

**SAFETY AND LOSS PREVENTION**

**CRISIS MANAGEMENT**

**TRAINING SENIOR MANAGERS**

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**ACCIDENTS, CRISES, BREAKDOWNS:**

**THEATERS OF VULNERABILITY IN TRANSFORMATION**

by

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## Introduction: Discerning the transformations

In 1970, a British commission chaired by Lord Robens was requested to make proposals on the subject of handling industrial risks. Its conclusions, produced two years afterward, left no room for doubt: it was high time to re-think the ways in which risks were managed, for the nature of risks had radically changed. Lucidity and responsibility demand that the same diagnosis be made again concerning the major vulnerabilities our technological societies face.

The situation gives rise to concern. Real-life experiences, exercises or audits all indicate grave shortcomings in preparedness - in government machinery in particular. Tools, procedures and organization are often lacking, but even more seriously, our culture, our references, all seem inadequate to meet the new challenge of vulnerabilities in gestation. Which explains the repetitive, predictable "ordinary" failures and fiascos we are all familiar with.

The classic phenomenon of the accident is still present, of course (zero risk doesn't exist), and it is important to be able to deal with it, using the best emergency procedures.

But from now on, in most cases, we will be going from accident to crisis, a phenomenon of a whole new dimension strongly impacting our socio-technical or media-political systems. Potential crises now assume a more structural nature because the specific risks are increasingly difficult to estimate, because they affect more and more people, because of the unprecedented complexity of large systems, the interrelatedness of networks, the instant mediatization of any event and all rumors, and brutal transformations in collective perceptions. Social demands suddenly condemn practices that were tolerated only a short time before. Any local disfunction, as minor as it may seem, may unleash a crisis.

Even more disturbing: the crisis phenomenon itself is undergoing a transformation. Air pollution, soil and sub-soil contamination, faultiness in the security of vital systems of all kinds - as we saw during the so-called "mad cow" crisis - all of these have placed us on even more treacherous terrain. The fact is, not only do we have to deal with an important risk of loss of control due to a localized failure: rather, we must react to trends that unravel the fabric of organized systems that are losing or have already lost their protection: defense systems are overwhelmed, as are their references, their steering mechanisms. In a first approach, we shall call these occasional catastrophes "breakdowns" and no longer "crises".

The point is no longer to prevent, anticipate, treat and heal localized shortcomings to avoid any « metastases » (crisis management); rather it means dealing with general breakdowns which invariably engender multiple localized outbreaks.

Some very fundamental questions must be asked, and operational commitments be made. What new challenges must we take into account? What are our managerial shortcomings when faced with these constantly changing phenomena? What about the skills of the actors involved and learning effort? And which actions are immediately necessary?

## 1. FROM ACCIDENT TO CRISIS TO BREAKDOWN: NEW THEATERS OF OPERATIONS

### 1.1. The traditional framework : a familiar accident

Emergency intervention capacities have traditionally been built around the concept of the accident, which has the following characteristics :

- A familiar incident the elements and scale of which fall within conventional parameters;
- A set of emergency procedures, familiar to specialists called in ;
- A limited number of intervening parties, specialized in a particular aspect of the problem ;
- Organizations that know one another and that clearly operate in the emergency sphere;
- Roles, responsibilities and hierarchies are well defined and familiar to everybody involved ;
- A situation perceived as being manageable (whether technically, economically or socially) ;
- A limited time-frame.

Basically, we are talking about a clearly defined and familiar incident, a simple breach in a stable universe which requires plugging ; the structure of the system remains unchanged.

Intervention is characterized as follows :

- Scope : events are typical cases. defined and identifiable in advance:
- Public expectations measures: effective emergency plans are needed:
- Actors : primarily technical specialists with the capability to deliver familiar responses;
- Operational headquarters: operational command posts for coordinating intervention. coordination being especially important owing to the scale of the disaster:
- The top manager : as the person at the top of a pyramid, his job is to oversee the running of the machinery.

