Real Rules of Innovation for the 21st century

(Part 1)

Inspiration Materials

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Prologue *The Innovation Triangle*

[1]

It is 1964 and this is the original control console for the first supercomputer, the CDC 6600. Manufactured by the Control Data Corporation. Serial number: 0002. Designer: Seymour Cray.

It looked like this:

[2]

Your average analogue computer in 1964 would look like this:

[3]

Now in 1964 there was a mouse:

[4]

This is a drawing from Engelbart's patent:

And it looked like that!

Do you recognize it?

Yes.

It is the only thing that we recognize.

It is the only thing that has not changed.

It is the interface.

From 1964 to 2004 all energy went to distributing system architecture, and centralizing system infrastructure.

From 1964 to 2004 all energy went to cutting down processor size, and speeding up processor power.

40 years well spent.

But can we afford such one sided innovation when it comes to the merging of the analogue and digital with ubicomp and RFID?

Clearly not.
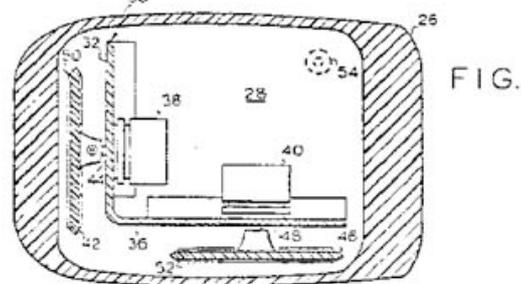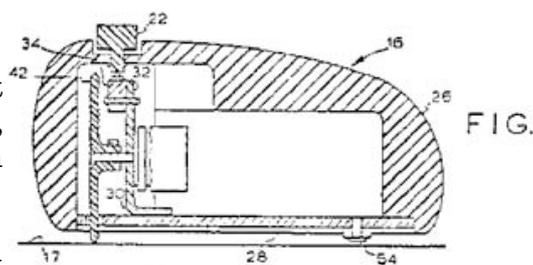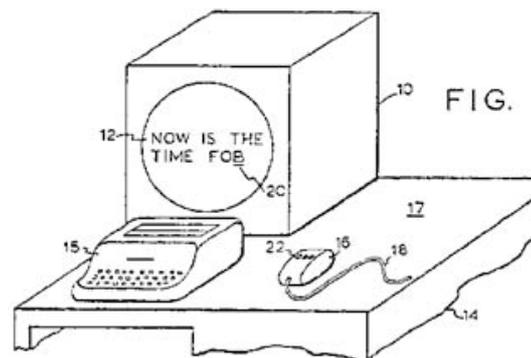
Interface is as essential as infrastructure and architecture when it comes to connectivity in the real world.

Who are these people?

[5]

They look pretty lost.

These are first human bodies in the new Woolworth in the first enclosed shopping center.

Southdale Shopping Center, located in Edina, Minnesota, was the first totally enclosed shopping center in the nation. In 1952, its developers, the Dayton family, long-established Minneapolis department store merchants, commissioned the architecture firm Victor Gruen & Associates to create a new form designed to reflect and serve changing patterns of suburban living. The master plan combined elements of the village green, of European city centers, and of elegant arcades and gallerias, in a constant temperature-controlled enclosure. When Southdale opened in 1956, it included 72 stores, and was anchored by two major department stores, all arranged in a two-level design around a brightly lighted center court. [6]

We will look pretty much the same in the Wal-Marts of the 21th century.

Here's us:

[7]

Ads coming on after the blackout. Lights are on in Times Square.

Pretty lost.

There is a slight difference, though.
Those people were lost in a shopping centre.
There were exit signs.

We don't have an exit.

As our 21st Wal-Mart is very much like the world: it is the world.

In such a world innovation can not afford to be one sided.

There are three sides to innovation:

A hard side: things
A soft side: ideas.
A people's side: vision.

This combination might lead to a sense of direction in a ubicomped world,
where selling things and services will no longer suffice.

Rule of Innovation I: *Don't look up, there is nothing new you need*: The Aboriginal response to Captain Cook or how to innovate in volcano outburst prediction

Read that!

Nothing's invented, nothing's new
Or made to order just for you.
The gangster play that we present
Is known to our whole continent.
Bertolt, Brecht, *Prologue to The Resistible Rise of Arturo Ui*, Methuen, Modern Plays, 1981 (first published 1957)

Overcome your opponent by calculation. Li Quan

"Or notice that many old working class women have an habitual gesture which illuminates the years of their life behind. D. H. Lawrence remarked it in his mother: my grandmother's was a repeated tapping of her fingers on the arm of her chair, a tapping which accompanied an endless working out of something in her head; she had had years of making out for a large number on very little. In others you see a rhythmic smoothing everything out and make it workable; in others there is a working of the lips or a steady rocking. None of these could be called neurotic gestures, nor are they symptoms of acute fear; the help the constant calculation." [8]

The day after I had decided to write this book I took off early from Amsterdam to Breda, in the south of Holland to teach a bunch of about one hundred communication media and design students about

globalization, Naomi Klein's No Logo and what kind of state we're all in. It is a full day, three groups of thirty, mostly boys. Luckily I'm reading Charles Leadbeater who at least writes in a modest optimist way about how a modest optimism can help turn the sad tide of pessimism. So I thought, let's see what we're facing, asking my 100 makers in progress, our media future, my 18, 19, 20 year olds: 1. What is the state of the world? 2. Do you see progress? 3. Are you optimistic or pessimistic? 4. What can you do yourself? 5. Do you sometimes, always, not ever ever give a coin to a beggar?

