Connectedness

Before sea or land, before even sky
Which contains all,
Nature wore only one mask –
Since called Chaos.
A huge agglomeration of upset.
A bolus of everything – but
As if aborted.
And the total arsenal of entropy
Already at war within it.[1]

Every day, an Ethiopian entrepreneur goes to the only cybercafe in the capital, at the Meridien Hotel, Addis Ababa. There he logs into a website he has set up in America, and he checks the orders he has received from Ethiopian cab drivers in New York, for goats to be sent to their families back home.[2]

The image of the third world e-business entrepreneur perfectly captures the remarkable characteristics of connectedness. And connectedness is the perfect expression of the human obsession with technology. While in latter days we are fond of plying the concepts of leverage and scale, technology has always being about extending, amplifying and multiplying human action and intentionality. As Henry Ford succinctly put it:

> It is just as easy to plow a thousand acres with a tractor as it used to be to plow a ten-acre lot with a horse. And it takes no more time.[3]

Extending: a road allows you to travel farther and faster with your goods. So does the wheel, a railway and an airplane. If your vegetables are to find the best market before they spoil, you'll need refrigeration. *Amplification*: steam engines amplified and replaced the power of human muscles, and then electricity did the same. *Multiplication*: the mechanised production line created multiplication possibilities and markets to consume them that were undreamed of before the technologies of extension and amplification became available. Text, drawings and blueprints separate knowledge from people, and allow the multiplication of processes across globally disparate locations. When, in the early 1840s, information started to travel faster than people via the telegraph, knowledge itself became the focus of extension, amplification and multiplication.

The French intellectual Paul Valéry anticipated the late twentieth century discovery of the knowledge-based economy when he spoke of the "weightlessness" of European

[1] Ted Hughes 'Creation' *Tales from Ovid* (New York: Farrer, Straus and Giroux, 1997) p.3
[2] From an anecdote told by World Bank President James Wolfensohn at the *White House Conference on the New Economy* April 4, 2000
[3] Henry Ford, *My philosophy of industry* (New York: Coward-McCann, 1929) p.45

economies as far back as 1919, although he failed to discern the leveraging effects that technology afforded, and he read the newly connected world as a signal of completion rather than, in our post-internet world, the discovery of a whole new world.

> Small though it be, Europe has for centuries figured at the head of the list. In spite of her limited extent – and although the richness of her soil is not out of the ordinary – she dominates the picture. By what miracle? Certainly the miracle must lie in the high quality of her population. That quality must compensate for the smaller number of men, of square miles, of tons of ore, found in Europe.[4]

But by 1931 Valéry was beginning to perceive the complexities of this new environment.

> The general census of resources, the gathering of statistics on manpower, the development of media of communication are all under way. What could be more remarkable, more significant than taking the inventory, parceling out and linking every part of the globe? The effects are already immense. An entirely new, excessive, and immediate interdependence between regions and events is the already perceptible consequence of this great fact… The habits, ambitions and loyalties formed in the course of earlier history do not cease to exist – but being sensibly transferred into quite differently constructed surroundings, they there lose their meaning and become causes of error and fruitless striving.[5]

The human race is, if anything, defined by its contradictions, and while connectedness has been growing since the time we gathered in cities and built roads to connect them, and while it comprises all the means by which we connect places and times and people – books, roads, telephones, TV and email – it was the internet that gave a single face to the contradictions we embody, and suddenly created a kind of hyper-connectivity. If the internet is bewildering it is because – gathering our fragments from different places and times and locating them in one virtual space – it simultaneously juxtaposes and *enacts* the complexities of our nature, both good and bad. And being good technology, it *extends, amplifies and multiplies* those complexities.

But they also behave differently from us. While we transfer these aspects of ourselves into a vast egalitarian crowd in virtual space, we remain the physical stage upon which their scripts are played. In the physical world, organisms that seek to extend their existence must compete for resources with other organisms in that environment. In virtual environments, competition, evolution and extinction are irrelevant to propagation and survival. Virtual enactments, like the knowledge they resemble, consume resources only at the point of production and consumption – ie in the physical world. In cyberspace their survival and multiplication are quite independent of how they relate to *each other*, hyperlinks notwithstanding. We have created a world of scattered fragments of ourselves subjected to no physical constraint, with which we interact. Although they work to different laws, we behave as if they are evidence from the physical world we inhabit. We allow ourselves to be changed by creations that leave the world and enter it again in very unusual ways. In a little while, we'll see how powerful this reflexivity can be.