Each essential actor is trained so that he can intervene effectively. But the training is intended primarily for technical personnel: they must acquire good reflexes and familiarize themselves with their respective checklists, plans and roles. Logistical exercises are essential to the smooth running of this network of experts.

The ultimate objective is to lessen the impact of disasters on property and people. Since the technicians are doing their best, it is felt that there is little need to give the population much information. It is assumed that they have no option but to place their trust in the authorities: coercive measures are to be used in case they do not do so.

It is in this framework that the usual emergency responses to major disasters have been forged. In relation to simple accident, we now bring together more means, placed under a higher authority in charge of a vaster coordination effort using more highly developed contingency plans. Going from an accident to a large scale disaster, means a quantum jump... that rapidly involves a qualitative transformation. Especially in three ways : significant complexification of field operations ; more difficulty in obtaining scientific expertise ; the fact that the event concerns a very large population.

Familiar, timeworn responses are usually given to these questions.

1) Organization plans for emergency relief lead by a centralized authority: here, the idea is to provide for a central command organization, with actions based on an aggregation of multiple, simple organizations that are called upon to intervene during the period, and using prior contingency plans to meet a series of well-identified situations.

2) Official expertise: several experts or technical expertise sites are directly linked to the intervening organizations ; there are really no competing experts or expertise sites).

3) Communications subordinate to the intervention:

specialized measures are not to be discussed in depth, especially by the people involved ("the people dealing with this are doing their best... and they hardly see a need for early and continuous information for people affected"). Operational obligations are paramount. In the past - and these concepts may still hold sway, especially if the actors are somewhat destabilized by the event - the population itself was seen as a serious threat: panic was feared, as was social unrest, or attacks on authority. Hence, there is a deep reluctance to provide early information on risks but rather, there are instinctive impulses to hide the first signs of the event. Thus, planning for coercive measures to "maintain law and order" are made instinctively, while totally forgetting to inform. Planning and actions are taken without involving the people (even sometimes *against* the people).

In this kind of environment, which seemed like the normal reference from 1950 to the 1980's, things like the demand for information, the rise of the media, the rise of non-official experts and the convergence of non-official organizations with leadership circles, were only perceived as unacceptable and aggressive meddling. To flag this first new mutation we used the concept of the crisis: a very different field, much more open, leading to strong destabilizations, all the more so in that it is extremely difficult to change the dominant culture characterized by technical over-assurance (or arrogance), and fear of any sharing of power and information.

## 1.2. The new theatre of operations : the major crisis

At the start of the 1980s new difficulties began to emerge. The fire (Bleve) at Feyzin in France (1966) and the obliteration of the Flixborough plant in the United Kingdom (1974) were disturbing accidents. Major alerts included the dioxin leak at Seveso in Italy (1976) and the nuclear accident at Three Mile Island in the United States (1979). The list also includes disasters such as the Amoco-Cadiz oil slick in France (1978), the gas explosions in Mexico in 1984, the Bhopal toxic gas leak (1984), the major nuclear accident at Chernobyl (1986).

It becomes apparent that the universally held view of emergencies and accidents is out of step with newly emerging challenges. Technological accidents trigger unprecedented problems which we need to be able to respond to :

- Quantitative difficulties: in terms of impact, number of people affected, scale of intervention required, economic costs, etc.;
- Qualitative difficulties: unprecedented problems, generic questions, vital resources affected, combinations of failures ;
- Problems tend to snowball owing to the many knock-on effects :
- Emergency measures are found to be inappropriate : obsolete, non applicable, useless or even counter-productive ;
- There is a high degree of uncertainty or even ignorance which it will be impossible to overcome during the decision-making phase ;
- Long duration, a threat that develops over time :
- Convergence, i.e. the involvement of a large number of organizations ;
- Critical Communications problems : within the organizations involved, with the public at large and with the media ;
- Stakes are high and varied.

