

Chapter 1

THE NEW WORLD OF RISKS AND CRISES

The break between the end of the 20th century and the beginning of the 21st-century has been violent and disconcerting. Our world used to be relatively stable. Certainly, it could and did undergo serious breakdowns and crises: but those were charted, localized, manageable, and reparable within established frameworks. Now we are in the grip of events which lie beyond "normal" categorizations. We find ourselves thrown into a world that is losing its bearings, its balancing mechanisms and its internal borders. We are moving from the accidental - specific breakdowns within generally stable terrains - to the chaotic: a landscape that is profoundly and permanently de-structured, a matrix of security problems responding to laws that we do not understand. A world where crisis becomes the central operating mode, and which is generated by events, processes, and combinations that are increasingly off the scale. Two essential types of difficulties come together to produce today's crises:

- *Shocks no longer fit their customary frames of reference: we are witnessing difficulties that in terms of scale, complexity, and speed "burst the seams" of our understanding and our vision.*
- *These shocks are arising against a backdrop of contexts and moorings that are also shifting with increasing speed, which only compounds our loss of bearings, management capacity, and the collapse of confidence.*

Hence, there can be no "technical" solution, however sophisticated, to these emerging crises. We must first assess the issues and then invent appropriate responses.

In writing about crisis management, it is customary to establish categories of events, and then offer codified responses, usually case-specific. Today, decision-makers need a radically different approach. The main challenge is not so much the particular technical content of crises, but rather our capacity to understand the inherent - and largely uncharted difficulties - we have to face. Difficulties which arise on two fronts, and which are mutually reinforcing:

- ***Crisis dynamics increasingly tend to be “extreme” in all respects:*** they are now characterized by highly destabilizing qualitative difficulties, which extend far beyond our intellectual, cultural and managerial codes of reference.
- ***Our bases of reference are collapsing:*** this exposes us to a sudden and fundamental loss of bearings, and can provoke destructive domino effects, even in the case of local, limited or merely suspected disturbances.

This first chapter explores, without claiming to be exhaustive, a few essential points relating to these two trends.

Before proceeding with our analysis, a word of clarification is in order. Our scientific, managerial and governance culture has made all of us, regardless of our specific national traditions, the heirs to a well-established “crisis management” *domain*, one that, like a tidy French garden, was defined by its internal borders, composed of compartmentalized lots, and managed in accordance with established rules, all within a globally stabilized context, resting on a solid and robust foundation. This is the intellectual setting in which we developed our tools of risk analysis and crisis management.

Certainly we acknowledged that breakdowns could and did have severe consequences, as well as collateral fallout, but we still believed that emergent situations would remain measurable, stable, and charted. This allowed for an approach to risk that was quite in harmony with conventional scientific and operating rules: measurement, reproduction, verification, and optimization. Consider what Peter Bernstein had to say in his cult book on risk, *Against the Gods*: “The best decisions are based on quantification and numbers determined by the patterns of the past” (Bernstein, 1998, p. 6). Or the definitive statement of Alvin Weinberg: “Science deals with regularities in our experience. Art deals with singularities” (Weinberg, 1985). It is this vision that underlies our approach to risk and crisis: any breakdown is merely singular, and crisis resolution simply aims to return to “normal” equilibrium. Hence, “business continuity”, “risk assessment”, and “crisis management” involve nothing more than applying recognized tactical expertise to awkward, but short-lived, events:

proper checklists and good operational training ensure that things promptly return to normal. If necessary, some very powerful props can be called into play, in terms of logistics and financing, in which case-solid tactical know-how can often be relied upon to ensure efficiency in "damage control" or "recovery".

Yet, lo and behold, these fine foundations have now been undermined, torn apart, rendered unintelligible, or have even vanished. What is the "probability" of an off-the-scale terrorist attack? The probability of a viral mutation? How can the finest-looking crisis plan be put into effect in a country that has no government? How can insurance companies deal with a pandemic like that of 1918? Towards the end of his book, Bernstein admits that "discontinuities, irregularities and volatility seem to be proliferating rather than diminishing". (Bernstein, 1998, page 329). Foundations, frontiers, regularities no longer respond to our models. What appears now on our radar screens is incoherent, contradictory, and volatile.

