

# Real Rules of Innovation for the 21st century

## (Part 3)

### Inspiration Materials

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#### **Rule of Innovation VII: *Refrain*: The hopper and the locust or how to innovate in closed loops**

An act of dying is any transformation.

*“Usually the individual hoppers reach adulthood and live solitary lives, stuffing their gullets with as much food as they can before mating. But when they find themselves surrounded by fellow grasshoppers – a circumstance that comes about when the weather’s right for overpopulation- the individuals physically transform. Their color alters; their anatomy shifts. They’ve become that pestilence known in old time as a plague of locusts. They migrate for hundreds of miles as a swarm, enabling themselves to survive even though their numbers divest the land of vegetation. The swarming state is like an extra phase in the life cycle, one that’s activated only if conditions warrant.”<sup>1</sup>*

*“As temperatures soared on Thursday, about 100,000 sun lovers flocked to the Scheveningen beach, but police urged people to stay away, saying the stretch of sand was full to capacity.”<sup>2</sup>*

Any act of dying is a transformation.

All things tend to disappear, and especially things man made. ‘Ephemerisation’ was Buckminster Fuller’s term for

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<sup>1</sup> Grice, Gordon. *The Red Hourglass. Lives of the Predators*. The Penguin Press, 1998, p. 257

<sup>2</sup> From: “Expatica.com” feedback@Expatica.com Subject: Daily News Flash from Expatica.com. Date: Fri, 16 Aug 2002 13:11:15 +0200

describing the way that a technology becomes subsumed in the society that uses it.<sup>3</sup> The pencil, the gramophone, the telephone, the cd player, technology that was around when we grew up, is not technology to us, it is simply another layer of connectivity. Ephemeralisation is the process where technologies are being turned into functional literacies; on the level of their grammar, however, there is very little coordination in their disappearing acts. These technologies disappear as technology because we cannot see them as something we have to master, to learn, to study. They seem to be a given. Their interface is so intuitive, so tailored to specific tasks, that they seem *natural*. In this we resemble the primitive man of Ortega y Gasset:

*"....the type of man dominant to-day is a primitive one, a Naturmensch rising up in the midst of a civilised world. The world is a civilised one, its inhabitant is not: he does not see the civilisation of the world around him, but he uses it as if it were a natural force. The new man wants his motor-car, and enjoys it, but he believes that it is the spontaneous fruit of an Edenic tree. In the depths of his soul he is unaware of the artificial, almost incredible, character of civilisation, and does not extend his enthusiasm for the instruments to the principles which make them possible."*<sup>4</sup>

This unawareness of the artificial, *almost incredible*, character of Techné – the Aristotelian term for technique, skill – is only then broken when it fails us:

*"Central London was brought to a standstill in the rush hour on July 25 2002 when 800 sets of traffic lights failed at the same time -- in effect locking signals on red."*<sup>5</sup>

Every new set of techniques brings forth its own literacy: The Aristotelian protests against introducing pencil writing, may seem rather incredible now, at the time it meant nothing less than a radical change in the structures of power distribution. Overnight, a system of thought and set of grammar; an oral literacy dependant on a functionality of *internal* information visualization techniques and recall, was made redundant because the techniques could be externalised. Throughout Western civilization the history of memory

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<sup>3</sup> From: Chris Hutchings [SMTP:chris.hutchings@VISCOMM.CO.UK]  
Sent: Saturday, January 25, 2003 1:18 AM To: IDFORUM@YORKU.CA  
Subject: Re: the future of...

<sup>4</sup> Ortega Y Gasset, *The Revolt of the Masses*.

<sup>5</sup> "The worst gridlock the capital has seen for years was caused by a computer which crashed as engineers installed software designed to give pedestrians longer to cross the roads.". Date: Thu, 25 Jul 2002 09:55:35 +0100 From: Adrian Lightly adrian@pigeonhold.com Subject: Gridlock as 800 London traffic lights seize

externalisation runs parallel with the experienced disappearance of its artificial, man made, character. An accidental disappearance, however much intrinsic to our experience, that up till now has not been deliberate:

*“The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it.”<sup>6</sup>*

What will be the consequences of the merging of the analogue and the digital with the coming of RFID and pervasive computing? What is analogue then, what is digital? How many leeway, influence or power do we have in a world where everything is connected to everything and all speaks to all?

