or the other, the copy & paste function built into all editors. This is what computers are about: copying, manipulating and storing information. With access to the internet, people are able to sample a wide range of sources and make their own works available to potentially large audiences.

More specifically, the free and open source software (FOSS) movement has shown that it is possible to create advanced informational goods based on just these principles. They are enshrined as four freedoms in the General Public License (GPL), the legal and normative basis of much of this movement. These are, it is worth repeating: freedom to use a work for any purpose, freedom to change it, freedom to distribute exact copies of it, and freedom to distribute transformed copies. These freedoms are made practicable through the obligation to provide the necessary resources; for software, this is the human-readable source code (rather than just the machine-readable binaries, consisting of nothing than ones and zeros). After close to two decades of FOSS development it has become clear that it embodies a new mode of production, that is, a new type of social organization underpinning the creation of a class of goods. To stress that this mode of production does not need to be limited to FOSS, Yochai Benkler has called it 'commons-based peer production'[2] meaning that the resources for production e.g. the source code are not privately owned and traded in markets, but managed as a commons, open to all members of a community made up of volunteers (those who accept the conditions of the GPL).

It is perhaps not surprising that such a 'really existing utopia' has had a strong attraction for cultural producers whose lives are made difficult by having to conform either to the demands of the culture/creative industries, or the traditional art markets. Thus over the last couple of years, we have seen an explosion of self-declared 'openness' in virtually all fields of cultural production, trying, in one way or the other, to emulate the FOSS style of production, usually understood as egalitarian and collaborative production.

However, despite all the excitement, the results have been, well, rather meagre. There are plenty of collaborative platforms, waiting to be used. Those that are used often produce material so idiosyncratic that they are of relevance only to the communities creating them, barely reaching beyond self-contained islands, always at the brink of collapsing into de facto closed clubs of the like-minded. There is only one example that springs to mind of something that has reached the size and impact comparable to major FOSS projects: Wikipedia, the free online encyclopedia.

The exceptional status of Wikipedia suggests that the FOSS model is not easily transferable to other domains of cultural production[3]. Rather, it seems to suggest that there are conditions which are specific to software development. For example, most software development is highly modular, meaning many people can work in parallel on self-contained aspects with little coordination between them. All that is necessary is to agree on certain standards (to make sure the various modules are compatible) and a loosely-defined direction for the development. This gives the individual contributors a high degree of autonomy, without diluting the overall quality of the emergent result. This, of course, does not apply to literary texts, films, or music, where the demands for overall coherence are very different. It's not surprising, then, that we still have not seen, and I would suspect will never see, an open source novel[4]. Another important aspect in which software development differs from most cultural production is its economic structure. Around three quarters of professional programmers (meaning people who are paid to write code) work for companies that use software but do not sell it[5]. Commodity software (à la Microsoft) has always been only a small aspect of all software that is produced and the overall sector has always been oriented towards providing services. Hence, it's easy to imagine an industry providing an economic basis for long-term FOSS development. And such an industry is emerging rapidly. Of course, artists, for very good reasons, are reluctant to accept a service model forced upon them under the label creative industry[6], leaving them dependent on either the traditional art market or the limited commissions handed out by public and private foundations. There are numerous other aspects that differentiate the problem of software development from other domains of immaterial production. I've sketched them elsewhere[7]. In the context of self-directed cultural or artistic projects, one issue seems to pose particular difficulty for open projects: quality control.

What's Good, And Who Is Better?

What makes a work of art a good work of art? How can we reliably judge the ability of one artist as comparable and superior over that of another? These are intractable questions that most people, even art critics, try to avoid, for very good reasons. Throughout the twentieth century, the definition of art as been expanded continuously to the degree that it has become self-referential (à la "art is what artists do", or "art is what is shown in art institutions"). As an effect of the ensuing uncertainty, aesthetic judgements are more than ever uncertain and therefore subjectivized, and the range of

aesthetic preferences is extremely wide. The differences among genres, even if they can seem to be minuscule to outsiders, tend to be very significant for the ones who care. The result is that the number of people who share a sense of what makes a cultural product high-quality is usually very small. Except, of course, if the product is supported by massive marketing campaigns, that artificially inflate this richness of opinion into mass markets. Thus cultural communities are either highly fragmented or commodified, making collaboration either exceedingly difficult or illegal.