We are no longer dealing with a simple breach in a stable system, but with problems and dangers which are not limited, in terms of space, time, actors, cost, etc. We must assist the populations that are directly affected, though the risks are poorly estimated. The impact on populations at some site remote from the very site of the accident and the impact on future populations remain unknown for a long time. Speed is no longer the only issue : we are uncertain as to what should be done, with whom, or what objective should be chosen. It is a crisis precisely because we are confronted with a problem of which we have little or no experience, a situation which could, conceivably, spiral out of control, and everything that used to guide us and give direction, meaning and value to individual and collective action is melting away.

Another very disturbing factor is that a major crisis can also begin almost imperceptibly - the signals may be so faint that no alarm bells go off. The conventional mechanisms of classic emergencies will often fail completely in such circumstances.

The crisis involves both emergency and destabilization. It involves a combination of ever-widening problems, disarray in the functioning of organizations, and differences of view with regard to the basic options. It will be impossible to resolve such crises using simple technical measures determined by experts and imposed authority.

Strategic intervention is characterized by totally new features :

- Scope: we are dealing with situations which have vast consequences and which do not conform to well-established paradigms ;
- Expectations: clear, relevant and credible response processes will be required over and above effective intervention techniques ;
- The actors: a sharp break with the operational command posts run by the authorities ; a number of new actors become involved :

- Handling: much more complex, filtered through a number of centres of decision-making and influence :
- The top manager: he should certainly continue to issue instructions and lead intervention teams, but he must assume many other responsibilities. He must function as a cementing force within his organization, an organizer of far more outward-looking systems. and a communicator to other actors and the public in the outside world.

The purpose of training, in such cases, is not so much to develop the capacity to react technically and logistically, as to develop the capacity to decode high-risk situations and manage unstable systems in unfamiliar territory where a large number of unknown actors are involved. The centrepiece of this training must be work by those at the top to figure out what the new weaknesses may be, to come up with intervention scenarios and to develop collective management capacities.

The issue of public information and communication therefore occupies centre stage because it is no longer just a matter of implementing ready-for-use solutions to specific problems. The authorities must legitimize their action, maintain their credibility and provide more effective assistance to populations despite a significant lack of expertise and, above all, the disappearance of usual references.

### 1. 3. The breakdown: a theater of operations in gestation

Chernobyl and its global effects (especially when coupled with the effects of atmospheric tests of the 1960's): the "mad cow" disease and its effects on food consumption in humans and animals; public health concerns (like the drop in male fertility) stemming from issues like micro-pollutants, at low doses and with cumulative effects over a long period of time... that spells an end to the usual regulation based on scientific measurements, thresholds, standards... and plunges all actors into modes of regulation that are largely out of the reach of authorities: even possible major climatic changes not subject to any simple description... clearly, we are now living in a different environment of vulnerability.

The problem is less that of the triggering event than the global context that act as a framework. We are no longer facing singular, accidental incidents that occasionally shake up a system. The new risk consists of having a system suffer serious imbalances, losing its global reference points, and having to build itself up again around new rules which are often hard to discern. These kinds of re-compositions engender whole series of crises; the least perturbation can lead to violent shocks, which reflect an underlying dislocation that foreshadows further specific events.

*A breakdown is a brutal and definitive discontinuity which functions through a decomposition/ re-composition of the most essential underlying principles of a system: the view of the world and missions, references and values, identities and legitimacies, rules of the game and outside relations (both internally and externally), regulatory practices and communication.*