What can I say? These are not the begging times. These kids have got not a dime to spare. The planet sucks, technology eats on itself, leaving us evermore online but helpless face to face, progress? hell, no! Pessimism rules, as Dylan sings:

"Everything went from bad to worse, money never changed a thing."

Well, how does it feel?

To be without a sense of direction, of going somewhere, hijacking that boat to go over the end of the rainbow, getting juiced in exotics lands, fruits and women, wild wild women (remember these are mostly boys). And say: let's go and conquer this world! To be grand. Live of the land.

Eighteen and tired.

I am the most optimist person in the room. 39 and nothing to lose.

I did get their attention though, they moved into a kind of attention mode when I showed them a video of Naomi talking with our hard core Amsterdam activists. A few years ago I invited her to stay for a few days in Amsterdam, to lecture in the media education program I set up for the Balie, a centre for cultural and political debate. We went to see artists, journalists, and modest optimist activists. One afternoon we spent in what must have been a room under heavy surveillance as over sixty hardcore activists gathered in the squatted Film Academy on the Overtoom. It was a memorable afternoon, I picked up the bill for the event paying just a few green teas. In the video we see a heated Trotzkist explaining that we only have one option and that is to tell the people to stop consuming like an idiot, to stop them buying things and things and other things, the best action of late being the Buy Nothing Day. To which Naomi replies – handing my kids the very line of the first chapters of the book – that the problem is that it is not about things any longer, but about tagged spheres to the things, about logo's and brands. Furthermore since we stopped going to church, shopping has become our primary communal activity, and this is the heart of the situation we're facing. 'Stop waving your finger', says the Trotzkist, 'if we blow up the motorway, they cannot drive on it.' It was Naomi, however, who carried that day, sat as she was – invited by the Balie – and we were booed naturally for being mainstream and posh, she beautifully steered clear between her being a reporter on situations and an activist in deeds. For no one is driving on the motorway anyway, they are all stuck in traffic.

Me? I walk. I have no driver's license.

As I passed the sheep that clumsily - at least to my view – hurdled together, and did held their heads quite high, I noticed the geese making a hell of a noise. Only then did I see the fox. Crouching low, sniffing the ground, circling in. Tail as large as body. I stood and watched, and never moved. When I had the fox memorised as shape, I took off for my morning run. And doubled back. Geese calling, sheep begging. I needed just a few seconds. Always on the side of the weak. And when I stood again at that same spot, I saw the fox moving out to an adjacent field. I moved with him. A field, a tree, a fox and me watching. He sat there, at ease.

And I wondered, who's weak in his tale? Who needs to eat most? Who is taking care of himself? I took off for my morning run. In the frozen tracks, looking down at the slippery ground. A huge bird of prey , could it have been a hawk? - probably an épervier, a gavilan - took off majestically, easing itself into a nearby tree. I saw her flight. And said out loud: "This is the place to rise". This synesthesia startled me and I stood still for a while, thinking this over and staring at the bird. The sentence - this linguistic medium - was in all possible interpretations incorrect. Had I meant to say time, then this would have been untrue as this was then this spot in which I stood staring at the bird and having risen then I would have not seen all that I had wanted to rise for in order to see precisely that. And yet to me "This is the place to rise" felt true to my experience. I had risen in time in order to be at the places where I had experienced these thoughts that I now write down, translate as meagre as it is, yes, I do apologise, into these words through which I attempt to weave a rhythm that will convey somehow my attempts of this morning, - this morning in the Ardennes, to memorise the fox as shape, to exercise time as place. [9]

my father was in the marines, and he told me how they count from 0 to 10 with one hand. zero through five is obvious, and for 6-10, they just turned their hand 90 degrees. so '7' looks like someone giving the peace sign at 90 degrees. [10]

In *Dreams of a Final Theory*, Steven Weinberg speaks of the "spooky ability of mathematicians to anticipate structures that are relevant to the real world". [11]

For example; to exercise time as place.

We all have the spooky ability to do just that, to anticipate structures that are relevant to the real world, however spooky the real world might become.

For how hard it is to write about a world becoming strange, or new, or spooky, after the dotcom crash, after the high hopes of increasing productivity through IT, of readers and writers becoming *wreaders*, of liberty finally around the corner: a product to be played out in all kinds of gender, racial and cultural roles, a process to drive decision-making transparency in both offline and online processes. Only to have woken up to the actual realization of a highly synergized performance of search

engines and backend database driven visual interfaces. Postmodern theory, open source coding and multimedia channeling promised the production of a new, *hybrid* space, only to deliver the content convergence of media channels.

And yet, I claim that we are in the progress of witnessing the realization of such a new space. In places where computational processes disappear into the background - into everyday objects - both my reality and me as subject become contested in concrete daily situations and activities. Buildings, cars, consumer products, and people become information spaces by transmitting all kinds of data through Radio Frequency Tags that are rapidly replacing the barcode. We are entering a land where *the environment has become the interface*, where we must learn anew how to make sense.