There are four human contradictions that I'd like to explore in this essay, all intricately bound up with the step change in connectedness this generation has experienced:

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[4] Paul Valéry *The outlook for intelligence* (Princeton: Princeton University Press, 1962) p.32
[5] *Ibid*., p.15

simplicity/complexity, equality/difference, stability/volatility, structure/chaos. More could be framed, and they are all closely intertwined, but these relate specifically to how risk, knowledge and ignorance become extended, amplified and propagated in the world of business.

Simplicity and complexity

The dialectic between simplicity and complexity is enacted in different ways in a highly connected world. Complexity might, for example, be represented by the tremendous variety that is immediately broadcast without regard to cultural or authority-driven filters. The internet might be described in chaos or game-theory terms, as a huge, nascent proto-intelligence, constructed but imponderable, and full of uncertainty. And where there is uncertainty, there is both risk and opportunity. We might express this complexity in terms of multiplicity, one idea sparking another, random connections and convergences creating entirely new cocktails of knowledge, entirely new dimensions of risk, ignorance, surprise. And we might point to the global, fragmenting effects of connectivity. The scale and diversity of human existence all represented and lived together, jostling in the same attention space, slowed, for the moment, only by language and connectivity barriers.

But connectedness also simplifies knowledge. As the firing of virtual synapses accelerates, so the physical constraints on our time and attention come into play. We make more decisions, draw more conclusions, form more impressions, faster than perhaps we should. We lose nuances and detail, we fasten on the extreme, the contrasted, ambiguities become opposites. We forget, or we neglect, to check, resolve, examine from multiple perspectives and see how the pieces fit a larger picture. Remember that we are talking about connectivity: our construction of simpler meanings is a social, collaborative act, performed through hasty phone calls, forwarded emails, newspapers too briefly read. And in so refining much simpler pictures and fictions, we participate in collaborative broadcasts of careless truths – and like bad gossip and tragic news, the more meaningful they seem to our state, the more singular and more pervasive they become, banners for suddenly formed communities of transient belief.

In James Wolfensohn's speech at the White House, the anecdote of the Ethiopian webmaster becomes a universal vision, demonstrating a singularity that speaks to multiplicity, a rare and striking occurrence that speaks to an all-too-frequent need, an icon for the bridging of the digital divide. So, C.K. Prahalad speaks of Indian entrepreneurs working from cyber-cafés in Indian villages where they can get internet access for less than 10 cents an hour.[6] Hewlett Packard has built a community centre in Ngoudiane Village, 70 miles east of Dakar in Senegal, housing internet-ready computers available on a pay-per-use basis. Users are trained in creating web content and e-business.[7] In Brazil, the government is supporting a project that creates stripped-down

[6] Maileen Hamto 'Serving the Poor is Good Business' *Jones School News* October 19, 2001 http://jonesgsm.rice.edu/content/content.cfm?PageID=104&AnnounID=195
[7] David Lawlor 'Inside HP's eInclusion Initiative' *Business 2.0* April 26, 2001

desktop computers running on Linux, known as "popular PCs" – they will sell for about $300.[8]

Yet against this simplicity, multiplicity rears its head, in pointing out that such initiatives will touch very few of the estimated four billion needy poor, even if they have an economic impact. At the World Resources Institute *Digital Dividends Conference* in October 2000, Bill Gates himself retreated from computer philanthropy, arguing that more basic needs in health and vaccines should be met before the computer divide should even be considered.[9]

Even at the most basic level of computer-mediated discussions, connectivity facilitates broadcasting more than it facilitates listening and understanding. The consequence is that whereas in face to face contexts we generally broadcast fragments but mould and remould our views constantly as we listen to others, this social moderation is elided in remote communication. In research at MIT on how people conduct themselves in electronic discussions, Lee Sproull and Sara Kiesler found that online discussion groups had much greater difficulty in forming a consensus, and that (sometimes violently) accentuated divergence was the norm.[10] Anybody who has taken part in asynchronous discussions will resonate with this. In virtual space, then, against the tendency to simplify, there is also the tendency to find strongly defended multiple viewpoints – and in virtual space, the *number* of people holding that viewpoint has no influence on its impact. One person's view is as strong as a hundred's.

Hence, the more we unite the world in the pursuit of free markets and global capitalism, the more we multiply and fragment on localised concerns: from the horrors of Rwanda and former Yugoslavia, to the uneasy emergence of former Soviet republics, to the relatively calm regional devolutions of Wales and Scotland.