London Underground will in all probability have about 10.000 CCTV's by 2004 (it now has 5000). The systems architecture - MIPSAs, 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.<sup>7</sup>

In *Wanderlust, a history of Walking*, Rebecca Solnit writes: “When the ha-ha came into being in the early decades of the eighteenth century, the walls came down in Britain. A ditch relatively invisible from any distance, the ha-ha - so named because strollers were said to exclaim “Ha ha!” in surprise when they came upon it - provided an invisible barrier that allowed the garden's inhabitants to gaze into the distance uninterrupted.” (Verso, 2001, p.88)

Our contemporary architectural terrain gives us many opportunities to stop and exclaim “Ha ha!” The ability to read data as data is what makes new architectural challenges. What makes new beginnings of experiences of walking in public places is our camera's becoming smart. As face recognition software scans my features, and compares them to pictures in a database, a digital ditch relatively invisible from any distance,

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<sup>6</sup> Mark Weiser, “The Computer for the Twenty-First Century,” *Scientific American*, pp. 94-10, September 1991.

<sup>7</sup> “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>

provides an invisible barrier that allows the garden's inhabitants to gaze into the distance uninterrupted.

The questions then are: who is in the garden, whom are they gazing at, and why?

To be sure, Rudolf Arnheim claims in *Thoughts on Art Education*, "computations such as those performed by electronic devices do not need to do their own perceiving. They produce mere combinations of items, to which meaning is attributed from the outside. A computation mechanism cannot tell the difference between airplane reservations, chess games, or medical diagnosis. Thought processes worthy of the name go beyond mere computation. Inevitably, they rely on imagery, especially on vision." (Occasional Paper 2., The J.P. Getty Trust, Los Angeles, 1989, p. 16)

What, however, if electronic devices do their own perceiving? And rely on vision? Are they becoming thought processes *worthy of the name*?

In *Smile, You're on In-Store Camera*, Erik Baard describes how the web shopping process of following your customer every step of the way, might now become effectively used in an ordinary supermarket: "The algorithm looks for shapes of people and (passes) the same individual off from camera to camera by, for example, looking for a yellowcolor leaving the left side of one camera view to enter the overlapping right side of the next. " The algorithm is tuned with pressure-sensitive carpets. Neither Identix (formerly Visionics), nor the originator of the pressure-sensitive magic carpet, MIT Media Lab researcher Joe Paradisso, thought of these ways of using their work for tracking consumers: "I was thinking of music. I never thought about this for retail at all," said Paradisso, who has designed performance spaces where footsteps trigger bass or percussive sounds and torso, head and arm movements elicit higher, "twinkling" notes."

What would be the effect of all these digital processes that chart all this physical data, in order to find out whether Paul is lingering over baby products for the very first time so tick the box 'upcoming parenthood' in the database that keeps his tracks? Would not the net effect be that it re-enacts the village store? Where everybody knows your name? And they're always glad you came?

There is a tendency to think that we are going forward, going towards situations yet to be formed and discovered. This is governed by a teleology that is at odds with the way we seem to immerse ourselves in digital connectivity. You'd think we respond intuitively to something lost in the first place; our being grounded while being mobile, our being at home in

various places and locations, our sense of ubiquity, of the ubiquity of signs and modes of experience that seems ever more natural, more human.

The swiftness and speed of the communicative response to the digital, what can it be but the sensual recognition of our intrinsic abilities to experience thought and alchemistic (read: growth and change) processes directly and intuitively? Let us suggest for a moment that we are going backwards, an interesting proposition, that as it calls for a moratorium on moving towards defies the very idea of closure, as it calls for a moratorium on the making of things defies the very idea of process as a generic concept, as it calls for a moratorium on going forward defies the very idea of teleology.

*We are going backwards. We are recreating through what we perceive as technological devices our modes of experiencing communicative connectivities in various modes of intelligence.*

And if you think this has just the slightest esoteric whisper about it, check out what happens when you check in: "Federal aviation authorities and technology companies will soon begin testing a vast air security screening system designed to instantly pull together every passenger's travel history and living arrangements, plus a wealth of other personal and demographic information." Says Robert O'Harrow Jr. (Washington Post Staff Writer Friday, February 1, 2002) The government's plan is to "establish a computer network linking every reservation system in the United States to private and government databases. The network would use data-mining and predictive software to profile passenger activity and intuit obscure clues about potential threats, even *before* (italics mine) the scheduled day of flight."