In software, this is different. It is usually not so difficult to determine what a good program is and what not, because there are widely accepted criteria which are objectively measurable. Does a program run without crashing? Does it do certain things that others don't? How fast is it? How much memory does it use? How many lines of code are necessary for a particular feature? But it's not just that technical questions are 'objective' and cultural ones are 'subjective'. In order to be able to seriously contribute to a FOSS project (and therefore earn status and influence within the community) one needs to acquire a very high degree of proficiency in programming, which can only be gained through a deep immersion in the culture of engineering, either through formal education, or informal learning. Either way, the result is the adoption of a vast, shared culture, which is global, to a significant degree. It is this shared culture of engineering which makes certain measurable aspects of a program the defining ones. Faster, for example, is always better. While there is a slow food movement, extolling the virtues of traditional cooking over fast food, there is no slow computing movement. Even those subcultures which dedicate themselves to old platforms try to max them out (make them run as fast as possible).

This is not to say that there are no deep disagreements in the programming community that cannot be reconciled by references to objective measurements. There are plenty of them, usually concerning the virtues or vices of particular programming languages, or fundamental questions of software architecture (for example, within the FOSS world, the never-ending debate over the monolithic Linux kernel versus the GNU microkernel). However, these differences in opinion are so fundamental that the communities which are built around them can still be large enough to find the critical mass of contributors for interesting projects.

However, the objectifying and solutions-oriented character of a widely shared engineering culture is not the only reason why the assessment of quality in software is not such a quarrelsome problem. At least as important is the fact that the tools/information necessary to assess quality are also widely available. Indeed, software is, at least in some aspects, a self-referential problem. It can be solved by reference to other software and determined within closed environments. A skilled programmer has all the tools to examine someone else's code on his/her computer. This is still not an easy task – bug fixing is difficult – but since every programmer has all the tools at his/her disposal, it can be made easier by increasing the number of programmers looking at problems. The more people search for the problem, the more likely someone will find it, because, theoretically, each of them could find it. This is what Eric Raymond means when he argues that "given enough eyeballs, all bugs are shallow".

As a result, it is possible to gain a relatively unproblematic consensus about which code is of high quality, and which is not, and, by extension, to establish a hierarchy, or pecking order, among programmers.

This is not so terribly different from the peer-review in science. People look at each other's work and decide what is good and what is not. The difference lies in what it takes to become a peer. For FOSS, all you need to have are the necessary skills (hard to master, of course, but available to the dedicated) and a standard computer with an internet connection. Not much of a hurdle for those who care. Now, it's the quality of the code, assessable by everyone, that shows if you are a peer or not. In science what you often need is not just the necessary skills, but often a vast infrastructure (laboratories, machinery, access to archives and libraries, assistants, funding, etc.) to make use of those skills. This expensive infrastructure is usually only accessible to employees of large institutions, and in order to get employed, you need the right credentials. Thus, in science, peers are established by a mixture of credentials and positions, because without those, you cannot seriously assess the publications of other researchers, for example, by repeating their experiments.

If peer-review is so essential to establish quality control, and yet it's difficult to establish reliably who a peer is, the project runs into troubles. The current difficulties of Wikipedia are instructive in this case. Wikipedia is an attempt to create an online encyclopedia, written entirely by users, which can exceed the range and quality of the most reputable traditional reference works. In just five years, hundreds of thousands of articles in dozens of languages have been written, and in quite a few cases, these articles are of very high quality. In terms of modularity and economic structure, Wikipedia is very similar to software development. This is one of the reasons why the open source approach has worked so well. Another reason for its success is that the Wikipedia community has managed to create a widely shared understanding about what a good article should look like (it's called the 'neutral point of view', NPOV)[8]. This gives a formal base-line (disputed perspectives on a subject should be presented side-by-side, rather than reconciled) in order to assess articles. However, these criteria are only formal. It says nothing about whether these perspectives are factually correct or in accord with relevant sources.

The basic mechanism of quality control in Wikipedia is the idea that as more people read a particular article mistakes will be found and corrected. So, over time, articles improve in quality, asymptotically reaching the state of the art. Given enough eyeballs, all errors are shallow. However, practice has shown that this doesn't necessarily need to be the case. It holds more or less true for formal aspects, like spelling and grammar, which can be assessed simply by reading the article. However, in terms of the actual content, this model clearly shows its limits. Often, the actual facts are not easy to come by, and are not available online. Rather, in order to get the fact, you need access to specialized resources that few people have. If such facts are then included and contradict common knowledge, the chances are that they get corrected as mistakes by people who think they know something about the topic, but whose knowledge is actually shallow. This is less of a problem in very specialized and uncontroversial areas (such as the natural sciences[9]) that are primarily of interest to specialists but a serious problem in areas of more general knowledge. It shows that even for functional works, the addition of more people does not necessarily help to improve the quality – even if these people are well-intentioned – because most of them do not have the necessary information to assess the quality.