Unless prior preparation exists, the breakdown will never fail to spark a profound destabilisation. A feeling of being caught short, of having to fight on all fronts at once: the breakdown dominates the entire theater of operations when its impact is only just becoming clear in certain aspects. A feeling of extreme confusion, because of the great number of substantive problems that burst forth. A feeling of great vulnerability, of being in the midst of a confusing tangle of fault lines, all of which bear potentially new and grave crises. A feeling of loss: there is a "before" and "after", with no possibility of a return to the old situation. A feeling of being overwhelmed: the breakdown phenomenon is rife with potential crises and any problem, even benign, may lead to a new crisis. A feeling of impotence: these opportunistic crises lead to rapid and differing phenomena of resonance. Deeply anchored in the profound disfunctioning of the system, they are, from the outset, resistant to traditional forms of treatment. Since the "decomposition" facet is the most highly visible, the prevailing impression is that of a general "unraveling" of the situation which is nearly impossible to reverse.

The strategic framework for intervention has features even more complex than those of the crisis:

- Scope: we are dealing with global systems, chains of breakdown, with kaleidoscope logic, that is, global and sudden changes;
- Expectations: actors want meaning, overall views of the huge changes (while not forgetting the simultaneous demand for simple and rapid answers...and the status quo, less frightening than a fundamental change);
- Actors: it is much more difficult to distinguish decision-makers from the rest; we are faced with extremely complicated networks of operators, open webs, changing and fuzzy; separations disappear between the internal and the external, between the hierarchical levels; top executive echelons caught unprepared tend to disappear;
- Management:: should be handled through several poles, most of them emerging, more or less connected, according to undefined rules;
- Leader: of course, he is still called upon to give solutions, but will be judged above all on his capacity to provide global view, open new vistas, to transform collective processes.

The apprenticeship is totally different from a simple exercise in logistical repetition for line operators. It still remains to be invented and should include:

- Network exercises that involve heads of networks;
- Training in strategic surprises and the non conventional;
- Training to distinguish what emerges on the margins totally new phenomena;
- A specific study of precipitating factors, which rapidly affect the centers of vulnerability in essential systems;
- Active questioning of meanings, values and perception;
- Collective work on the creation of avenues to be followed and measures that structure the context.

This apprenticeship must include:

- Large non conventional networks:
- The leaders, who cannot be absent from this effort.

It's clear that people unprepared to deal with the crises, used only to « pass the buck » on technical staff, will be unable to come to grips with the situation when it reaches the breakdown phase. Nor will they be able, of course, to seize any opportunities this new situation offers. And crises, and even more so, breakdowns offer remarkable opportunities but only for those who are prepared to them.

## **2 – UNPREPARED ACTORS, GUARANTEED FIASCOS**

The large industrialized countries usually have the means to confront crises. This capacity demands, thorough efforts in a myriad of fields (health, safety, fire fighters, etc.), more thorough training, rigorous debriefings, and constant adjustments. We shall deal with two situations here: crises and breakdowns, the latter of which will leave us much more helpless.

The biggest problem with organizations responsible for dealing with these situations is that their culture leads them to fairly systematic fiascos whenever the situation goes beyond the bounds of the classic emergency. Used to working in an isolated fashion, ill at ease when working in a network, trained to only take action on problems when the latter are clear and well formulated by experts and for which set solutions exist; the actors here often remain paralyzed when faced with weak signals, questions that resist expertise, and problems of intertwining networks.

Experience allows us to cite the following set of references for crisis management and breakdown handling.

### **2.1. Faced with a crisis and some frightening deficiencies**

The greatest problem currently facing the organizations in charge of such matters is that their very culture predisposes them to automatically fail as soon as an incident ceases to be a conventional and well-defined emergency. People are used to a compartmentalized way of working which is ill-suited to functioning as part of a network, and they are trained to handle only known problems which have been clearly defined by experts and for which specific remedies exist. Therefore, they will often act helpless or even freeze up when faced with faint signals or situations which resist expert analysis. And the way they handle casualties and communications (with victims, next of kin, media) will be an even more glaring failure. Experience enables us to build up the following clinical picture of current crisis management.