The connected world is a space of suddenly forming simplicities but multiplying intentionalities.

Equality and difference

The simplicity/complexity polarity merges with another important contradiction: that between equality and difference, sameness and variety, weakness and power. Connectivity, curiously, in giving scale, ceases to recognise scale – presence in virtual space is absolute, immeasurable. Even while we count page hits back in the physical world, we have no direct perception of how or when our virtual presence actualises itself and what it effects.

The amplification of the singular on a par with the collective means that a single person's view can have as much, or greater impact in this new world, than that of an organisation

[8] Rachel Anderson 'Low-cost computers for the people' *Digital Divide Network* August 27, 2001 http://www.digitaldividenetwork.org/content/stories/index.cfm?key=178

[9] Bill Gates 'Remarks' *Digital Dividends Conference* October 18, 2000 http://www.microsoft.com/billgates/speeches/2000/10-18digitaldividends.asp

[10] Lee Sproull and Sara Kiesler *Connections: new ways of working in the networked organization* (Cambridge, Mass: MIT Press, 1991) p.65

or a crowd or a nation. Indeed, our penchant for the simplifying extreme predisposes us to selection of individual – unrepresentative – views to the detriment of more nuanced, moderated – but more complex – socially-moderated views. This is as true of the broadcast soundbite, TV sequence and anecdote, as it is of the web-page. Local becomes suddenly global, Ethiopian peasant stands on the same platform with Bill Gates.

If the Ethiopian entrepreneur is an icon of opportunity and economic good, the terrorist and the vandal are icons for threat. The empowerment of the individual covers empowerment for good as well as for harm, for evil intent as well as accident or lack of care. Responsibility in such a complex domain becomes a key enquiry.

Equalization has sudden, and often unfathomable, effects on some of our key asymmetries: disequilibria of power, cost and knowledge. Take Kenichi Ohmae's discussion of arbitrage in his excellent book *The invisible continent*.[11] Simply put, arbitrage describes the process of finding the best price for a given product or service. In a connected environment, knowledge about the best price has no friction – so the business will navigate to the best price, the lowest costs, the better talent base, the best cocktail of better-faster-cheaper available. Initial arbitrage has prices levelling from hoped-for margins to possible margins, as all the sellers also become aware of their competitors. *Possible* margins rely completely on what is possible for the seller, given their location and its resources – human and physical. When business navigates to the *currently* best locations – let's say a small island at the edge of Europe – then so does capital, and after it labour. Connectivity begins to embrace immigration issues as well as transportation and communications.

But the tale doesn't end with Ohmae's account. Environmental costs begin to rise in this newly, quickly successful region, with demand for land, infrastructure and labour rising. Costs can no longer be so attractive, and the constant pressure of arbitrage starts a new wash of capital and labour by telecom, email and railway, to somewhere else, somewhere that can momentarily construct the friendly mix that draws nomadic prosperity.

So in the story of coal, which we'll unravel further in this book: at the beginning of the twentieth century Britain is at the cusp of coal exporting power, with a million miners and their productivity and social dynamics influencing political and economic growth. By century's end, both coal and coal miners are a spent force: the winds of arbitrage have moved steadily eastwards, through Poland, into Russia, China, India, and now Indonesia and Vietnam. With the cusp of competitiveness, blown ever faster by the winds of global arbitrage, there are attendant storm clouds of risk and danger – both accompanying the boom, and in the shadow of its wake. Small countries become influential overnight. Powerful ones crumble and decay until they find new formulas that will attract the winds and rains of arbitrage. The pageants of history play themselves out while we watch, hardly giving us a chance to play a meaningful role.

[11] Kenichi Ohmae *The invisible continent : four strategic imperatives of the new economy* (New York: HarperBusiness, 2000)

Paul Valéry painted the picture of this sudden equalization in terms that remind us of the visions of frictionless connectivity espoused by the new economy saints:

> The physicists tell us that if the eye could survive in an oven fired to the point of incandescence, it would see… nothing. There would be no unequal intensities of light left to mark off points in space. That formidable contained energy would produce invisibility, indistinct equality. Now, equality of that kind is nothing else than a perfect state of *disorder*.[12]