Wikipedia is caught in the problem that it does not want to restrict the rights of average

users in favour of experts, but, rejecting formal credentials, it does not have a reliable way to assess expertise e.g. the number of entries, or other statistical measures, show devotion, but not expertise. But given the fact that one cannot simply 'run' an article to check if it contains a bug, it is impossible to validate the quality of the content of an article simply by reading it carefully. In order to do that, one needs access to the relevant aspects of the external reality and this access is often not available. But because there is no direct way to recognize expertise, Wikipedia is open to all, hoping for safety in numbers. Given the highly modular structure and the factual nature of the project, supported by the NPOV editorial guidelines, the project has thrived tremendously. Paradoxically, the limitation of its method begins only to show after it has become so successful that its claim to supersede other authoritative reference works has to be taken seriously[10].

Cultural projects, then, face two problems. If they are of an 'expressive' type, then the communities that agree on quality standards are so small that collaboration tends to be more club-like than open source. Even if the works are functional, like Wikipedia, the challenge of determining who is an expert without relying on conventional credentials is significant. Currently, the problem is side-stepped by reverting to simplistic egalitarianism, or, as I would call it, undifferentiated openness. Everyone can have a say and the most tenacious survive.

Undifferentiated Openness

The openness in open source is often misunderstood as egalitarian collaboration. However, FOSS is primarily open in the sense that anyone can appropriate the results, and do with them whatever he or she wants (within the legal/normative framework set out by the license). This is what the commons, a shared resource, is about: Free appropriation. Not everyone can contribute. Everyone is free, indeed, to propose a contribution, but the people who run the project are equally free to reject the contribution outright. Open source projects, in their actual organization, are not egalitarian and not everyone is welcome. The core task of managing a commons is to ensure not just the production of resources, but also to prevent its degradation from the addition of low quality material.

Organizationally the key aspects of FOSS projects are that participation is voluntary and – what is often forgotten – that they are tightly structured. Intuitively, this might seem like a contradiction, but in practice it is not. Participation is voluntary in a double sense. On the one hand, people decide for themselves if they want to contribute. Tasks are never assigned, but people volunteer to take responsibility. On the other hand, if contributors are not happy with the project's development, they can take all the project's resources (mainly, the source code) and reorganize it differently. Nevertheless, all projects have a leader, or a small group of leaders, who determine the overall direction of the projects and which contributions from the community are included in the next version, and which are rejected. However, because of the doubly voluntary nature, the project leaders need to be very responsive to the community, otherwise the community can easily get rid of them (which is called 'forking the project'). The leader has no other claim for his (and it seems to be always a man) position than to be of service to the community. Open Source theorist Eric S. Raymond has called this a benevolent dictatorship[11]. More accurately, it is called the result of a voluntary hierarchy in which authority flows from responsibility (rather than from the power to coerce)[12].

Thus, the FOSS world is not a democracy,

where everyone has a vote, but a meritocracy, where the proven experts – those who know better than others what they are doing and do it reliably and responsibly – run the show. The hierarchical nature of the organization directly mirrors this meritocracy. The very good programmers end up on top, the untalented ones either drop out voluntarily, or, if they get too distracting, are kicked out. Most often, this is not an acrimonious process, because in coding, it's relatively easy to recognize expertise, for the reasons mentioned earlier. No fancy degrees are necessary. You can literally be a teenager in a small town in Norway and be recognized as a very talented programmer[13]. Often it's a good strategy to let other people solve problems more quickly than one could oneself, since usually their definition of the problem and the solution is very similar to one's own. Thus, accepting the hierarchical nature of such projects is easy. It is usually very transparent and explicit. The project leader is not just a recognized crack, but also has to lead the project in a way that keeps everyone reasonably happy. The hierarchy, voluntary as it may be, creates numerous mechanisms of organizational closure, which allows a project to remain focused and limits the noise/signal ratio of communication to a productive level.

Without an easy way to recognize expertise, it is very hard to build such voluntary hierarchies based on a transparent meritocracy, or other filters that increase focus and manage the balance between welcoming people who can really contribute and keeping out those who do not.

Wikipedia illustrates the difficulties of reaching a certain level of quality on the basis of undifferentiated openness.

'Expressive' cultural projects face even greater hurdles, because the assessment of quality is so personal that, on the level of production, collaboration rarely goes beyond a very small group, say a band, or a small collective of writers, such as Wu-Ming.