Note the extremities to which the designers will go to script serendipity into their profiling strategy: data-mining and predictive software and intuit obscure clues.

Frank J. Murray, in the Washington Times (August 17, 2002 ) writes that NASA has requested Northwest Airlines to "turn over all of its computerized passenger data for July, August and September 2001 to incorporate in NASA's "passenger-screening testbed" that uses "threat-assessment software" to analyse such data, biometric facial recognition and "neuro-electric sensing."

NASA is taking remote sensing to the limit; it plans to read terrorist's minds at airports, and since it cannot tell the terrorist from you at first glance, it plans to read yours too: "NASA wants to use "non-invasive neuro-electric sensors," imbedded in gates, to collect tiny electric signals that all brains and hearts transmit. Computers would apply statistical

algorithms to correlate physiologic patterns with computerized data on travel routines, criminal background and credit information from “hundreds to thousands of data sources,” NASA documents say.

Note again the extremities to which the designers will go to script serendipity into their profiling strategy: *statistical* algorithms, *physiologic* patterns, *computerized* data from “hundreds to thousands of data sources”. “We’re close to the point where they can tell to an extent what you’re thinking about by which part of the brain is activated, which is close to reading your mind.” says Robert Park, a physics professor at the University of Maryland and spokesman for the American Physical Society. It would be terribly complicated to try to build a device that would read your mind as you walk by.” The idea is plausible, he says, but frightening.” (Washington Times, August 17, 2002)

The ability to read data as data is what makes new beginnings.

Reflect a while on what you bump into.

The ability to read data as data has become the top level skill. How else are you going to make sense of the serendipity that is scripted into your profiling strategies?

You can do a turn around for a while:

*“An increasing number of companies now wrap together physical access and network access into the same identification and authentication systems, such as digital smart cards. Computer Associates (CA), the world’s second-largest software company, is taking another approach. It’s developing a product that correlates employees’ physical movements through buildings with their digital movements through computer networks. The system, dubbed eTrust 20/20, uses this data to create detailed maps that will make it easier to discern in real-time exactly what an employee may be doing.”*<sup>8</sup>

You could have seen what Brandon was doing:

*““I AM having a wonderful evening,”<sup>9</sup> 21-year-old Brandon Veda, a computer technician, wrote after logging on to his*

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<sup>8</sup> “Firewall Geeks Meet the Night Watchmen”, by Alex Salkever. January 29, 2003

<http://www.newsfactor.com/perl/story/20606.html>

<sup>9</sup> From: J Armitage <j.armitage@UNN.AC.UK>

Subject: [CSL]: The night ‘virtual friends’ played internet suicide for real

To: CYBER-SOCIETY-LIVE@JISMAIL.AC.UK

February 4, 2003. The Times. The night ‘virtual friends’ played internet suicide for real. From Chris Ayres in Los Angeles

*favourite internet chat site. Less than an hour later, he was dead, killed by a cocktail of prescription drugs, alcohol and marijuana as a dozen internet surfers watched his suicide via a webcam.*

*A remarkable transcript of Veda's chat with his virtual "friends" showed how they egged him on until almost the last minutes of his life. Then they grew alarmed. In the end they panicked, wondering whether they had been accomplices to the world's first internet suicide.*

*Veda's brother Rich is calling for charges to be laid against those who treated the suicide as a form of online entertainment. "It seems like the group mentality really contributed to it," he said, adding that the transcript of the event was "disgusting". The macabre episode began before dawn on January 12 in Phoenix, Arizona. Veda was in his bedroom, his mother was in the next room doing a crossword puzzle.*

*Veda, like most internet chatters, did not use his real name online.*

*Instead, he called himself Ripper. His "friends", none of whom he had met, also used pseudonyms. That night the virtual chat room, used mainly by drug users who traded tips on how to fake symptoms to get prescriptions for drugs - hosted the likes of Yoda, Smoke2k and Pnutbot.*