But this is no static array. It is the presence of *difference*, above all the difference of *opposites* in this egalitarian mix, that creates energy and motion: just as the difference between positive and negative charge causes electrons to flow in a wire. If there is one dynamic in commodities such as coal, or coffee, or oil, there are other dynamics in knowledge, and people, and technology. Arbitrage never reaches an equilibrium, just as business competition never reaches an equilibrium. The more connected we are, the more we propagate differences and therefore precipitate novelty, movement and change. The extraordinary energy of the connected world is generated precisely by giving equivalence to so much variety. Valéry's description of the doomed brilliance of Europe on the eve of war in 1914 is startlingly prescient of the incandescent energy created by connecting multiple differences:

> Every mind of any scope was a crossroads for all shades of opinion; every thinker was an international exposition of thought. There were works of the mind in which the wealth of contrasts and contradictory tendencies was like insane displays of light in the capitals of those days: eyes were fatigued, scorched… How much material wealth, how much labour and planning it took, how many centuries were ransacked, how many heterogeneous lives were combined, to make possible such a carnival, and to set it up as the supreme wisdom and triumph of humanity?[13]

No wonder that the energies of the connected economy repeatedly generate metaphors of explosive change: *boom, revolution*.

The most terrifying aspect of this environment lies in its *reflexivity.* Difference propagates movement, but not towards equilibrium as natural laws dictate. In the virtual world of connectivity after all, the natural laws of physics – energy, location, movement, time – are suspended. So are moral laws. The multiplication of differences creates ever new combinations, ever new polarities which are amplified and simplified, and act upon us again, to generate ever increasing movement and change, ever increasing complexity and uncertainty. How else can we explain the mechanization of murder in the Nazi concentration camps, an airliner being driven into a skyscraper packed with people on a sunny day, nuclear bombs being dropped on civilian populations?

The more we are united, the more we are disposed to fragment; the more we combine, the more we separate.

Volatility and stability

But while power finds larger expression in a connected world, the asymmetries of power can shift unpredictably. On April 25, 1999, for no apparent reason, people started to

[12] Paul Valéry *The outlook for intelligence* (Princeton: Princeton University Press, 1962) p.27
[13] Paul Valéry *The outlook for intelligence* (Princeton: Princeton University Press, 1962) p.28

gather in the streets encircling Zhongnanhai, the Communist Party leadership compound in the heart of Beijing. Within a few hours, there were more than ten thousand of them.

The police were friendly, and directed participants to the best locations to avoid traffic snarl: the crowd was peaceful and respectable, consisting of many women and elderly people. Some of them were known to the security officers present as senior or retired officials. Premier Zhu Rongji had just returned from a trip to the USA. Reportedly jetlagged, he believed the crowd to be a harmless apolitical group, and he met their delegation, showing sympathy for their demands. They were a *qigong* exercise and meditation group, they said, and they wanted official recognition to support them against the published criticisms of a physicist, Professor He Zhuoxiu. Premier Zhu was sympathetic. The delegation left, and the crowd melted away as mysteriously as they had come.[14]

It was only in the weeks that followed that the Chinese leadership began to see a radically different vision. The ten thousand peaceful *qigong* practitioners, members of the registered Falun Gong movement, became recast into an entirely different mode. Framed by the impending tenth anniversary of the Tiananmen Square incident, and the golden anniversary year of Communist Party rule, the sudden, unprecedented, and completely unexpected appearance of an apparently highly organised demonstration, representing a cause the leadership had known nothing about, was deeply worrying. The security services had been caught completely unawares. Although Falun Gong had been under surveillance since 1996, it had been as a martial arts group without any sense of political overtones.

And there were disturbing precedents for *qigong* practitioners with political ambitions attempting to disturb the balance of power: in 1774 a martial arts and healing expert Wang Lun had formed an underground spiritual movement among the poor and marginalised classes in a corrupt and repressive society. When they revolted against the Qing government they were crushed, but the social tensions that they represented eventually brought about the collapse of the regime.[15] And over a hundred years later, in the chaos of the Boxer Rebellion, the Boxers believed their *qigong* would make them impervious to bullets.

So with increasing concern about the rise of cults and secret societies in China, widespread social dislocation and unrest, and their own difficulties with corruption and exploitation, the Chinese leadership felt an immediate sense of threat that deepened the more they looked at it. How had so many people suddenly appeared in such an organised way, from all over China? Falun Gong, it now seemed, claimed between 70 and 100 million members – more than the Chinese Community Party itself. Indeed, many Party officials and cadres were also practitioners. How had such a gigantic group materialised, out of nowhere, and so quickly?