Making sense is the ability to read data as data and not noise. A matter of life and death when dealing with the flowing reality of the earth's core: "If we consider that the oceanic crust on which the continents are embedded is constantly being created and destroyed (by solidification and remelting) and that even continental crust is under constant erosion so that its materials are recycled into the ocean, the rocks and mountains that define the most stable and durable traits of our reality would merely represent a local slowing down of this flowing reality." (Manuel de Landa, 1997)

Reading this local slowing down of flowing reality has never been easy, in fact it has never been possible. There was no way of reading information in the data drawn by the patterns of the seismographs. Vulcanologists could but read in particular ways that refused to turn data into reliable information. Until Bernard Chouet, a physicist – after five years of intensive study – saw patterns where no one saw patterns before, decided what was data and what was not data. [12] He focused on a particular pattern that no one had seen before.

The challenge we are facing now is reading the flowing reality of our *surface*. How to store real-time information flows? How to chart them? Which are our seismographs? How do we match real-time processes with the signified that they are supposed to signify? How to find ways of deciding what is data and what is not data in the space of flows?

When Cook's 'Endeavour' sailed into the bay that we know now as Cape Everard on April 22 1770, touching upon Australian shore for the first time, the British saw Aborigines fishing in small canoes. Whereas the native population of Tahiti had responded with loud chanting and the Maori had thrown stones, the Aborigines, neither afraid nor curious, simply went on fishing.

Only until Cook had lowered a small boat and a small party rowed to the shore did the Aborigines react. A number of men rowing a small boat signified a raid and they responded accordingly. The Aborigines must have seen something and even if they could not see it as a ship, they must have felt the waves it produced in their canoes. However, as its form and height was so alien, so contrary to any-thing they had ever observed or produced,

they chose to ignore it since they had no adequate procedures of response. In *Dreamtime*, the Aborigines believed they saw an island. And as islands are common, you can let them drift by, you don't *notice* them, you don't perceive them as *data*. They thought Cook's boat was an island.

When you see an island you do not have to look up.

It will pass.

We find ourselves today in a similar situation.

Our *Endeauvour* is the merging of digital and analogue connectivity as described by Mark Weiser in his 1991 founding text *The Computer in the 21st century* and Eberhardt's and Gershenfeld's announcement in February 1999 that the Radio Frequency Tag had dropped under the penny cost. For most common users the ubiquitous computing revolution is too fundamental to be perceived at such. Some professional users believe in smooth transitions, as Tesco's UK IT director Colin Cobain, who says that RFID tags will be used on 'lots of products' within five years - and perhaps sooner for higher value goods; 'RFID will help us understand more about our products, he claims. [13] And some professionals believe "that what we call ubiquitous computing will gradually emerge as the dominant mode of computer access over the next twenty years. Intriguingly, it is Mark Weiser who believed "that ubiquitous computing will enable nothing fundamentally new, but by making everything faster and easier to do, with less strain and mental gymnastics, it will transform what is apparently possible." [14]

Contrary to Mark Weiser's claim that ubiquitous computing will enable nothing fundamentally new, we believe that ubiquitous computing *will* enable something fundamentally new, and our main question is: *to what extent is does it allow for analogue human agency?*

The disappearing computer [15], - launched by Future and Emerging Technologies, the European Commission's IST Programme - is a vision of the future: "in which our everyday world of objects and places become 'infused' and 'augmented' with information processing. In this vision, computing, information processing, and computers disappear into the *background*, and take on the role more similar to that of *electricity* (it. mine) today - an invisible, pervasive medium distributed on our real world."

In such a mediated environment – where everything is connected to everything - it is no longer clear what is being mediated, and what mediates. Design decisions become process decisions in a mediatized environment. Such environments - your kitchen, your living-room, our shopping malls, the streets of old villages, websites, schools, p2p networks, are new beginnings as they reformulate our sense of ourselves in places in spaces in time.

The goal of the *Disappearing Computer* project is augmenting the world of everyday objects and places with information processing while at the same

time exploiting the affordances of real objects in the real world. Dr. Norbert Streitz, one of the key figures in the network, explains that this requires "an integrated design of real and virtual worlds and - taking the best of both - developing hybrid worlds with matching metaphors." The disappearing computer can, according to him, be thought of as *genius loci*, - the spirit of the place. As 'nature' and 'techné' become hybrid spheres, people become 'tags'. Ghosts.

Dutch artist Bas Jan Ader did not need anything new. He had a bike, he took it for a ride and drove into the canal. And changed everything in the scenery, setting and situation.

When almost every object either contains a computer or can have a tab attached to it, obtaining information will be trivial: "Who made that dress? Are there any more in the store? What was the name of the designer of that suit I liked last week?" The computing environment knows the suit you looked at for a long time last week because it knows both of your locations, and, it can retroactively find the designer's name even if it did not interest you at the time. – Mark Weiser, 1991

In the new 754i BMW sedan the iDrive, also known as the miracle knob "is designed, through a computerized console, to replace more than 200 that control everything from the position of seats to aspects of the navigation of the car itself to climate, communications and entertainment systems." In May 2002 15,000 7-series were recalled. "BMW tried to do too many things at once with this car, and they underestimated the software

problem," says Conley, ex-CEO of EPRO Corp. "Only two-thirds of hardware has been unleashed by software. There are so many predecessors and dependencies within software that it's like spaghetti-ware. It's not that easy to get all these little components to plug and play." [16]

What skills are then learned, received, revoked?