*The conversation started with Ripper inviting his friends to log on to his webcam. When they did, they saw Veda naked, surrounded by marijuana and prescription drugs. "That's a lot of Klonopin," said Grphish. Klonopin, a prescription drug, is used to treat seizures and anxiety. The anonymity of the chat room encouraged the group to treat Ripper like just another expendable video game character. "Take one capsule," bashed out Grphish, before adding: "Take a thousand!" Veda needed no encouragement. Between logging on at 4.02am and 5.04am, when his broadcast ended with the incoherent words "I'm f\*\*\*\*\*". . . Ripper swallowed suicidal doses of Klonopin, methadone, Restoril and Inderal, along with marijuana and neat rum. All the while, his virtual friends egged him on. Phalaris could hardly wait to see Ripper "knock his head on the back wall and stay there for the next 14 hours". Smoke2k demanded: "Eat more. I wanna see if you survive or if you just black out." It was not until 1.00pm that Veda's mother found her son's lifeless body, and it was more than a week later that his family switched on his computer and read the 35-page transcript of his fatal drugs binge.*

*"I told u I was hardcore," were the last coherent words Veda managed to type, but the chat does not end there. The transcript*

*records the surfers' growing panic and they began to wonder if they could be implicated in his death. Pnutbot said: "Shit is going to hit the fan soon". Another replies "you're right". Police said they would not charge surfers. "It seems he put the drugs in his body of his own volition," a spokesman said."*

Of King Lear it is said that "Nature recalls him to his creaturely existence as a material body, and storm and suffering throw the boundaries of his body into stark exposure. He must learn, in Gloucester's words, to 'see feelingly', shrinking his hubristic consciousness back within the sensuous constraints of the natural body. Only by re-experiencing the body, the medium of our common humanity, will he learn to feel for others in the act of feeling himself."<sup>10</sup>

Yoda, Smoke2k, Pnutbot. Grphish, Phalaris must"learn to 'see feelingly', shrinking their hubristic consciousness back within the sensuous constraints of the natural body. Only by re-experiencing the body, the medium of our common humanity, will *they* learn to feel for others in the act of feeling themselves."<sup>11</sup>

And how did they re-experience the body? Through seeing another body exploring its the sensuous constraints.

I would love to ask them what they learned from their experience.

I can tell them what I learned.

I once saw a movie.

The camera is on the first floor of an apartment building looking down into the carpark. A man steps out of his car, stands next to it, and leans into the car as if grabbing something. He remains in that position for some time, as if in doubt. He pulls back, shuts the door and walks away. The camera stays on the car. Within a few minutes he returns. He opens the door, he stands next to it, and leans into the car as if grabbing something. He remains in that position for some time, as if in doubt. He pulls back, shuts the door and walks away. The camera stays on the car. Within a few minutes he returns. He opens the door, he stands next to it, and leans into the car as if grabbing something. He remains in that position for some time, as if in doubt. He pulls back, shuts the door and walks away. The camera stays on the car. Within a few minutes he returns. He opens the door, he stands next to it, and leans into the car as if grabbing something. He remains in that position for some time, as if in doubt. He pulls back, shuts the door and walks away. The camera stays on the car. Within a few

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<sup>10</sup> Eagleton, Terry. *The Idea of Culture*, Blackwell, 2000, p.101.

<sup>11</sup> *ibidem*.



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It took me quite some time, it took me quite some time to realize he was trying to make sure that his radio was not playing.

*“Roger was a successful vice president of a bank, unremarkable in every respect, except one. Before starting a task, he had to pull his socks up and down five times. Exactly five. Roger (not his real name) had obsessive-compulsive disorder (OCD). Like a skipping record, OCD patients repeat an act or repeatedly think about a phrase, number, or concept. “Most of us are able to switch things off,” says Hopkins professor of psychiatry Rudolf Hoehn-Saric. “In obsessive-compulsive disorder, the person can’t.”*<sup>12</sup>

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<sup>12</sup> “The Man Who Couldn’t Stop Adjusting His Socks”, by Melissa Hendricks, <http://www.jhu.edu/~jhumag/695web/socks.html>

In the United States and the Netherlands, 1 in 50 adults currently has OCD, and twice that many have had it at some point in their lives. What is Obsessive-Compulsive Disorder?

*“Worries, doubts, superstitious beliefs all are common in everyday life. However, when they become so excessive such as hours of hand washing or make no sense at all such as driving around and around the block to check that an accident didn’t occur then a diagnosis of OCD is made. In OCD, it is as though the brain gets stuck on a particular thought or urge and just can’t let go. People with OCD often say the symptoms feel like a case of mental hiccups that won’t go away. OCD is a medical brain disorder that causes problems in information processing. It is not your fault or the result of a “weak” or unstable personality.”<sup>13</sup>*

It seems that OCD as a medical brain disorder that causes problems in information processing, is causing most problems in an information processing loop in the feedback procedure: the ‘ka-chung’ that closes the car door, the click that shuts down the television, the end of the hissing of gas, but also the reading of the on-off button on the alarm-clock, the position of the knob of the electrical fire.