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[14] John Wong and William T. Liu *The mystery of China's Falun Gong: its rise and its sociological implications* (Singapore: World Scientific, 1999) p.13f

[15] Danny Schechter *Falun Gong's challenge to China: spiritual practice or evil cult?* (New York: Akashic Books, 2000) p.19

The history of the April 25th demonstration went back either a week or seven years, depending on how you want to look at it. The week before, practitioners had gathered at the Tianjin office of the magazine that had published the offending article by the Professor of Physics, He Zhuoxiu, to ask them to carry a response. When the magazine refused, more practitioners converged on the place. By April 22, there were several thousand people there. Riot police arrived and tried to break up the demonstration by force, beating them and arresting forty-five people. Shocked practitioners complained to the local authorities, who told them that they should take their case to the Chinese leadership in Beijing. So they did.

Here connectivity comes into play. Precisely because of the poverty of China's infrastructure, and the rigidity of its official publishing channels, communications technologies have often leapfrogged those of developed nations. There are more mobile phones than landlines, internet is more reliable than post or publication. Word of mouth spread by mobile phone, email and bulletin board. The right to appeal is enshrined in the Chinese constitution, the rightness of their cause was both evident and critical to their new-found self-confidence, and it was amplified by an awareness of numbers. More than ten thousand people began to converge on the still unsuspecting Chinese leadership in Beijing.[16] An invisible revolution, only seven years in the making, was about to emerge into the light of day.

In 1992, Li Hongzhi, a *qigong* master, and now known as "Master Li" by Falun Gong practitioners, published a work combining *qigong* practice with a spiritual blend of Taoist and Buddhist beliefs. It was entitled *China Falun Gong*. In common with other *qigong* gurus at that time, he promoted his book at the Oriental Health Fair in Beijing, and around the time Deng Xiaoping embarked on his famous tour of the South to promote a new socialist capitalism, Li Hongzhi embarked on a nation-wide lecture circuit to promote his teachings.[17]

The teachings and the exercises are simple: they are about achieving physical health and spiritual serenity. There are no organised religious activities or hierarchies evident. Practitioners gather in the parks to exercise, and they meet to discuss the teachings. There are no fees, anyone can join.

Sociologist have their explanations for its rapid growth, fuelling (as they always do) an interpretation of incipient political impact. Deng Xiaoping's free-market reforms liberated new and unaccustomed risks into Chinese society and upset its cultural certainties; risks that had been held at bay, barring the disastrous eccentricities of the aging Mao, for forty years. Public enterprises and institutions had always provided for everything: housing, health, education, together with work. If they lacked prosperity, employees at least had security. The liberalisation of the markets and entry of privatised competition inexorably loosened these expensive premiums against risk. While insecurity entered domestic life, the work week shortened, providing more leisure – and more time

[16] *Ibid*., p.44ff.
[17] *Ibid*., p.147f.

to think about the point of it all. When controls over movement lapsed, there were mass peasant migrations from the unforgiving countryside to the cities of opportunity – creating immense pressures on infrastructure, employment, and the still essentially bourgeois urban culture and habit. The vagaries of global arbitrage, while still buffered by China's only-partial connectivity, still created pockets of sudden growth and contraction, extreme wealth and extreme poverty. Unemployment became not only possible, but visible; not only visible, but personal.[18]

In this environment, it is not surprising that a population with more leisure and with less protection should be attracted to a simple set of beliefs and practices that promoted health, tranquillity and social bonding. If Falun Gong grew, so did other spiritually-inclined *qigong* movements, for broadly similar reasons; but none grew so fast. And none showed such viral ability to infect not merely the elderly and disenfranchised, but the intellectuals, the elites, and westerners from outside the Chinese Buddhist/Taoist tradition.

In Falun Gong we see what Malcolm Gladwell has called a "tipping point" – the sudden precipitation of an event or a phenomenon across an entire population. Where Gladwell, in good American fashion, has focussed his spotlight largely on the *agents* of contamination, leaving the hygiene of its *environment* in their penumbra, Falun Gong's overnight blooming – and its remarkable durability in the face of vicious and sustained repression – tells a tale of how *connectivity* itself allows people almost simultaneously to *find* conditions for new social and collective identities.[19]

Hence, while Gladwell's message tells us something about how an idea spreads, it fails to explain why some *endure*. The true power of the Falun Gong formula is not in the message in itself, nor in the use of networks to communicate it. What connectivity *brings* to the simplicity of the formula is individual people, who thereby find a pre-existing community of people with similar needs, fears, aspirations and risks. The message binds them, and connectivity enables the bonds to fasten and hold. And the simplicity of the formula, combined with the collective bond that connectivity manifests, is – as the Chinese leadership correctly identified – a massively powerful, and power-*threatening* thing.