Open Culture Beyond Open Source

This does not mean that FOSS cannot be taken as a model for open cultural production in other fields. However, what seems to be the really relevant part is not so much the collaborative production aspects, but the freedom of appropriation aspect and the new model of authorship, centering around community involvement rather than individual autonomy. The GPL, and other such licenses, like Creative Commons, are very good instruments to enshrine these basic freedoms. These will create the pool of material in which a new, digital, transformative culture can grow. And indeed we are seeing the emergence of such resource pools. One example is *Flickr.com*, a rapidly growing repository of images, tagged and searchable, contributed entirely by users. While this is not a commons in a legal sense (the images in Flickr.com remain in the ownership of the author), nor, really, in intention, the fact that the resource as a whole is searchable (through user-defined image tags) does create a de-facto commons. The collaboration here is very limited, restricted to contributing individual works to a shared framework that makes it easily accessible to others. There is no common project, and collaboration between users is minimal, but it still can be understood as 'open culture' because it makes the resources of production, the images, widely available. The production of new cultural artefacts remains, as always, in the hands of individuals or small groups, but the material they work with is not only their own inner vision, honed as autonomous creators, but also other people's work, made available in resource pools.

At this point, this is entirely unspectacular.

But by restricting openness to the creation of a pool of relatively basic resource material, rather than complex artistic productions, issues of quality control and the organization of collaboration, with all the necessary difficulties of coordination in the absence of clear markers of quality, are sidestepped. Nevertheless, over time, I think that such de-facto commons can contribute to a slow transformation of culture from a collection of discrete, stable and ownable objects, created by autonomous, possessive individuals, to ongoing adaptations, translations and retellings within relevant contexts. Perhaps out of this, a new sense of authorship will emerge, and new communities in which certain criteria of quality are widely accepted (akin to 'community standards'). Only once this happens, I think, really collaborative modes of artistic production can be developed, similar to what we have seen in FOSS.

However, if this happens at all, it will be a very long-term process.

References

[1] Thanks to Armin Medosch for comments on a draft version.

[2] Yochai Benkler, Coase's Penguin, or, Linux and The Nature of the Firm, *Yale Law Journal*, No. 112, 2002, http://www.benkler.com.

[3] Unless technically restricted, informational goods are perfectly copyable and distributable for free. This makes them sufficiently distinct from material goods to constitute an ontologically different class of objects, even if the transfer between the two, say printing a digital text on paper, is often not difficult.

[4] Even for non-fiction books, this has not worked out so far, with the possible exception of educational text books, a genre characterized by the most unimaginative writing.

[5] http://opensource.org/advocacy/jobs.html

[6] The classic study still is Angela McRobbie's *British Fashion Design: Rag Trade or Image Industry?*, Routledge, London, 1988.

[7] See my essay *One Size Doesn't Fit All* in Open Cultures and the Nature of Networks, Futura publikacije, Novi Sad, 2005. http://felix.openflows.org/html/kuda_book.html for an overview of these differences.

[8] http://en.wikipedia.org/wiki/Wikipedia:Neutral_point_of_view. This issue is independent of the problem of people deliberately inserting false information just for the fun of it (or for more strategic reasons).

[9] See *Nature* 438, 15 December 2005, pp 900-901, http://www.nature.com/nature/journal/v438/n7070/full/438900a.html.

[10] Wikipedia co-founder Larry Sangers thinks that these limitations are so dramatic that he is preparing, with the help of $10 million funding, to start another free reference work, Digital Universe, but this time edited, or at least supervised, by experts. See http://www.theregister.co.uk/2005/12/19/sanger_onlinepedia_with_experts/

[11] Eric S. Raymond, 'The Cathedral and the Bazaar' in *First Monday* Volume 3, No. 3, 1988. http://www.firstmonday.dk/issues/issue3_3/raymond/ (all further quotes of Raymond are from the same article, unless otherwise noted).

[12] For the best analysis of the governance systems of FOSS projects, see Steven Weber, *The Success of Open Source*, Harvard University Press, Cambridge, MA, 2004.

[13] Jon Johanson, who gained international fame as the person who wrote the code to crack the DRM system on DVDs, and many others subsequently, lived at the time in Harstad, Norway


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THE
RIGHT
COPY?
XEROX
COMPUTER TYPI
BLUE PRINT
SCANNING

Towards a Culture of Open Networks
http://www.opencultures.net

Waag Society, Amsterdam, The Netherlands
http://www.waag.org

Sarai, Delhi, India
http://www.sarai.net