In *Obsessive-Compulsive Disorder (OCD) Patients are Impaired in Remembering Temporal Order and in Judging Their Own Performance*, the authors write:

*“The OCD group performed significantly worse than controls in the temporal ordering task despite showing normal recognition memory. Patients were also impaired in “feeling-of-doing” judgments suggesting they have a lack of self-awareness of their performance...”<sup>14</sup>*

Based on these findings, research into ubicomp applications could focus as a start on scripting temporal markers in scenarios of use of an object and scripting serendipitous feedback into scenarios of use to raise self-awareness.<sup>15</sup>

Me? I can stand still for minutes staring at my alarm clock. I stare at the knob that claims it is in off position. That does me no good. I need auditive feedback. It sure would help me if it

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<sup>13</sup> Copyright © 1998 by The Obsessive-Compulsive Foundation (OCF). All rights reserved. <http://www.ocfoundation.org/ocf1010a.htm>

<sup>14</sup> Obsessive-Compulsive Disorder (OCD) Patients are Impaired in Remembering Temporal Order and in Judging Their Own Performance, M.A. Jurado 1, C. Junqué 1, J. Vallejo 1, 2, P. Salgado 2 and J. Grafman 3, *Journal of Clinical and Experimental Neuropsychology*. 2002, Vol.24, No.3, pp. 261-269 1380-3395/02/2403-261, \$16.00, © Swets & Zeitlinger.

<sup>15</sup> See my text “Using Ubicomp to asses Feedback for OCD patients”, in *Pervasive Computing*, <http://dsonline.computer.org/0303/f/b1wip.htm#wip3>

could say; "I'm off, Rob." It is ok. You can go out now. I'm known to put anything, any object in a straight line. When I go to Amsterdam, where I stay during the week mostly, the first thing I do is the vacuum clean the room and then I sweep the patio. I forever clean the screen of my I-book.

All this is harmless and gets in no one's way.  
No one's way but mine.

Except for when the pattern becomes the loop, then hopper becomes the locust.

As with every new technology ubicomp/RFID is both the problem and the solution.

*As for the problem:*

*"CASPIAN (Consumers Against Supermarket Privacy Invasion and Numbering) said anyone can download revealing documents labeled "confidential" from the home page of the MIT Auto-ID Center web site in two mouse clicks. The Auto-ID Center was the organization entrusted with developing a global Internet infrastructure for radio frequency identification (RFID). Their plans are to tag all the objects manufactured on the planet with RFID chips and track them via the Internet. "Among the "confidential" documents available on the web site are slide shows discussing the need to "pacify" citizens who might question the wisdom of the Center's stated goal to tag and track every item on the planet along with findings that 78% of surveyed consumers feel RFID is negative for privacy and 61% fear its health consequences. PR firm Fleischman-Hillard's confidential "Managing External Communications" suggests a variety of strategies to help the Auto-ID Center "drive adoption" and "neutralize opposition," including the possibility of renaming the tracking devices "green tags." It also lists by name several key lawmakers, privacy advocates, and others whom it hopes to "bring into the Center's 'inner circle'". Despite the overwhelming evidence of negative consumer attitudes toward RFID technology revealed in its internal documents, the Auto-ID Center hopes that consumers will be "apathetic" and "resign themselves to the inevitability of it" instead of acting on their concern."*<sup>16</sup>

"The boundaries of what constitutes consumer electronics and computers are getting blurred," says Gerard J. Kleisterlee, chief executive of Royal Philips Electronics, "As we get

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<sup>16</sup> Subject: CASPIAN Uncovers Gaping Hole in RFID Site Security From: CASPIAN Newsletter newsletter@nocards.org To: newsletter@nocards.org Date: 07 Jul 2003 14:10:53 -0400 FOR IMMEDIATE RELEASE July 7, 2003 RFID Site Security Gaffe Uncovered by Consumer Group CASPIAN asks, "How can we trust these people with our personal data?"

wireless networking in the home, everything starts to talk to everything.”<sup>17</sup> In such a mediated environment – where everything is connected to everything - it is no longer clear what is being mediated, and what mediates. Strategic decisions become process decisions in a mediatized environment.