Bemoaning the loss of old skills is probably not the most productive way to critique the new technologies. The greater need is to recognize that, precisely *because* of the labor-saving capabilities of our high-tech tools, the art of mastery demands greater skills and more arduous discipline than ever before. [17]

Wade Davis, travelling through the Ecuadorian Amazon noticed that even if the shotgun the Waorani had were "miserable weapons: single-shot breechloaders cursed with weak firing springs that rarely lasted a year" the still preferred it to their own blowgun. Why? Because it had the sensual feedback that signals the beginning and end of an action.

"It was the intrinsic attraction of the object itself, the clicking mechanisms, the polished stock, the power of the explosion. As one Waorani hunter explained, 'It makes such a beautiful noise'".

In mastering the blowgun, Tomo learned stealth and many physical skills. He learned great care, whether in preparing his poisons or notching his dart or avoiding what we like to call "collateral damage". He learned patience and well-focused attention. But above all, he learned to read his environment through a resonant inner connection with it: only by understanding the ways of the forest, the character and likely movements of his prey, the meanings carried upon the ceaseless symphony of sounds enlivening the jungle -- only so could he find success in the hunt using a weapon such as the blowgun.

The shift of emphasis I am concerned about is the sacrifice of this qualitative attention to one's environment in favor of a strictly analytical and technical understanding. It's the difference between receiving "information" about something and being open to the thing itself -- which also means being open to that part of ourselves through which the other can speak. It means overcoming, in the moment of knowing, the barrier between self and other. We can recognize the world's qualities only by discovering them within ourselves, for to experience the quality of a thing is necessarily to *experience* it, to find its shape and movement and significance reproduced within ourselves. This is what I mean by "resonance". [18]

Don't take anything new to a situation.
Everything you need is at hand.

Rule of innovation number one:
Don't look up.

Rule of Innovation II: *Formulate a vision and let go*: The Bauhaus Pottery Shop or how to innovate in communicating technology.

DARPA is two-year-old $50-million Human ID at a Distance program. And while automated face recognition receives the most attention, DARPA is also funding efforts at a handful of universities to identify people through their body language. The theory is simple: in the same way that each person has a unique signature or fingerprint, each person also has a unique walk. The trick is to take this body language and translate it into numbers that a computer can recognize. [19] One approach is to create a "movement signature" for each person."

The ultimate aim of all creativity is the building! And the italics are original to Walter Gropius Manifesto of the Bauhaus (April 1919): "Let us together desire, conceive and create the new building of the future, which will combine everything – architecture *and* sculpture *and* painting – in *a single form….*" In a ubicomp environment, architecture will become once again the core unit of design. For something *has* fundamentally changed; the very nature of information itself, no longer analogue, no longer digital, and not hybrid neither: buildings, cars and people can now be defined as information spaces. Anthony Townsend, from Taub Urban Research Center, has been asked by the South Korean government to "turn an undeveloped parcel of land on the outskirts of Seoul into a city whose raison d'etre will be to produce and consume products and services based on new digital technologies."

The main challenge lies in the realization that "*half of designing a city is going to be information spaces* that accompany it because lots of people will use this to navigate around." Townsend claims that telecommunications in a city in 2012 is going to be a lot more complex: "The most interesting thing about it will be that you won't be able to see it all at once because all these data structures, computational devices, digital networks and cyberspaces that are built upon those components will be invisible unless you have the password or unless you are a member of the group that is permitted to see them." [20] In such an environment, the people themselves – human bodies- become information spaces too.

What do the 2003 Chinese Communist Party delegates and the 2003 World Summit on Information Society conference goers have in common?

RFID badges.

"In May, delegates to the Chinese Communist Party Congress were required to wear an RFID-equipped badge at all times so their movements could be tracked and recorded. Is there any doubt that, in a few years, those badges will be replaced by VeriChip-like devices? Surveillance is getting easier, cheaper, smaller, and ubiquitous." [21]

At the 2003 World Summit IS meeting the badges carried RFID tags. If you had one, you would not know.

An anonymous reader writes: "A group of activists has apparently [1] bypassed physical security checks at the [2] WSIS Meetings. Not only did they bypass the physical security with a fake card, they found the system uses [3] RFID tags to monitor participants -- possibly even who they interact with and their movements through the conference." [22]

"The official Summit badges, which are plastic and the size of a credit card, hide a "RF smart card" [1] - a hidden chip that can communicate its information via radio frequency. It carries both a unique identifier associated with the participant, and a radio frequency tag (RFID) that can be "read" when close to a sensor. These sensors can be located anywhere, from vending machines to the entrance of a specific meeting room allowing the remote identification and tracking of participants, or groups of participants, attending the event. The data relating to the card holder (personal details, access authorization, account information, photograph etc.) is not stored on the smart card itself, but instead managed by a centralized relational database. This solution enables the centralized system to monitor closely every movement of the participants at the entrance of the conference centre, or using data mining techniques, the human interaction of the participants and their relationship. The system can potentially be extended to track participants' movements within the summit and detect their presence at particular session." [23]