### 2. 1. 1. Conditions favouring the development of a crisis before it starts

Very often, organizations have not developed a common culture of anticipating and preventing crises. They collectively fail to ask questions in advance regarding major potential weaknesses (in order not to expose themselves, they take into account only the strengths and certainties). They do not think about the weak signals which need to be decoded and monitored: they do not have a mechanism for closely monitoring a situation in cases of doubt, and there is no collective training on how to deal with particular scenarios should they develop ... On the contrary, they are all competing fiercely and anxiously with one another everyone is perceived and defined in terms of whether he or she can be dangerous, rather than whether he or she is a potential partner); there is suspicion of the outside world (which prompts to immediately adopt strong coercive measures to "reassure" people and prevent them from "panicking". On such grounds, it is easy for the crisis to develop. At best, efforts are limited to the elaboration of paper-plans which will be ineffective once the crisis comes. In such a climate, any request for information from the population would be perceived as a provocation.

### 2.1.2. Once it appears that there is a crisis in the making, instinctive reflexes will bring the situation to a head

At the first sign of an abnormal situation, an unprepared organization will react in a manner that immediately aggravates the situation. Instead of monitoring developments ever more closely, seeking out information and putting the pieces together rapidly, starting to open up internal networks, preparing the ground for frank and open communications with the outside, and opting for trust and respect, everyone will react defensively. Experience shows that at each level preliminary information will not be passed on until three conditions have been met : "I have a full, reliable and conclusive report on the situation : I have been able to assure myself that neither I nor my department could be held responsible for the matter ; and I have sufficient evidence to reassure my superior and the public in general". In order to justify the lack of reaction, two assurances will immediately be professed, both of which will contribute to the inaction : "It is not our clear business" and "Nothing has been proved yet". Since the crisis is cross-cutting in nature, and since there is seldom clear and immediate proof of its existence, these two instinctive reactions, which always seem justified, will constitute formidable traps. The automatic message to the outside world will, of course, be along the lines of : "We know nothing at the present time, we understand nothing, but you may rest assured that there is no cause for alarm". To the great astonishment of officials, the obligatory message "Everything is under control" will immediately be interpreted as a confession of helplessness "Every man for himself". When this is compounded by clumsy cover-up manoeuvres or operational indecision of any kind, the crisis will already have seized control of the theatre of operations before it is even considered that the situation merits attention. The crisis will have made good use of Sun Tzu's precept : "Subjugate the enemy's army without fighting".

### 2. 1.3. At the onset of the crisis and up until the end, a general dynamic of failure

Surprised by the strangeness of an event which does not fit into any established administrative and disciplinary compartment, shaken by the speed with which it seems to have taken over, systems instinctively behave in a way that simply makes things worse: they try jealously (but to no avail) to defend their territory, act in a manner that is not consistent, adopt an "all or nothing" type of thinking, seek certainties obsessively fixate on organizational details or secondary strategies, pursue and advocate false miracle solutions, attempt (in vain) to impose a pyramid-type of reasoning networks that are totally unsuited to such models... Even worse, they make wild public statements: "If we were to tell you, there would be panic"; "A few people may have died, but only old people"; "You may be victims, but you are going to receive a small fortune ...". It is important realize that these statements are not the result of technical error, but the automatic responses given by organizations when they are unable to act because they are unprepared. What recipients or observers perceive as proof of the villainy of officialdom is, in fact, just normal pathology - but it will cost the officials the one thing that they can least afford to lose in a crisis: their dignity.

Generally, one sees a great deal of amateurism in the way in which crisis units are set up and the way in which they operate: delays, discord, compartmentalization, inability to deal with the many different dimensions of the crisis, failure to anticipate the duration of the crisis, inability to cooperate effectively with the many other crisis units hastily set up in the networks concerned ... All these units quickly become just as many bunkers, further adding to the confusion and exhausting themselves quickly in the process - all of which further exacerbates the crisis.