Our cultures, our psychological foundations, our institutions and our tools were all designed to work in a stable, modelled, measurable universe; they were sensibly rooted in averages, in "reasonable" levels of severity. Our forecasting and catch-up capacities would deal with aberrant emergencies *at the margins* of the system. It is little surprising, then, that we struggle when confronted with situations that deprive us of our basic moorings, and push us to the brink of chaos - or even over the brink - where our most fundamental frames of reference become ineffective, or even irrelevant.

This shift from the conventional to the unconventional – i.e. the "unthinkable", as long as we remain locked into our old ways of thinking about management and governance – constitutes the essential challenge in the crises of our time. The problem is no longer to make allowance *on the margin* for extreme events (Pickford, 2001), but to *focus* our thinking well beyond the bounds of the conventional, for the obvious reason that those bounds have lost most of their former relevance anyway. This is the point on which what follows is premised. We'll begin by addressing some of the crucially (de)structuring factors on the two fronts indicated above: namely, the fact that emergent events are increasingly "barbarian" in nature (by which we mean that they do not "play by the rules") and that our foundations are crumbling.

1. Bursting our frames of reference

The last quarter-century has seen remarkable progress in risk control and crisis management. Much has changed since appalling deficiencies were brought to light by the first great catastrophes in the United Kingdom in the 1970s (Flixborough, a chemical factory obliterated in 1974), when withering

criticism was levelled at the then-prevalent "telephone directory method" of risk control. This relied on classifications, overly case-specific, technical responses, which engendered a systematic propensity to act too late. France underwent the same evolution (as exemplified by the 1976 law on "dangerous" facilities), followed by the EC (the Seveso directive) in the early 1980s. This shift in turn gave rise to statistical, probabilistic, sociological approaches, "risk management", and the entire arsenal of crisis management - plans, tools, organizations, communication and so on. We developed systemic approaches, stressing managerial dynamics rather than specific features of individual components or processes. We adopted the notion of "in-depth defence", calling for consolidation along different lines of protection, the coordination of which would provide comprehensive security.

But we now must go beyond that. It is time for another shift in our approach, for the development of a new response "grammar". The need is already clear when it comes to questions such as public health, computer security, and power blackouts. The world of risk, the world of crises, have changed, and we must change with them.

By going beyond sector-specific analyses, we can identify the *generic* dimensions that determine these new crisis dynamics.

The scale of the phenomena. This is the most obvious factor - when a Katrina-style hurricane can devastate an area as big as Great Britain, when a storm like that of December 1999 in Europe can down as many trees as had all previous storms in the preceding two centuries combined, when a blackout can hit a whole continent... But we have to go well beyond this "obvious" dimension.

From the local to the global. In the 1980s, crisis management began to take into account the "neighbouring residents" of a factory or power plant in its calculations. But in today's crises, this "neighbouring zone" often expands exponentially to include the entire world - such was the lesson of Chernobyl (1986). In addition, the "Achilles' heels" of our systems are no longer specific, localized failures *per se*, but the fact that worldwide turbulences can tap into and magnify the potential of dormant, particular risks. This was the lesson of the December 1999 storms in Europe (which provoked the flash flooding of the nuclear power station at Blayais in France), and it is a threat inherent to all the great planetary "hurricanes", whether we are speaking of the climate, the environment, public health or terrorism. Every point of the planet can be hit by an imported crisis that originated far away, in space and in time.

The network. The intricacy of the vital infrastructure on which we are increasingly dependent at the national and international levels can act as a resonance chamber that will magnify a local breakdown to unprecedented proportions, or spark local problems for which the source and the solution are beyond local control. In the wake of September 11, the security of critical infrastructures (energy, water, transportation, information systems, banking systems, public health systems) came under close scrutiny, both in terms of protection (Auerswald, Brancomb, LaPorte, Michel-Kerjan, 2006) and insurance against a major disaster (Michel-Kerjan, 2003; Kunreuther-Michel-Kerjan, 2004). Indeed, a commission set up by President Clinton had already broached this issue in 1997-98:

“Our national defence, economic prosperity, and quality of life have long depended on the essential services that underpin our society. These critical infrastructures – energy, banking and finance, transportation, vital human service, and telecommunications – must be viewed in the Information Age. The rapid proliferation and integration of telecommunication and computer systems have connected infrastructures to one another in a complex network of interdependence. This interlinkage has created a new dimension of vulnerability, which, when combined with an emerging constellation of threats, poses unprecedented national risk.” (President’s Commission on Critical Infrastructure Protection, 1998)