What does this mean for your connectivity in your environment? It means that you need tools to master this merging of digital and analogue processes of communication and database-driven data-systems. It means that the environment becomes the interface.

Where is your dashboard then?

Where are your familiar readers of situation, actions, scenarios? The methods, and the concepts that function in an analogue environment are determined by the principle of scarcity. In a ubicomp environment, scarcity is no longer an organizational principle.

In such an environment the new intelligence is extelligence, “knowledge and tools that are outside people’s heads” (Stewart and Cohen, 1997)

When the *environment* becomes the interface: from content to context-management. What is it? How good are we at managing contexts?

We better learn quickly.  
Because RFID/ubicomp is inevitable as techne’.

*Now why will RFID / Smart Cards/ Biosensors be a success?*

Well, because of a convergence at four crucial levels:

*Code*: distributed computing, non-central, pull technology

*Node*: a logistics need to individuate

*Link*: the merging of analogue and digital connectivity in ubicomp

*Network*: a cultural and political networked global policy directed towards more control, security, safety, non-risk directed.

What is our greatest challenge in an ubicomped world? To face the new default position:

OCD.

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<sup>17</sup> At Big Consumer Electronics Show, the Buzz Is All About Connections  
January 13, 2003 By SAUL HANSELL,  
<http://www.nytimes.com/2003/01/13/technology/13DIGI.html?ex=1043457162&ei=1&en=124b1e27fe81246e>

What will be the consequences of the merging of the analogue and the digital with the coming of Radio Frequency Tags and pervasive computing?

What is analogue then, what is digital? How many leeway, influence or power does a designer, a programmer, a producer have in a world where everything is connected to everything and all speaks to all?

What happens when you do not realize a procedure has ended? You might return to your car ten times or so in order to check if the radio is off.

And this is exactly what our systems are going to do.

*In a ubicomp world all is forever emerging and in flux, you do not want 50% of your systems memory used for constantly checking upon itself.*

So we move from our current operational programming rules - to distribute security - towards organizational principles that are guided by the principle of distributing insecurity.

*As for the solution:*

There are two sides to each coin:

At the level of code distributed computing *also* provides open source initiatives.

At the level of node individuated logistics *also* provides user centered design, (dis)ability tracking,

At the level of link the merging of digital and analogue connectivity *opens up* realms for play, repose, reflection, research.

At the level of network<sup>18</sup>, that is where the main problem is. We must propose a vision that goes against: a policy directed towards more control, security, safety, non-risk directed; from distributing security to *distributing insecurity*. From the concept of privacy as a sole individuated relatively stable relationship, to *negotiable privacies*.

In Sean Dodson's piece in The Guardian, *The internet of things*<sup>19</sup> I claim:

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<sup>18</sup> In most IT driven projects the problems are mostly due to conceptual misunderstandings of key terms on the four main levels of operation: code = programming, node = information management, link = interaction design, network: policy implementation.

<sup>19</sup> A tiny microchip is set to replace the barcode on all retail items but opposition is growing to its use. Sean Dodson investigates, Thursday October 9, 2003, *The Guardian*  
<http://www.guardian.co.uk/online/story/0,3605,1058506,00.html>

“Others think there is middle ground between the privacy advocates and the desires of big business. Academics such as Rob van Kranenburg, from the St Joost Academy in the Netherlands, are trying to bridge that gap. “Perhaps in a network society we will have to give up the ghost of 19th-century notions of privacy, which is a very basic concept tied to an individual,” explains van Kranenburg.

“If you want to move in this networked environment, maybe you have to give something up. But what we need is a proper public debate on this, before the infrastructure is in place,” he says”

We must investigate the possibility that ubicomp generates authentically new situations and experiences in which an analogue notion of privacy is no longer tenable. *In a mediated environment – where everything is connected to everything - it is no longer clear what is being mediated, and what mediates.*

In a ubicomp environment buildings, cars and people can be defined as *information spaces*.

What is the autonomy of the individual in such an environment? It has autonomies, not autonomy. It acquires privacies, not privacy.

*So our In Problems now are:*

*Didactics*, convincing models of transference and fostering feelings of agency.

*States of emergencies* vs. current/normal/common sense notions. How to trade off between unmodified optimism (seamlessness) and unmodified pessimism.