Since the conventional pyramid-type systems no longer work, everything grinds to a halt. People fail to understand that whenever there is a crisis, one is compelled to establish ad hoc networks for doing things, and that this does not mean that the entities in charge will disappear. Complaining that the necessary structures do not exist, as people do whenever a crisis occurs, is no excuse - it simply makes no sense.

During the final phase of a crisis the same problems tend to recur. The moment it seems that things are beginning to improve, the units relax their efforts and disperse. The crisis promptly intensifies. When, after many such ups and downs the crisis finally lets go (like an epidemic which has left so many dead that it cannot continue its ravages), it leaves fertile ground for further crises. The basic issues which led to - and which, in turn, were raised by the crisis are not addressed.

### 2. 1.4. After the crisis, the syndrome of forgetfulness which guarantee future failures

As soon as the crisis is over everyone tries to forget what happened and to return to the status quo ante. In fact, they should be working hard to promote healing, and taking strong initiatives in order to deal with the basic issues that led to the crisis. Moreover, unless one looks

at the overall way the crisis was dealt with, one will be no better prepared for the next. What is more, one will retain the wrong lessons and they will constitute future pitfalls.

## 2. 2. The breakdown and its pitfalls

The problems here are more radical and brutal. Normally accepted logic falls short. Rapidly, all defense systems are taken by surprise.

### 2.2.1. A warning system that no longer works

Sensors and surveillance tools are no longer pertinent: they are neither designed nor calibrated to detect non conventional phenomena, to identify the convergence of weak signals which hint at coming breakdowns. The latter occur in fragmentary ways: places, times, domains, areas... nothing is seen clearly, nothing is in the « spotlight ».

Even if detected, the forms of analysis are erroneous, and intellectual failure tracks us constantly: our store of experience can no longer help us decode the situation.

Never fitting current codes, the breakdown is never clear - contrary to what we would usually expect from such a decisive phenomenon. We expect whole armies trumpeting their hostility, but, at least at the outset, the breakdown takes on an ordinary, marginal, inhabital guise. The facts are of minor importance, the actors very far from the centers of power and influence. All of which leads any « rational » actor to declare that, « Nothing is happening ».

The principle of « proof » is a deadly trap: the more the phenomenon is described as « worrisome » by someone at the periphery, the more the established system will claim there is no proof, and that, on the contrary, the information at hand supports evidence that the problem doesn't exist.

Having gotten around the warning system, the breakdown, most of the time, appears in the guise of a major surprise, detected tardily.

### 2.2.2. Alert and mobilization: the avoidance mechanism

The more strange facts arise and the more worrisome the situation, the more reactions of avoidance harden: « There's no proof! ».

All the usual rationalities are used to deny any new developments and disqualify those sounding the alarm. The top experts on conventional systems will be asked to reinforce the message of stability. This response is even more credible when the initial victims of the breakdown also support this refusal of any non conventional approach.

The trap becomes diabolical as soon as the first « proof » of the inexistence of any problem is found. Though fear had shaken up the system, the case is now definitively closed. Let no one open it again without concrete evidence of a clearly proven disaster, using only the existing codes - which can only take place at a very advanced stage of the process.

### 2.2.3. Blindness when faced with an emergency

The time has now come when in influential circles (and long after others), it is clear that conditions have changed. Yet backtracking still prevails: no one dares clearly name the problem, for fear of speeding it up. Obsessional behavior takes over: « If we acknowledge the problem, people will panic! ». Next, a succession of statements like « The Titanic is unsinkable », or « Honest people have nothing to fear », « For now, this is just incidental information! », etc. As the breakdown is seen to be more and more profound, attempts are made to reassure people: « The light at the end of the tunnel... ».