Speed. The SARS episode in 2003 showed the need to think of our vulnerabilities in the context of highly compressed time units. The combination of the virus and the jet airliner changed the rules: in just a few hours, the virus jumped from Hong Kong to Toronto via the United States (the geography dictated by airfares does not conform any longer to that of the planisphere): a single, symptom-free carrier was enough to shake the capital of Ontario (which lost 15 000 jobs). Similarly, on 14 August 2003, a huge power cut plunged the north-eastern part of North America into darkness in a matter of 20 seconds. Today, an electronic glitch could shut down our information systems worldwide within a minute (Cukier, 2005). And of course the slightest hint of a spiral effect can instantly spark a worldwide media frenzy. When we realize that it takes a good 10 days to get our systems up and running in case of a freak event (Katrina, heat wave, tsunami), this time discrepancy is a cause for concern.

Ignorance. We now often find ourselves moving from uncertainty, a dimension to which we are well accustomed, to ignorance. Not only do experts now find themselves at the very limits of the current state of knowledge, but their theories and plans are simply not working. An expert will in many cases have great trouble in comprehending the threat and offering a prognosis; his

stock of prior observations, his laws of probability are no longer relevant. He may not even know whether there is a problem at all. He may suspect a phenomenon, but he can no longer exclude it. Similar uncertainties plunge decision-making systems into disarray. This became brutally clear during the Y2K transition, or with the "mad cow" affair (Phillips, 2001), where stakeholders were plunged into a maelstrom of contradictory information, between concerns that there might be "millions" of victims, official pronouncements that the disease was harmless, and the eventual, reassuring scientific assessments in hindsight, which allowed many to regain their bearings by simply shrugging off the whole episode as "panic over nothing". In August 2003, some officials thought it best to shrug their shoulders again over "a bit of summer heat", until, over a period of 10 days, the toll mounted to a staggering 15 000 deaths in France and 20 000 in Italy (Lagadec, 2005). This same lack of benchmarks can be seen with all the major issues, whether they relate to the climate, to nanotechnology, to genetic engineering, or to terrorism. The problem is no longer (as in our "positivist" recent past) to identify what we "still" don't know, or what lies at the limit of our knowledge - but more modestly; to try to discern what parcel of our available knowledge really is robust enough to resist the rash of questioning from all sides that modern crises elicit, and guide us through them when all else fails.

Off-the-scale complexity. Our modes of acting are configured according to "normal" benchmarks of complexity, i.e. a *typical* emergent event can be neatly classified within a relatively defined and stable context (observing the *ceteris paribus* rule). Now, these benchmarks have been abruptly exceeded, and what was a given is no longer. This was the case with the class-5 (and then class-4) hurricane that hit New Orleans on August 29, 2005. Here we had a sudden phenomenon that involved an off-the-scale hurricane twice the size of the biggest ever witnessed, persistent flooding, a series of industrial disasters, outmoded evacuation schemes, widespread lethal pollution, destruction of 90 per cent of the essential utility networks (energy, communications, water etc.), unprecedented public safety concerns ("unprecedented" at least in the United States), concern over the possible loss of the port zone (essential to the continent's economy), uncertainty as to whether portions of the city could be saved – clearly speaking of a "hurricane" had become irrelevant and counterfactual to describe the set of challenges at hand. And this is becoming increasingly the norm: concepts, frameworks, scientific categorizations are exploding, and those who nevertheless cling to them are likely to be swept away.

The inconceivable. This is the most destabilizing element of all. America had expected missiles, but it was hit with box cutters. We thought global epidemics were a thing of the past, and, lo and behold, the spectre of a global

pandemics has returned. Indeed, when we look back at the flu pandemic of 1918 (Barry, 2004), we even have to acknowledge that societies of that time were probably a good deal more resilient than ours, trapped as we are by the widespread devotion to “lean process” and “just-in-time” principles that can transform a minor breakdown into a disaster almost instantly. In the wake of Katrina some have asked: what if the second hurricane, Rita, had hit Houston? What would it mean today to lose a major urban centre, a “hub city”? Moreover, as soon as the inconceivable happens, the simple plausibility of threats can unleash a nasty spiral - a few cases of bird flu, and poultry sales drop 20 per cent in just a few days across the continent, because of a sudden collective feeling that the old verities have been shattered.