Ralph Bendrat writes:

"The name badges produced for every summit participant at registration included a radio frequency identification (RFID) chip. The personal data of the participants, including the photograph, was stored on a central database, and the times when and where they left or entered the summit venue were also recorded. There was no privacy policy available, and nobody could or would tell us what happens to the data after the summit." [24]

In an attempt to achieve a harmony between a town center and a distribution network, officials of the Wal-Mart Corporation announced in March 2003 the opening of Walton Township, guaranteeing its residents a literally bottomless supply of consumer goods, for a flat all-in monthly fee. According to Valerie Femble-Grieg, who designed it, the key to Walton is "a literal superimposition of municipal and retail channels." In an effort to control 'leakage,' the export of flat-fee goods outside the Township by community subscribers, Wal-Mart plans to institute a pervasive inventory control system consisting of miniature radio-frequency tags broadcasting unique product and batch ID numbers." [25] The tree major U.S. car manufacturers plan to install rfd tags in " every tire sold in the nation". The tags can be read on vehicles going as fast as 160 kilometers per hour from a distance of 4.5 meters. [26] In January 2003, Gillette began attaching RFID tags to 500 million of its Mach 3 Turbo razors. Smart shelves at Wal-Mart stores "will record the removal of razors by shoppers, thereby alerting stock clerks whenever shelves need to be refilled—and effectively transforming Gillette customers into walking radio beacons." [27] London Underground will in all probability have about 10.000 CCTV's by 2004 (it now has 5000). The systems architecture - MIPSA , Modular

Intelligent Pedestrian Surveillance Architecture - is programmed with scenarios – "such as unattended objects, too much congestion, or people loitering - and when it detects one of those, it alerts the operator through a series of flashing lights and messages."

"To determine what is suspect, the system memorizes the features of an image that are constant, and then subtracts those to figure out what is happening. It looks at patterns of motion and their intensity. Things that are stationary for too long in a busy environment raise alarms..." [28]

Are our current designers equipped to deal with these fundamental issues and dilemma's, where what used to be *media ethics* has now become *building ethics* itself?:

"As thousands of ordinary people buy monitoring devices and services, the unplanned result will be an immense, overlapping grid of surveillance systems, created unintentionally by the same ad-hocracy that caused the Internet to explode. Meanwhile, the computer networks on which monitoring data are stored and manipulated continue to grow faster, cheaper, smarter, and able to store information in greater volume for longer times. Ubiquitous digital surveillance will marry widespread computational power – with startling results." [29]

The most intriguing aspect of Bauhaus is that the most successful unit, – the unit coming 'closest to Bauhaus intentions', as Gropius stated, the pottery workshop – was located 25 kilometers from Weimar, in Dornburg. It was hard to reach by train, and hard to reach by car. The workshop master Max Krehan owned the workshop, so there was a business interest [30] from the start. The relationship with Marcks , the Master of Form, was not contaminated with formalized roundtable discussions, but was a productive two way (abstract-concrete) interrelationship.

"More important still, in terms of what Gropius hoped for the entire Bauhaus, was the way in which the pottery workshop operated in close co-operation with the local community in which it found itself. It made pots for the community and the town of Dornburg leased the workshop a plot of land which the students used for vegetables and on which, it was hoped, they would build." [31]

So what can we learn from this? That we must not aim to define, alter or transform practices, processes, places or people. What should be aimed at to define is a vision. A vision that should be able to inspire and empower us in our concrete experience of agency in this new world, towards a humanistic and optimistic positive attitude in our roles, functions and *leadership*, in our capability to make sense, to work within an *uncertain* framework of unforeseen consequences, unintended uses, and procedural breakdown.

Three basic ideas underlie this vision: one; the dominance of a yet to be developed concept of life and living as *slow becoming*, as in Eugène Minkowsky's idea that the essence of life is not " a feeling of being, of existence, but a feeling of *participation* in a flowing onward, necessarily

expressed in terms of time, and secondarily expressed in terms of space"
[32], two; the dominance of a yet to be developed concept of *slow money*, so
as to focus on the design process on the one hand and the sustainability of
the design products on the other, and three a working concept of our
former notion of control, as *resonance*.

So:

Participate
Slow your money down
Resonate

Rule of innovation number two:
Let go.

Rule of Innovation III: *The genre is the gesture and the gesture is always with you*: The Blanqui Parade or how to innovate in organizing principles.

Two or three hours' walking will carry me to as strange a country as I expect ever to see. - Henry Thoreau. [33]

The biggest fight I fought as a kid was with a guy called, well 'guy', a kid off course, - how I keep forgetting we were kids then. Well, the biggest fight I fought as a kid was called Marcel Vera. I never forgot. How he stood waiting one day with his mates, waiting in the bushes and did it snow? It snowed. I was riding my bike, I was biking home, coming from school. As I write myself home. Just now. A car just passed, it came from the left. And I felt just for an instant, but I felt,: Hey you can not drive that way! It is a dead end. But here is no dead end, this is my Ghent street. The dead end street was In Waalwijk, where I grew up. So I still share with you, my young brother. Skin ego.