> …we were sent to the Zhoukoudian Hospoital for Mental Patients…. We don't have any mental illnesses, yet we are kept here, with no freedom, little food, and are treated like criminals. We've been kept for over forty days, without any paperwork… Our eighteen-year-old and thirteen-year-old kids are under great pressure at home. The electric power supply at our home has been cut off for over a month now. They are also threatened to be thrown into the hospital for mental patients…We are citizens of the People's Republic of China. We did not violate any laws. Why can't we be given a legitimate environment for practicing Falun Gong and for leading a normal life? …We are kept in the hospital for mental patients simply because we've learned Falun Gong.

[18] John Wong and William T. Liu *The mystery of China's Falun Gong: its rise and its sociological implications* (Singapore: World Scientific, 1999) p.35ff

[19] Malcolm Gladwell *The tipping point: how little things can make a big difference* (Boston: Little, Brown and Company, 2000). Gladwell does look at environmental factors in his book, but his primary focus is on how agents transmit ideas; environment plays a secondary, supporting role in Gladwell's dramas of change.

> We try to become good people. Since we started practicing Falun Gong, we've been healthy and kind. What's wrong with that?[20]

Falun Gong *cannot* be wrong. The Chinese leadership *cannot* ignore it as irrelevant to the expression and balance of power in China. Polarisation must ensue. Connectedness catalyses new, parallel power symmetries, but people operating in the same physical space must resolve them into one. The Communist Party and Falun Gong must oppose each other, each in their different ways: practitioners by emerging into the public eye, displaying their identity, their *otherness*, and appealing to be recognised; the Communist Party by making them invisible, making their beliefs disappear, by any means available.

Deng Xiaoping and Li Hongzhi could never have anticipated how closely their very different, but strangely parallel 1992 tours of China were intertwined.

Volatility, therefore, is a key consequence of connectedness. The suddenness and spontaneity with which the regimes of Romania's Ceaucescu or Marcos in the Philippines fell; the almost accidental way in which the Berlin Wall came down; the quiet evaporation of the USSR, the overnight collapse of Enron – all felt strangely incomprehensible. How could such laboriously constructed and sometimes violently maintained structures have crumbled to nothing so effortlessly, by-passing all the laws of friction, planning and human intent? Connectivity magnifies power, and hence stability. But it also creates pre-conditions for volatility as new communities find each other, and form, almost accidentally, new expressions of power, or weakness.

In the appearance of 10,000 Falun Gong practitioners outside their compound in April 1999, the Chinese leadership could mark the precise point at which connectivity in China had produced a threat to their power. In 1989, it was the *partition* of the students and urbanites from the rural and provincial masses, that isolated both the message and the persons of the protestors in Tiananmen Square. Now, the power of connectivity had, from the message of one man, emerged in millions of people who were willing to act for what they believed, and were able to act *together* by virtue of that same connectedness. Uncertainty multiplies.

Massive strength can suddenly mean massive weakness.

Structure and Chaos

> Hitherto, all politics gambled on the *isolation of events*. History was made up of events that could be *localized*…. That time is coming to an end. Henceforward every action will be re-echoed by many unforeseen interests on all sides; it will produce a chain of immediate events – confused reverberations in a closed space. The effects of effects … are now felt almost instantly at any distance; they return immediately to their causes, and only die away in the unpredictable… In a few weeks the most remote circumstances can change friend into foe, foe into ally, victory into defeat. No economic reasoning is possible. The greatest experts are wrong; paradox reigns.

[20] Danny Schechter *Falun Gong's challenge to China: spiritual practice or evil cult?* (New York: Akashic Books, 2000) p.107f.

> There is no prudence, wisdom or genius that is not quickly baffled by such complexity, for there is no more duration, continuity or recognizable causality in this universe of multiple relations and contacts. Prudence, wisdom, and genius can be identified only by a series of successes; once accident and disorder are predominant, an expert or an inspired game is in no way different from a game of chance; the finest gifts miscarry.[21]

Human beings have always followed knowledge; so the faster knowledge moves, the faster we in turn crash around the world at ever increasing speed, often knocking things over, occasionally taking a curve with a satisfying sense of control. It is both exhilarating and terrifying.