A “class-5” media storm. As soon as an event is seen to exceed the norm and to suggest an imminent public disaster, the mass media will quickly swarm the scene, dominate coverage of the story, and thereby dictate collective representations of the emerging event. In so doing they tend to resort to “Hollywood-style” narrations, and desperately strive to sensationalize any given situation. Yesterday's question was whether (and how) our crisis managers - the exclusive recipients of warnings, analyses, and recommendations from the experts - would pass on information to the media with sufficient transparency and understanding. The challenge for them today is how to cope when all the tools of governance and “top-down” logics are promptly outflanked by these unbelievably powerful mass-media systems that are so adept at “staging” events, and even have their own “situation rooms”? What remains of the traditional leaders’ ability to “manage” events when virtually the only operating rules are those set by non-stop worldwide networks that sensationalize every story and reduce its complexity to a few seven-second sound bites? Moreover, the media dynamic feeds on itself and spins out of control: stakeholders end up adapting their actions, words, language and images to ensure that they are “camera ready” for the TV networks, which are only too happy to take the ready-made product. The Larsen effect - the acoustic feedback between microphone and amplifier that boosts any noise to the point of saturation - is in full swing. Everyone, including the journalist, becomes a spectator to this machine that produces news at once inaudible, emotional, and uprooting. Of course, the media have ways of checking their information, at least for “conventional” stories. But such gate-keepers fail, instantly and globally, in a large-scale crisis. While major TV network claim that they merely report on the decisions that are being taken, those are in fact dictated largely by popular sentiment, which in turn is shaped by the media coverage itself. And everyone, starting with the manager, tunes in to CNN - or other major networks, if a global “image war” happens to break out.

In other words, the “good old” crises of the 1980s and 1990s, with their confined stage and still relatively simple rules, are undergoing profound change.

2. The dislocation of our environments and benchmarks

As with hurricanes, which begin and grow by drawing energy from the oceans they pass over, the major crises of today thrive on, and tap into our key vulnerabilities, especially at the fault lines that scar our geographic, human and historical landscapes. Without attempting to be exhaustive, we can identify some of these fault lines that account for 21st century crisis dynamics. Let us sketch out briefly two main fields for analysis.

2.1. The sudden bursting of boundaries

Our world is assailed on many fronts by extravagant mutations that do not fit our normal frameworks of reference. Multiple and interdependent dynamics are completely reshaping the crises that we face today, in terms of their scope, their nature, their speed, and the conditions for dealing with them.

Demographics is surely the most critical factor. For a time we believed that modernization would flatten the demographic curve that had exploded during the 20th century, when the world population soared from 3 to 6 billion. Yet an examination of UN data does not support this hypothesis, which now turns out to be little more than wishful thinking: the next half-century will see more than 3 billion added to this figure, bringing it to 9.3 billion by 2050 (OECD, 2003). This trend produces a number of destabilizing factors, such as the concentration of these increases in poor countries, and the ageing of populations, even in developing countries. Moreover, the geographic dimension of this growth warrants detailed analysis. It is taking place for instance in the Indian Ocean and the Pacific zones, especially along the coasts and in the great deltas, those vital interfaces between rivers and sea. If one overlays these areas of demographic growth onto maps charting the major natural hazards (tsunamis, earthquakes, hurricanes, landslides) one sees a formidable potential for disasters that could easily provoke millions of instant casualties and which radically outstrips our benchmarks.

Urbanization and mass population movements result from this demographic explosion. It is estimated that 48 per cent of the world’s population today lives in cities. It was in the West that this unprecedented phenomenon first appeared: our urban population jumped from 20 per cent to nearly 80 per cent in less than three generations. But with the globalization of trade, this pattern is now extending to the entire planet. According to UN projections, urban dwellers will account for 60 per cent of the world population

in 2030. And while in Western societies, with their high purchasing power, people may fancy the notion of "rurbanization", alternating city life and modernity with the quest for ecology and authenticity, we must recognize that only a tiny portion of humanity can think in these terms. The rest of the planet has an entirely different perspective of the city: it is the point of convergence, the goal of mass migrations against the backdrop of demographic shifts that are radically transforming the urban landscape of many countries into huge megalopolises. In the grand scheme of things, Paris and London now come across as small towns. Thus latter-day China has more than 40 cities with populations exceeding 2 million, without counting giants like Shanghai, where the urban growth outlook defies the imagination. The city of Tianjin, east of Beijing, already has 12 million people, and its authorities are looking at growth that would double this number by 2030. Never in the history of mankind have there been such upheavals in the patterns of societal life. Today no one knows how to cope in terms of urban engineering, and our models have all been outpaced by the overall dynamics.