### 2.2.4. The dynamics of the fiasco

Suddenly and brutally, everyone discovers the true face of the breakdown. Long denied, it remains unaffected by the technical means at hand. It defies understanding. The people in charge are at a loss. It is no longer a problem of communicating, but of grasping the fact of incommunicability. The initiative is lost by those who thought themselves the masters of the situation. The time needed for educating and informing people is nil. Leaders are discredited for having denied it all for so long. The justification reflex, « We didn't have proof; everyone said nothing was wrong », is seen as further proof of incompetence and worse. The failure scenario now looms: leaders give up on meeting the challenge, thinking they don't have any arms to fight with: the people they administer share this deep discouragement, show it, and provoke an even faster victory of the breakdown. This is the final and ultimate defeat of the older models - the only ones in existence. It is this kind of chain of events that we must try to avoid.

## **3. ONE IMPERATIVE: COLLECTIVE TRAINING**

In order to deal with crises and breakdowns, every individual, starting with the most senior officials, must be involved in the collective effort to adapt. The steps to be taken are as follows.

### **3.1. Developing a culture to confront crises and build appropriate operational capacities**

#### 3.1.1. Promoting awareness and mobilization within the management teams.

The very first, indispensable, step is to place crises on the agenda of decision makers. This means starting to work collectively on these issues. At present, the general - and strongly rooted - attitude is often quite the opposite of what is required : serious events, possible surprises, cross-cutting vulnerabilities, structural fragilities and so forth remain undiscussed for the most part. One even finds that these topics are firmly excluded from the discussions. There are very convenient formulas used to deflect any question : "If the situation is

delicate, there are safety services to deal with just such things : there are emergency plans; it would be clumsy and moreover, premature, to raise delicate issues before we are sure that they really are issues and before there is an immediate and pressing need to do so". We therefore need to change the entire range of these defensive reactions.

### 3.1.2. Analysis of what occurred

The process of analysing what happened is the exact opposite of forgetting. One cannot just write off a crisis as a loss. On the contrary, in a constructive spirit one endeavours to examine the crises so as to identify and understand how one thing led to another. The crisis is viewed as a learning opportunity rather than as something to be "forgotten" (still less as an opportunity for apportioning blame). What is more, if embarked upon promptly, this type of reflection can greatly assist the healing process, for it shows, at least, that there is a willingness to look seriously at how matters were handled: often that is the main thing, when it is quite clear that no one is in a position to offer any "miracle solutions".

### 3.1.3. Simulation exercises

A group that has had no training will have the utmost difficulty taking charge of a situation that is not within the bounds of what is normal, innovating in a controlled manner when faced with the unexpected. It is therefore necessary to initiate ongoing training exercises, but instead of preparing for familiar breakdowns (the well-known fire drill) the idea is, rather, to prepare for destabilizing surprises. This must be done in simulation: it is irresponsible to base group training only on "real" experience particularly when real experience is quickly excluded from the analysis (fear of being sued and of having these analyses used as evidence is often the reason for excluding such experience). These simulations must be followed by rigorous debriefings : the latter, which are often omitted, are essential if one wishes to make progress. And quite clearly, these exercises must indeed be held regularly - in this area, as in others, words must be followed by deeds.

### 3.1.4. Specific further training

It is essential to provide specific training to a number of officials : the managers who will play a crucial political role during these crises: the "crisis unit managers" who will have to handle extremely complex systems having tremendous, unintended and often little-known effects: the spokespersons; the experts and so forth. The more advanced organizations have generally made a habit of media training : it is necessary to go much further. Indeed, these people will have to be shown and adopt entirely new styles of management.

### 3.1.5. Inter-agency training

Since crises are processes which unfold within complex networks, it is important to expand training: meetings, analyses of what occurred, exercises, exploration of unexpected

vulnerabilities can no longer be conducted strictly internally. It is necessary constantly to expand the circle of actors involved. This must be started as soon as the institution concerned begins to feel a little less helpless, as soon as shared confidence has developed internally. There is only one thing needed to start these moves towards openness : one must no longer believe that one can handle a crisis alone.