The energy inside our circle starts to feel good, and to build power. I am thinking we are going to have an easy day, that the strategy of the police will be to let us have this space but keep us away from other sections of the fence, and the big challenge will be keeping the group from simply getting bored and wandering off. So I decide to keep the spiral energy going instead of building it into a peak, and nod at Ruby to keep dancing in and out. I am drumming in the center to help keep the drum corps and the chanting in synch, and the energy of the group bathes me. I decide to use it to investigate the weird deadness of the area, and drop down into trance. (This is a kids-don't-try-this-at-home technique—meaning I wouldn't recommend it for someone who isn't experienced in both deep trance and street actions, because it requires being able to make a major shift in consciousness instantly without getting the psychic equivalent of the bends.) What I see when I drop down are images of corpses, grey, bloated corpses, and a sense of an utter, soulless, hopeless lack of life. And I'm thinking about the Judgement card. Maybe our task is somehow to wake the dead. But there's a sickening feel to this energy. I start to cough and almost vomit, wondering if perhaps they are using some new neurotoxin on us or bombarding us with some sci-fi ray, but I feel more like I'm simply nauseated by contact with this energy. But I keep breathing it through, and releasing it, and calling on life energies to come in and cleanse it. There's an emptiness here so deep, like an energetic black hole, that I don't know what can fill it. I start invoking Oya, orisha of wind and fire, the sudden storm, and suddenly I feel power flooding through me and the energy of the drums and the chant begins to build and grow. [34]

In *A future world of supersenses*, Martin Rantzer of Ericsson Foresight says: "New communication senses will be needed in the future to enable people to absorb the enormous mass of information with which they are confronted," He claims that the user interfaces we use today to transmit information to our brains threaten to create a real bottleneck for new broadband services. Implementing digital connectivity in an analogue environment without a design for all the senses leads to information overload. In a ubicomp environment the new intelligence is *extelligence*,

"knowledge and tools that are outside people's heads" (Stewart and Cohen, 1997)

In a ubiquitous computing environment we need to be multi-literate: textually, visually and corporal.

We need an awareness of extelligence and a working knowledge of all the senses.

It was, as some Parisians later claimed, a perfect afternoon for a stroll in the Tuileries. [35] Finally managing to escape the oppressive indoor drudgery to which they had been confined for so long, if not the whole of Paris, than certainly a specific political cross-section of the Parisians, welcomed this sunny January afternoon with a ferocity normally reserved for their traditional afternoon apéritif. The Jardin des Tuileries had always been, as it was to remain, a popular resort and few people could resist the temptation to walk past the Jeu de Paume towards the Place de la Concorde to go for a café at the Champs Elysées for although it was sunny, it was till bitterly cold. They could still gaze upon the Tuileries Palace, built by Catharina de Medici in the 16th century, it was not to survive the year 1871 when it was thoroughly plundered and destroyed by the Communards.

But now it stood firm testimony to the power of Kings and Queens over their subjects. A monarchical power that was, in the shape of Napoleon III, making a desperate attempt to survive by transforming an authoritarian Empire into a liberal one, a tactical move, which, as we know, did not succeed and led to the proclamation of the Republic on September 4 1870.

But to the people who strolled on the Champs-Elysées that fateful January afternoon this was still the Second Empire and they made no conscious connection between the amazing spectacle they were about to witness and the political earthquake that lay only a few months ahead.

A few weeks earlier, on January 10 1870, Victor Noire, a journalist from the extreme republican newspaper La Lanterne, was killed by Pierre Bonaparte, the Emperor's cousin. This event profoundly disturbed the 'eternal' conspirator Blanqui whose revolutionary republican activism had earned him a wide range of dedicated followers. He suddenly realised that he only knew his lieutenants personally, and had never actually seen the men they commanded in his name. In effect, he did not even know their exact number.

Desperately wanting to assess the strength of his troops personally, he contacted his aide-de-camp.

The problem was obvious. They could not organise a parade of revolutionaries as if it were a regular military army. The solution, however, was equally obvious. You can hide a parade of revolutionaries in a parade of afternoon strollers.

He said farewell to his sister, put a gun in his pocket and took up his post on the Champs-Elysées. There the parade of the troops of which he was the mysterious general would take place. He knew the officers, now he would see the men they led for the first time, marching past in proud display. Blanqui mustered his troops for inspection without anyone suspecting anything of what was actually happening. In the crowd that watched this curious display le vieux stood leaning against a tree watching his friends silently approaching in columns. The promenade was momentarily transformed into a parade ground.

In the very act of moving, walking men became marching soldiers.

Marching soldiers only had to drop out of line back into the crowd to be transformed into walking men again and ultimately into afternoon strollers on a sunny January afternoon. The Blanqui parade dispersed as swiftly as it had emerged. The unsuspecting onlookers were left with their bewilderment, in doubt as to what they had actually seen. They had witnessed a powerful manifestation of the existence of an another 'society' that had no institutional place in the political organisation of their time.

The covert world represented by the Blanqui parade erupted for a brief moment in the overt world at a time and place when it was least expected. In that brief moment, its presence deliberately unmasked, the covert parade coexisted alongside the overt promenade, and it is hard to tell which was the more real as the physical acts of strolling and marching seemed to blend into an harmonious simultaneity, thus revealing the frightening prospectthat they might be interchangeable.