The fact is that "unthinkable" issues of urbanization now confront the world as a whole. There are already nearly 650 urban areas with a million people. This trend brings with it three major challenges: poverty, environment, and insecurity. Poverty is most heavily concentrated among women and children, the most vulnerable city dwellers. Exponential growth will have a tremendous impact in terms of health, hygiene and sanitation, and in particular the vital factor of drinking water. Nor can we overlook the issue of access to education, which is crucial to the stability and security of urban areas. Here again, the gulf between challenges and capacities is beyond belief.

The explosive potential of pressures on energy costs. In the context described above, the issue of transportation becomes a nightmare, primarily in Asia but even in the West. Our current means of transport are consuming - at the expense of massive pollution - more than 60 per cent of fossil fuel production, which is due to run out in 30 to 40 years (this is most notably the case with oil, the keystone of energy supplies). In the meantime, rising demand will inevitably spark a price explosion in fossil fuel and in transport logistics. These pressures will spark not only market disruptions but major crises at a geostrategic level. We are just at the beginning of great and profound movements that will be fed by the double impact of globalization and urbanization. The great mutation from the 20th century has to do with the degree of cultural intermingling among the populations concerned. We are far removed from the regional rural exodus that occurred in the old Europe: the movements now underway affect the entire planet and they are much more complex in their scope and their nature. Today, the question of "peak oil" management could bring the Western model to its knees. This is the major risk

for the coming years, if not the coming months: the dynamics of anticipation (with experts forecasting the collapse over time of particularly vulnerable sectors) could be just as destabilizing as actual physical ruptures.

The environmental issue. This involves a host of questions - water scarcity and pollution, soil loss through wind and water erosion, air pollution, sudden climate change - which can produce major intercontinental and worldwide imbalances. To this we must add the impact of technological developments that are largely unpredictable but that will be both specific and systemic in nature: electromagnetic radiation, bio- and nanotechnology, installations reaching the end of their life cycle, and wastes of all kinds. The fields to be considered are innumerable, and some of them will be completely foreign to our benchmarks and our experience. In short, every problem confronts us with an unknown world; combinations of problems produce hyper-complexity that leaves our scientific frameworks stripped bare. The global context produces specific problems, of public health in particular, that cannot be dealt with on a local or a one-off basis.

The systemic fragility of vital networks. We are the heirs to a world in which risk was installation-specific - the Seveso model, where "risk control" was the issue. Now we are faced with weaknesses inherent in the general architecture of our vital systems. Their structural interdependence is far beyond the level that we began to recognize in the 1980s, when we spoke of "tightly coupled" systems. What we now have is not only a coupling of critical systems, but a civilization based essentially on interlinkages that are generalized, dynamic, and largely invisible, even to the operators most directly concerned. As a clear example of such heightened vulnerability, "just-in-time" supply chains have been implemented to excess - for example, food stocks in shopping centres are enough for barely half a day. These are not just occasional aberrations that can be easily remedied. The global economy *depends* on this structural fragility, at least if we stick to the rules of today, in particular the financial rules (which have long relegated technical or systemic security issues to the background). The question of vulnerability, then, is really no longer a problem of risk at some sensitive point - a threat for which we have a whole arsenal of risk assessment - but a structural problem, one that is intimately linked to the very way our systems function.

This principle of general interdependence holds regardless of how we approach it, whether we are speaking of physical flows, as discussed above, or virtual flows - financial and banking servers, automatic teller machines, telecommunications, air traffic control systems - or the requirements of comfort (or survival, depending on the circumstances): power grids, air conditioning. The vital nature of these factors can be measured in an event like September 11,

Katrina (Lagadec, 2006a), or a heat wave. Furthermore, the principles underlying our global equilibrium can be turned against their original purpose: therefore, these factors have also become potential factors for mass destruction: "the network *is* the weapon", as was demonstrated (to a limited extent) in the case of postal services hit by the 2001 anthrax attacks and hoaxes.