The channels we have constructed do not just move knowledge; they also move money, and people, and risk. But people move slower than capital or knowledge, and our social institutions and cultures move slower than that. As Ulrich Beck puts it, "People are better adapted for the future than are social institutions and their representatives".[22] This disparity, these dislocations, these *differences* in friction and lubrication in the connected economy set up terrible, threatening strains. The simplifying, amplifying, herding effects of connectedness have always affected the behaviour of capital.[23] The more we are connected, the more monstrous those simplifications become.

When capital rushed out of Asia in 1997, it left a vacuum that could only be filled by risk and uncertainty, threatening not only the poor, but social and political institutions as well, held together as they are by the middle classes and the elites. When *knowledge*-based labour flees on the winds of arbitrage to follow elusive capital, along the current path of a desperately nomadic Elysian Fields, it loosens the fabric of those cultures and social structures in a frightening, reflexive chain reaction, that propagates risk further and polarises prosperity and survival into ever more distant opposites.

When knowledge workers evacuate Pakistan, India and China, they empty the middle and increase the fragility of the poles. While the richest 20 per cent of the world have increased their consumption of food, energy, water, transportation, oil and minerals by more than six times in the past generation, the past decade of global growth has seen a dramatic intensification in poverty:

> The UN says more than 2,400 million people now live without sanitation, a considerable increase on a decade ago; 1,200 million have no safe drinking water; similar numbers have inadequate housing, health and education services; more than 1,500 million are now undernourished, not because there is no food, or there is too much drought, but because of the increasing marginalization and exclusion of the poor.[24]

The more we are connected, the faster this happens. Prosperity and decline, formerly measured in decades, now arrive in years or months. But there is an asymmetry here: pervasive, structured prosperity takes longer to establish itself than chaotic decline. If it

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[21] Paul Valéry *The outlook for intelligence* (Princeton: Princeton University Press, 1962) p.15f
[22] Ulrich Beck *World risk society* (Cambridge: Polity, 1999) p.10
[23] Charles Mackay *Extraordinary popular delusions and the madness of crowds* (London: R. Bentley, 1841)
[24] Ulrich Beck *World risk society* (Cambridge: Polity, 1999) p.5f

took five or seven years for the benefits of Irish growth to manifest themselves at large, it took just weeks for Asia to crash.

By October 2000, the rules of arbitrage had changed again, and intensified in a new direction in the global markets; new technology *promissory* stocks sucked up capital with such ferocity that the *currently* productive economic stalwarts in the blue chip market became starved and weakened – beginning an ever-widening ripple of *current* uncertainties, increased risks and vulnerabilities in the supposedly stable core of the economy, also bringing social and human consequences. The ripples continue to widen, many of them setting pre-conditions for the excessive fragility of airlines, telecommunications and banks in the wake of the September 11 attacks. Hard upon that came the collapse of confidence in the future, a re-complication of perspectives, new uncertainties about where capital would go next.[25] Small wonder in this environment, the seductive certainties of war, bring new uncertainties of consequence.

Macro-economic risks must always work themselves into the domestic frame: risk is not a mathematical concept, though we too often treat it so. At the domestic level, the uncertainties of connected differences and the consequent motive energies of arbitrage, translate themselves into what Beck calls the increasing "fragility of work":

> To provide a simple formula: capital is global, work is local. All around the world, at the same time, fragile work increases rapidly, that is, part-time, self-employed work, limited-term jobs and other forms for which we have barely found proper descriptions. If this dynamic continues, in ten to fifteen years about half the employable population of the West will work under conditions of uncertainty.[26]

When this happens, wealth and prosperity no longer adhere so closely to the framework of the nation-state. Fragile work is more characteristic of the "Brazilianized" work environment of poor countries.[27] The growing divergence between the poles of prosperity and poverty is trans-national, international, and *intra*-national, all at the same time:

> ….many parts of the 'Third World' today show Europe the image of its own future. On the positive side, we could list such features as the development of multi-religious, multi-ethnic and multi-cultural societies, the cross-cultural models and the tolerance of cultural difference, the legal pluralism observable at a number of levels, and the multiplication of sovereignties. On the negative side, we could point to the spread of the informal sector and the flexibilization of labour, the legal deregulation of large areas of the economy and work relations, the loss of legitimacy by the state, the growth of unemployment and under-employment, the more forceful intervention by multinational corporations, and the high rates of everyday violence and crime.[28]