In the blurring of the boundaries between marching and walking we are made aware of how we are positioned within a field of vision and that we might able to construct meaning through experiencing the transgression itself. At the same time, however, experiencing the transgression strengthens our notions of the very acts themselves, we translate the momentary - the simultaneous blending - into our everyday notions of walking and marching.

In the very moment that we gain the opportunity to make sense, we lose the opportunity to integrate it fully into our own ways of seeing.

To let it stand. On its own.

You always have the march with you.

The parade is a step.
The genre is a gesture.
The gesture is always with you.
You can do the steps, don't you?

As we sometimes pretend to read?

"Mikhail Simkin and Vwani Roychowdhury of the University of California, notice in a citation database that misprints in references are fairly

common, and that a lot of the mistakes are identical. They looked at a famous 1973 paper on the structure of two-dimensional crystals; cited in other papers 4300 times, with 196 citations containing misprints in the volume, page or year. It appeared that 45 scientists, who might well have read the paper, made an error when they cited it. Then 151 others copied their misprints without reading the original. So for at least 77 per cent of the 196 misprinted citations, no one read the paper." [36]

Rule of innovation number three:
Walk.

 [to be continued]

Notes

1) Manufacturer: Control Data Corporation....serial number: 0002 designer: Seymour Cray... original cost of computer: $6 million http://online.sfsu.edu/~hl/mmm.html

2) http://www.scd.ucar.edu/computers/gallery/cdc/6600.html

3) EAI analog computer, Model TR-20 Manufacturer: EAI, Inc. Original Price: $10,000 - Original Date: 1964 http://online.sfsu.edu/~hl/c.EAI.html

4) http://sloan.stanford.edu/MouseSite/Archive/patent/Mouse.html

5) The new F.W. Woolworth store at Southdale Photographer: Norton & Photograph Collection 1956 Location no. HF4.3 p55
Negative no. 6756-B
http://collections.mnhs.org/VisualResources/image.cfm?imageid=113292&ImageNum=40&RecCount=225

6) Minnesota Historical Society,
http://www.mnhs.org/library/tips/history_topics/72southdale.html

7) James Estrin/*The New York Times*, "Tourist gazing around Times Square after the blackout ended and the lights were on Friday night". 19/08/2003

8) Hoggart, Richard. *The Uses of Literacy*, Penguin Books, 1992, p. 49.

9) http://amsterdam.nettime.org/Lists-Archives/nettime-l-0202/msg00010.html

10) Date: Tue, 28 Jan 2003 20:42:58 +0000 Reply-To: Industrial Design Forum IDFORUM@YORKU.CA Sender: Industrial Design Forum IDFORUM@YORKU.CA From: arthur elzy <arthurelzy@HOTMAIL.COM>
Subject: Re: the future of... To: IDFORUM@YORKU.CA

11) Weinberg. S. *Dreams of a final theory* Vintage, 1993, p. 52.

12) From the BBC documentary, Volcano Hell: "Chouet's methods have commanded wide respect and have been increasingly used around the world. In a dramatic demonstration last year Mexican scientists used Chouet's method to predict an eruption of the mighty volcano Popocatépetl. Tens of thousands of people were safely evacuated just before the biggest eruption of the volcano for a thousand years. No one was hurt." http://www.bbc.co.uk/science/horizon/2001/volcanohell.shtml

13) Shops reveal plans to replace barcodes, by Steve Ranger [04-09-2002]

14) Mark Weiser, "The Computer for the Twenty-First Century," *Scientific American*, pp. 94-10, September 1991

15) http://www.disappearing-computer.net/

16) From: Dewayne Hendricks dewayne@warpspeed.com January 16, 2003 Consumer Products: When Software Bugs Bite By Debbie Gage http://www.baselinemag.com/print_article/0,3668,a=35839,00.asp

17) From: Steve Talbott [mailto:stevet@OREILLY.COM] Sent: 28 January 2003 20:16 To: NETFUTURE@MAELSTROM.STJOHNS.EDU Subject: NetFuture #141 Issue #141 A Publication of The Nature Institute January 28, 2003 Editor: Stephen L. Talbott (stevet@oreilly.com). Notes concerning *One River: Explorations and Discoveries in the Amazon. Rain Forest*, by Wade Davis (New York: Simon and Schuster, 1996). Paperback, 537 pages, $16.

18) From: Steve Talbott [mailto:stevet@OREILLY.COM] Sent: 28 January 2003 20:16 To: NETFUTURE@MAELSTROM.STJOHNS.EDU Subject: NetFuture #141 Issue #141 A Publication of The Nature Institute January 28, 2003 Editor: Stephen L. Talbott (stevet@oreilly.com). Notes concerning *One River: Explorations and Discoveries in the Amazon. Rain Forest*, by Wade Davis (New York: Simon and Schuster, 1996). Paperback, 537 pages, $16.