Urbanization, population movements, sensitive economies, as well as collective refusals to accept risk - thus, every speck of white powder sparks a general shutdown - have become sources of weakness. Terrorist networks can exploit them, and this has been the central concern in the years since 2001. But this vulnerability can also bring major crises via natural disasters, as Katrina showed, or simply when we lose control of our own processes - as if we were Prometheus paying the price for mastering fire - as we began to see in Europe in 2001 with the anthrax scares.

As we can see already in these five dimensions, we are facing challenges that exceed our physical and intellectual capacities. This means that we must completely rethink our methods and above all our questioning in the face of such violent and extreme threshold events - all the more so, when we consider a second fault line, to which we now turn.

2.2. The ruptures in our fundamental assumptions

There is something more dangerous than the threat of crisis itself, and that is the fundamental weaknesses in the very design of our defence system. As Sun Tzu said in his *Art of War*, the best thing is to "attack the enemy's strategy". And the worst thing, in terms of security, is to tie ourselves up in the straitjacket of outmoded strategies, for then our failures will be systematic and generic. As that Chinese philosopher wrote, if the basic visions and the policies they induce are fundamentally inadequate, we will face "defeat in every battle". Worse, if our leaders perceive any efforts to reform their paradigms as an unacceptable challenge to their position, if therefore our methods for crisis management are constrained by taboos, "sacred cows" and blind spots, our fate is sealed. Our great weakness today is: not only to be "one war behind", but to refuse to rethink our take on the world.

In examining the major crises besetting us today, what is striking is the denial of reality, the refusal to ask (or take) questions, our mental blocks when challenged to think afresh, which go hand in hand with rigidly conformist training and preparations. If an exercise is to be held, for example, it is "inconceivable" that it should stray from the established and accepted scripts. Psychological tensions and the fear of losing control provoked by challenging exercises are such that it is very difficult, and often impossible, to adjust the

approach to risk analysis, to grasp the faint early warning signals of impending disaster, and to prepare for threats other than those of yesterday and the day before. These underlying attitudes betray themselves through knee-jerk responses. Let someone open up an unusual field of enquiry, and he will be sharply put down: "We're here to solve problems, not to ask questions!" Let someone try to introduce a hint of the unconventional into a crisis exercise, and the leaders will take offence: "Certainly not, you'll ruin the exercise!" These instinctive retorts betray a profound mental block. When such denials come that swiftly and systematically, it is clear that a very raw nerve has been touched and some fault lines identified that are no longer by any means marginal.

Historic fault lines. While attempts to make historical shortcuts are always dangerous, one cannot help drawing a parallel between today and the so-called Renaissance era of the 15th and 16th centuries in Europe. Once again, the power and universality of Western operating principles are brought into question, which provokes reactionary behaviours. The issue now is the breakdown of the balance of powers that sustains the security and the prosperity of the systems in which we live.

Geostrategic fault lines. Despite the continued presence of overarching institutions such as the UN Security Council, we are witnessing the emergence of a multitude of "geostrategic" centres, and the burgeoning of horizontal power networks (NGOs, virtual networks over the Internet, informal terrorist networks) that obey another logic and that are moreover ideally adapted to a chaotic world. We have lost most of our intellectual and even "physical" frameworks of reference in this unfathomable context. In the face of such changes, we tend to seek refuge in bland reassurances. We cling, for example, to a highly simplistic vision of a unipolar world, against those who would dream of a multipolar balance. We look no further than the familiar threats posed by "Westphalian" Nation-States, and we still interpret the collective motivations of peoples and groups in ways that fit our frameworks of rationality, while we resent all attempts to approach current evolutions through the concepts of "civilization crisis" or "identity crisis". This illusion brings great comfort for the moment, but it remains an illusion, and it paves the way for severe disillusionment when reality blows away the flimsy and makeshift windscreen that (barely) protected us for a time.

Such were the shocks of September 11: how could anyone imagine that individuals who on the surface had been successfully assimilated into American society, could attack both the economic and financial heart and the military nerve centre of the only remaining great world power - by hijacking airliners with simple box cutters? Yet many other, equally astonishing shocks are brewing, and it is time to explore them as so many major geostrategic fault

lines. As examples we may cite the re-emergence of central empires (most conspicuously, Iran), the emergence of new entrants, and the assertion of new identities (for instance among the Hispanic community in United States and Muslims in Europe). These are the new paradigms that will determine the risks and crises of the near future.