[25] "At the Corporate Venturing Summit, John Donahoe, worldwide managing director for Bain & Co., noted that corporate VC activity declined 81percent from the fourth quarter of 2000 to the first quarter of 2001. By comparison, activity among traditional VCs is down roughly 50 percent. Donahoe attributed the retrenchment to unclear strategic rationales, poorly defined fund objectives, bad timing, and botched execution." Dirk Spiers 'Damage control for corporate VCs' *Business 2.0* November 15, 2001

[26] Ulrich Beck *World risk society* (Cambridge: Polity, 1999) p.11

[27] Ulrich Beck *The brave new world of work* (Cambridge: Polity, 2000)

[28] Ulrich Beck *World risk society* (Cambridge: Polity, 1999) p.3

It's not just our working biographies that suffer. As consumers too we are threatened by the ability of our systems and our networks to extend, amplify and multiply mistakes or crimes. When Ford or Firestone make a single mistake, hundreds of people die in accidents around the world. When regulatory agencies make one single misjudgment, the entire intricate, wondrously connected paraphernalia of our food production and distribution network systematically and consistently transfers a terrifying disease, with both efficiency and effectiveness into thousands of products we and our children consume every day: in everything from vaccines and cosmetics to food. A single teenage vandal can ride the lubricated channels of our networks and bring billion-dollar businesses to their knees.

The disengagement of certainty and risk from the regulatory remit of the nation-state has big implications for areas of risk that the developed world has not had to consider seriously for many decades: issues of risk around sanitation, public health, water supplies, workplace safety, welfare and the costs surrounding old age. Again as Beck puts it, "pollution follows the poor"[29] – no matter where they may be. While connectedness brings risk back into the hearts of even wealthy societies and polarises us, connectivity will surface again in the *contagiousness* of risk. Poor, unhealthy people threaten rich, healthy people in a variety of ways, particularly when they are connected in the same web of visibility, travel, transaction and communications.

The propagation of such risks and the crises they generate will prompt new pressures for collective regulation and control, new rules of partition, separation and disconnect, new risk hygienes. And with those pressures will come a new enquiry about *authority and responsibility* – who is responsible for resolving collective and therefore personal risk, who has the authority to define the nature of risk and its resolution, when the world has become increasingly individualised and when risk itself has become so randomly and widely distributed?

The nature of our connectedness gives rise to all these questions, and focuses us, perhaps belatedly, on the risk that accompanies uncertainty and change, where we have looked too optimistically for opportunity and innovation. Uncertainty, we realise, has two offspring: change means both opportunity and threat. Innovation and risk go hand in hand. Both involve decisions that turn into process, action and habit, and so they involve extraordinary sensitivity to what is known, and what is not known. Both involve human well-being.

The internet itself, as the single most evident expression of our still accelerating connectedness, therefore begins to look like a kind of extended, manufactured *panic*, a seething and radiant mass of opposing impulses, casting an ever-expanding arc of opposites, seeking both limits and certainty.

If we need to shift our too-eager focus, without forgetting, from innovation to risk, then we also need to shift that focus from technology to people. It is not the technology or the social maps of our networks that create such explosive complexities and asymmetries and

[29] Ulrich Beck *World risk society* (Cambridge: Polity, 1999) p.5

threats. It is the people who use them, and who prosper and suffer from them. Technology merely enables, extends, amplifies and propagates new connectivities, new communities, new and quickly-formed discoveries of common interest and goals. It is *people* who drive the dramas of destabilisation, simplification, polarisation, complexity and confrontation; from which emerge risks and opportunities for *people*, measured in *human*, not merely numerical terms. The role of the personal domain in how we manage ourselves and our work in the world of business and governance, is too rigidly excluded in much of what we write and read in the official discourse of management.

In this madness, manufactured by us, and within which we enthusiastically participate, we also acquiesce in a kind of collective, organised irresponsibility, an elected state of ignorance which results in anything but bliss. We make believe that we are driven by knowledge when we are blown on the winds of chance and uncertainty, believing that someone, somewhere, is or ought to be looking after *our* interests, *our* safety, *our* welfare. But in the connected world where change is driven as much by amplified, unmoderated individuals as it is by collective, regulatory bodies, it is *our* personal ignorance, *our* personal acquiescence, and *our* abrogation of responsibility that makes the critical difference. Our personal and collective recognition of that ignorance alone can help us move towards a new responsibility, a new re-socialization of risk; and better equip us to manage the random and dangerous directions in which both risk and innovation are currently disposed.

Complexity and uncertainty force us to re-examine our roles and responsibilities in a connected, global society.