19) Date: Tue, 30 Apr 2002 04:10:49 +0100 From: andrew hennessey a.hennessey@btopenworld.com Reply-To: fsml@yahoogroups.com To: fsml@yahoogroups.com Subject: [fsml] Walk This Way. Walk This Way http://www.techreview.com/articles/wo_cameron042302.asp. By David Cameron April 23, 2002

20) Designing the century's first digital city, By Sandeep Junnarkar , Staff Writer, CNET News.com, September 18, 2002, 12:00 PM PT http://news.com.com/2008-1082-958461.html

21) From: "Nick Ruark" nbruark@qualitymobile.com. Mailing-List: list sv_rfid@yahoogroups.com; contact sv_rfid-owner@yahoogroups.com. Date: Fri, 11 Jul 2003 19:12:08 −0700. Subject: [SV_RFID] RFID: The good, the bad, and, maybe the ugly??? RFID Chips Are Here By Scott Granneman 27/06/200. Scott Granneman is a senior consultant for Bryan Consulting

Inc. in St. Louis. He specializes in Internet Services and developing Web applications for corporate, educational, and institutional clients. Source: http://www.theregister.co.uk/content/55/31461.html

22) From: brian-slashdotnews@hyperreal.org Date: 12 Dec 2003 05:26:01 –0000 To: slashdotnews@hyperreal.org Subject: WSIS Physical Security Cracked Link: http://slashdot.org/article.pl?sid=03/12/12/0028256

23) http://www.pressclub.ch/menu/sub_menu/adresse_csp.html GENEVA, 10th DEC 2003 http://www.contra.info/wsis

24) From: "geert lovink" geert@xs4all.nl To: "Nettime-l" nettime-l@bbs.thing.net Subject: <nettime> how was the summit? a helpful list in case your friends ask you Date: Fri, 19 Dec 2003 21:39:35 +1000 Sender: nettime-l-request@bbs.thing.net Reply-To: "geert lovink" geert@xs4all.nl Geneva/Berlin, 16 December 2003. Compiled by Rik Panganiban and Ralf Bendrath.

25) From: "futurefeedforward" fff@futurefeedforward.com Date: Sun Mar 23, 2003 07:27:39 PM US/Central To: bruces@well.com

26) Surveillance Nation, *Technology Review*, April 2003.

27) Surveillance Nation, *Technology Review*, April 2003.

28) Stand still too long and you'll be watched New imaging software alerts surveillance-camera operators to suspect situations by monitoring patterns of motion By Kim Campbell - Staff writer of The Christian Science Monitor; http://www.csmonitor.com/2002/1107/p17s01-stct.htm

29) Surveillance Nation, *Technology Review*, April 2003.

30) In the sense that Paul Hawken describes it: "The promise of business is to increase the general well-being of humankind through service, a creative invention and ethical philosophy. In: Hawken, Paul. The Ecology of Commerce, A Declaration of Sustainability, Harperbusiness, 1993.

31) Whitford, Frank, *Bauhaus*, Thames & Hudson, 1984, p. 73-4

32) Bachelard, Gaston. *The Poetics of Space*. Foreword by Etienne Gilson, Beacon, 1969, p. xii in the "Introduction".

33) Solnit, Rebecca, *Wanderlust, a history of Walking*. Verso, 2001, p.72.

34) starhawk request@lists.riseup.net http://lists.riseup.net/www/arc/starhawk Subject: [starhawk] miami n20 starhawk asked me to send this. she hasn't been able to get to her computer. more coming soon. lola xox

35) "Wenige Jahre nach Baudelaires Ende krsnte Blanqui seine Laufbahn als Konspirateur durch ein denkwŸrdiges Meisterstück. Es war nach der Ermordung von Victor Noir. Blanqui wollte sich einen überblick Uber

seinen Truppenbestand verschaffen. Von Angesicht zu Angesicht kannte er im wesentlichen nur seine Unterführer. Wie weit alle in seiner Mannschaft ihn gekannt haben, steht dahin. Er verständigte sich mit Granger, seinem adjudanten, der die Anordnungen für eine Revue der Blanquisten traf. Sie wird bei Geffroy so beschrieben: 'Blanqui ging bewaffnet von Hause fort, sagte seinen Schwestern Adieu und bezog seinen Posten in den Champs-Elysées. Dort sollte nach der Vereinbarung mit Granger das Defilee der Truppen stattfinden, deren geheimnisvoller General Blanqui war. Er kannte die Chefs, er sollte nun hinter ihrer jedem im Gleichschritt, in regelmässigen Formationen deren Leute an sich vorbeiziehen sehen. Es geschah wie beschlossen war. Blanqui hielt seine Revue ab, ohne dass irgendwer etwas von dem merkwürdigen Schauspiel ahnte. In der Menge und unter den Leuten, die zuschauten wie er selber schaute, stand der Alte an einem Baum gelehnt and sah aufmerksam in Kolonnen seine Freunde herankommen, wie sie stumm unter einem Gemurmel sich näherten, das durch Zurufe immerfort unterbrochen wurde.'" Benjamin, W., "Charles Baudelaire. Ein Lyriker im Zeitalter des Hochkapitalismus" in (eds) Tiedemann, R., SchweppenhSuser, H., *Walter Benjamin, Gesammelte Schriften I -2*, Frankfurt am Main, Suhrkamp Verlag, 1974, p. 604.

36) From: Premise Checker checker@mail.sheergeniussoftware.com Mailing-List: list transhumantech@yahoogroups.com Date: Sat, 14 Dec 2002 09:48:06 -0600 (CST) Subject: [>Htech] New Scientist: Scientists exposed as sloppy reporters Scientists exposed as sloppy reporters, by Hazel Muir;.http://www.newscientist.com/news/news.jsp?id=ns99993168