There are *fault lines as well in our basic models of governance*. Our approach to managing societies, even more so to managing crises and other emergencies, is now in question. The most recent large-scale crises (the tsunami, Katrina, the heat wave, Argentina) force us to be especially attentive. The advent of the information society provoked by the Internet, the inversion of communication channels, which are ever less "top-down", ever less the property of any power, but increasingly connected and attuned to real-time, are exploding our pyramidal, segmented and sequenced societies. The societies that are emerging are structuring themselves around networks and concepts of power that have nothing in common with the democratic practices that the advent of the modern industrial world produced. We are confronted with something else, a system that is not yet clearly defined but one where meaning is constructed quite differently. The breakdown of trust between civil society and the established powers can be traced to this transformation in the ways of action and of communication in the field. It is a groundswell that affects the whole world and that calls into question the resilience of the democratic model and its capacity for change. Joel de Rosnay (1995, 2006) takes this point further to declare that we are tottering away from the democratic model, towards a higher model, that of the "symbiotic". This rupture, as he sees it, will break us free of the bonds of power that have become obsolete in our way of life, that hinder the circulation and exchange of information in a world that has become infinitely more complex. It will give us greater capacity to collaborate and to be creative, through the networking of skills and talents, which will release us from current institutional constraints. If his analysis is correct, what we are witnessing is no less than a genuine revolution that will reshape from the bottom up the very workings of the world's societies.

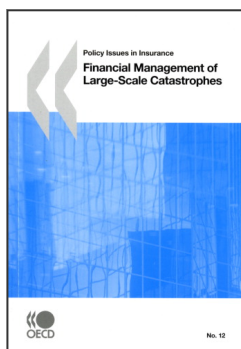
Fault lines in our vital foundations. This breakdown is even more taboo than the previous ones, because of its extraordinary potential to spark anxiety. When all is said and done, we may come to see the very workability and sustainability of the foundations of our way of life called into question. No one can imagine that the authority, the security or the prosperity of the West could be suddenly overthrown. Yet the World Economic Forum in Davos (2006) put the question bluntly: if the financial, fiscal and economic wizardry on which our entire vision of power rests were to collapse because of a misread threat to the oil supply, or from an emerging power, or terrorist networks, how resilient would the Western system really prove itself to be? In fact, we dare not ask

what might be the systemic effect of a breakdown that would hit hard and simultaneously at a hyper-indebted United States and an imploding Europe (where key countries such as France, a member of the Security Council, and Germany are very fragile), or a terrorist attack on the Arabian Peninsula, which would create an oil price explosion, or an attack against Pakistan, which would pave the way for "inconceivable" scenarios.

With today's unprecedented shocks, we could easily lose large swaths of territory if our reading of reality and its challenges remains as narrow-minded as it tends to be. We must now make this notion of "the inconceivable" the centrepiece of our thinking on risks and crises. Indeed most of what we call "inconceivable" is not so because of the "natural", *a priori* limits of our understanding, but simply because our constraints, our models, and our yearning for comfort and avoidance have led us to put under this artificial category, as in a "no man's land", a number of issues nobody wishes to tackle. When our frameworks, or intellectual "boxes" collapse, "out of the box" solutions are required. Today's most commonly witnessed answer to "unthinkable" events, which combines denial and emotional overreaction, cannot make up for our lack of vision and the deficiencies of our policies.

The combination of these two fault lines - the hyper-complex dynamics of events and increasingly shaky societal foundations that can "liquefy" in an instant (as land reclaimed over swamps does during an earthquake)- are producing a world of risk that is totally foreign to us, one that is "barbarian". The issue is not this or that point of uncertainty, but rather the global and systemic descent into this unintelligible world of the chaotic - a world in which notions like discontinuity and the inconceivable become watchwords. Averages, statistical regularities, and the lessons of history are no longer pertinent points of reference. The atypical, the singular, the exceptional becomes the order of the day. And when the pace, the scope and the nature of the terrain thus depart so abruptly from the accepted blueprint, our visions, our initiatives and our tools rapidly fall apart.

We must rebuild them, and urgently.



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