*E-Sense*: In a ubicomp world of e-sense what is the working definition of human and the human social world?

*Distributing Insecurity*: How to investigate the notion of ‘distributing insecurity’ with programmers and data profilers.

*And our in Terms:*

*Disambiguate* (a situation) the step towards a common terminology as a community knows the ambiguities, then agrees to disambiguate for the sake of discussion.

*Sonarizing* (an object/situation): might also be extended to social and cultural situations; you fire a large number of probes and see what and how it is returned.

*Grid*. Acceptable and productive to coders (programmers), noders (information managers), linkers (interaction deseigners), networkers (policy makers).

*Pro and con positions*

## Con:

### Privacy philosophy:

Privacy advocates are alarmed about the Center's plans because RFID technology could enable businesses to collect an unprecedented amount of information about consumers' possessions and physical movements. They point out that consumers might not even know they're being surveilled since tiny RFID chips can be embedded in plastic, sewn into the seams of garments, or otherwise hidden. "How can we trust these people with securing sensitive consumer information if they can't even secure their own web site?" asks CASPIAN Founder and Director Katherine Albrecht.<sup>20</sup>

### Asking for: Legislation:

*"Sure, it's possible to destroy an RFID tag. You can crush it, puncture it, or microwave it (but be careful of fires!). You can't drown it, however, and you can't demagnetize it. And washing RFID-tagged clothes won't remove the chips, since they're specifically designed to withstand years of wearing, washing, and drying. You could remove the chip from your jeans, but you'd have to find it first. That's why Congress should require that consumers be notified about products with embedded RFID tags. We should know when we're being tagged. We should also be able to disable the chips in our own property. If it's the property of the company we work for, that's a different matter. But if it's ours, we should be able to control whether tracking is enabled."*<sup>21</sup>

### Asking for: tags on/off switch

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<sup>20</sup> Subject: CASPIAN Uncovers Gaping Hole in RFID Site Security From: CASPIAN Newsletter [newsletter@nocards.org](mailto:newsletter@nocards.org) To: [newsletter@nocards.org](mailto:newsletter@nocards.org) Date: 07 Jul 2003 14:10:53 -0400 FOR IMMEDIATE RELEASE July 7, 2003 RFID Site Security Gaffe Uncovered by Consumer Group CASPIAN asks, "How can we trust these people with our personal data?" CASPIAN (Consumers Against Supermarket Privacy Invasion and Numbering) says anyone can download revealing documents labeled "confidential" from the home page of the MIT Auto-ID Center web site in two mouse clicks. The Auto-ID Center is the organization entrusted with developing a global Internet infrastructure for radio frequency identification (RFID). Their plans are to tag all the objects manufactured on the planet with RFID chips and track them via the Internet.

<sup>21</sup> From: "Nick Ruark" [nbruark@qualitymobile.com](mailto:nbruark@qualitymobile.com). Mailing-List: [list\\_sv\\_rfid@yahoogroups.com](mailto:list_sv_rfid@yahoogroups.com); contact [sv\\_rfid-owner@yahoogroups.com](mailto: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>

Marc Rotenberg, executive director of a watchdog organization, the Electronic Privacy Information Center, said retailers should be required to disable the tags before a consumer leaves a store.

"Simply stated, I don't think most people want their clothes spying on them," Rotenberg said. "It's also clear that there could be some very invasive uses of these techniques if merchants use the tracking technology to spy on their customers after purchase."<sup>22</sup>

### **Pro:**

Logistics, retail:

"It would help you manage your inventory a lot better," says Todd Andrews, spokesman for the Rhode Island-based CVS pharmacy chain that will soon test the chips and antennae on its prescription medicines. "If you could utilize RFID technology to tell you that a prescription is in the waiting bin, maybe the product could say: 'I've been here 10 days and I haven't been picked up yet.' Then, you could call the patient," Andrews says. CVS, Procter & Gamble and The Gillette Co. are among the 100 retailers and manufacturers that have put up a total of \$15 million for research on the new tags at the Auto-ID Center at the Massachusetts Institute of Technology. Other Auto-ID labs at the University of Cambridge in England, Adelaide University in Australia, Keio University in Japan and USG-ETH in Switzerland are also working on the technology."<sup>23</sup>

Logistics necessity:

"Ron Margulis, a spokesman for the National Grocers Association, said the privacy concerns are far outweighed by the benefits of RFID. Retailers, he said, could respond much more quickly to product recalls and prevent people from becoming ill from tainted products. "You do give up a bit of privacy but the benefit could be that you live," said Margulis."<sup>24</sup>

Logistics philosophy:

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<sup>22</sup> Chips to replace bar codes New system will provide companies with extensive product information, *The Associated Press*, July 14th, 2003, <http://www.thedesertsun.com/news/stories2003/business/20030714021626.shtml>

<sup>23</sup> Chips to replace bar codes New system will provide companies with extensive product information, *The Associated Press*, July 14th, 2003, <http://www.thedesertsun.com/news/stories2003/business/20030714021626.shtml>

<sup>24</sup> From: "Bob Stillerman" [bob@rsic.biz](mailto:bob@rsic.biz) Delivered-To: mailing list [WDI-RFID@yahoogroups.com](mailto:WDI-RFID@yahoogroups.com) Date: Thu, 10 Jul 2003 12:59:52 -0700 Subject: [WDI-RFID] SF Chronicle - 9 July Goodbye bar codes: Packages with transmitters on the way EMILY GERSEMA, Associated Press Writer Wednesday, July 9, 2003 (07-09) 00:09 PDT WASHINGTON (AP).



*“Steve Halliday, vice president of technology at AIM, a trade association for manufacturers of tagging technology, says, “If I talk to companies and ask them if they want to replace the bar code with these tags, the answer can’t be anything but yes. It’s like giving them the opportunity to rule the world.”<sup>25</sup>*

*And our In People:*

*“An application for a particular type of OCD could be object-oriented, being the trigger of the thoughts or temporally (a particular ritual at a particular time of day). A particular type of obsessive thought which I’ve come across through literature are mothers that have thoughts of harming their babies, I was thinking the babies could have RF tags and when the mother comes near the baby a wearable computer can initiate positive statements recorded by the mother about the baby.”*

I actually hear this. I hear it because I was there to do a scenario workshop with the MA students in Document Design in Niels Lund’s Document Academy. Co-lecturing was a Danish composer, Jürgen Mortensen. He is experimenting with stretching sounds. He asks people to read or speak out loud what they love most. Then he plays back their sentence in stretched sounds. And they break down and cry. In the workshop one group suggested using these stretched sounds on the tags.

When I see the knob on my alarm clock, it does not register as on or off or anything. I might believe it is off because I can read o f f but it ain’t feedback to me. It does not feed my appetite for action, for acting, for doing something.

Harmless.  
Hopper.

When I see a knife, I rather put it away. But I can handle it. Not every one can:

*“Dear Rob, I saw your work in progress concerning OCD in ‘Pervasive Computing’. I myself am an OCD sufferer, I have repetitive bad thoughts (the best book on it is by Dr Lee Baer, ‘The Imp of the Mind’... one thing particular to me is that I have thoughts of harming myself when I see a sharp knife, I was thinking, if the object of ‘knife’ was recognised some kind of statement saying ‘this is for cutting food’ is heard through an auditory interface might be useful. I would be very interested in learning more about your project, please let me know of further enhancements to your research. If I can help then please let me know, and I’ll endeavour to be of aid.”*

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<sup>25</sup> Beyond the Bar Code - High-tech tags will let manufacturers track products from warehouse to home to recycling bin. But what’s great for logistics could become a privacy nightmare. By Charlie Schmidt, March 2001.

In the workshop in Tromsø one group suggested using person sensitive sensors on the handle that could assess stress levels. If heartbeat/sweat/shaking sensors were triggered to a maximum the blade would retreat into the handle.

I can handle knives.

There were quite a few things that handled me though.

It is so easy for the hopper to metamorphose into the locust. It is the way of walking, and as gesture is always with you, so is the locust in all us hoppers.

Don't go back to that car. It is as easy as that. All major problems are in your room now. And you can solve them there. Believe me. The beginning is refraining. To refrain.

The pattern is the process.

The loop is the thing. Always a thing.

And no, trust me, it is not the other way around.

*In a ubicomp world all is forever emerging and in flux, you do not want 50% of your systems memory used for constantly checking upon itself.*

So we move from our current operational programming rules - to distribute security - towards organizational principles that are guided by the principle of distributing insecurity.

Mimic life: distribute insecurity.

*Rules of innovation number seven:*

Keep the patterns, break the loops.