### 3.2. Preparing for breakdowns

Even though the number of analyzed experiences is limited. (without forgetting major and concrete educational advances in the field of breakdowns evidenced thanks to Janek Rayer) we can draw up a list of the following pertinent action guidelines.

#### 3.2.1. A few cardinal principles to underpin the operational approach.

The point is less to try and imagine the unimaginable, than to train ourselves to confront it, to react personally, and collectively in a creative fashion, to meet a situation totally « hors normes ».

The point is less to try and analyze everything, dissect, explain, adapt to models, than to try to perceive, feel, to understand. Reasoning must be enhanced by resonance, logic by intuition, knowledge by perception, and by the sharing of these perceptions, with inhabital partners.

Such an effort is difficult of course. It means ridding oneself of old, deeply-rooted habits that provided protection against the unexpected.

The point, in fact, is to smash our certainties, to go beyond our normal reasoning of ways and means to an end, to radically recenter our point of view, to accept fuzzy logic, to tolerate the undecidable, to put up with the existence of contradictory logics.

What's more: we must be ready to develop positive attitudes and be open to this terrain of the breakdown: taking such an event as an opportunity, being stimulated by something radically different. This necessarily means a certain openness of mind: preparing oneself emotionally for living in the unknown, accepting major uncomfortableness, personal and collectively, tolerating a certain kind of death concerning ones of references.

A precious source of learning is to pluge personally and in groups, into new worlds, to apprehend dynamics of breakdowns, whether sociological, economic or political.

#### 3.2.2. Undertaking bold explorations

The aptitude for surveillance must be singularly sharpened: regular monitoring of non-conventional signals for which our normal sensors are not calibrated: training ourselves to study the margins, where breakdowns are born; to identify the « sleeping variables » that may suddenly emerge (what was previously seen as normal suddenly becomes unacceptable); to

seek out non-conventional sources of information and to draw closer to non conventional actors; to pool sensations, surprises, and to provide for communicating them, for sharing these sensations so difficult to classify in established slots (to work on convergence of intuition).

Beyond this, we must firmly commit ourselves to groundbreaking measures: adventuring on slippery terrains, providing for exchanges with remote actors, working on differences and the large gaps separating world views.

All of this, of course, has its price, mainly in terms of time. We must go beyond the instinctive reaction, « We don't have time! ». Facing the challenge of breakdowns means injecting new energy into systems: time, intelligence, means.

### 3.3. Personal involvement on the part of top management

Since crises affect fundamental elements of the organization's life, nothing serious can be done without the definite and sustained involvement of top officials of the entities concerned. The commitment of each individual to the training process is radically transformed when the "boss" is personally committed to the task. The minister, the director ... must show that he is personally involved in this policy. He must provide reassurance to all who agree to enter these uncharted territories: he must promote (beyond the immediate frontiers of his own entity) the most promising achievements and ensure that everyone knows their task and be capable of using the tools at hand.

But, most of the time, the following objections are heard, more or less clearly:

- "We've already got plans."
- "We're already forced to do other useless exercises,"
- "We don't have the time."
- "It's not a priority."
- "It's too sensitive, you're going to open a Pandora's box."
- "You can't get the leadership involved; there are too many conflicts in the upper echelons."
- "Are you trying to say I don't do my job correctly?!"
- "If a delicate situation occurs, I'll be able to handle it. Anyway that's what emergency services are for! "

More significantly, the biggest obstacle is linked to the corporate culture of the elites: are they ready or not to move out onto a slippery, shifting terrain ? The answer might seem obvious: holding responsibility for crucial decisions, they occupy the forward positions during crises and breakdowns. However, experience has shown that this isn't necessarily so. Probably for a host of reasons, amongst which:

- Taking action as a team on a difficult terrain means that there is a team at the top, which isn't the case in many institutions racked with serious splits, especially as you get closer to the summit;

- Talking about legitimacy during periods of mutation means that there is an acknowledged legitimacy in traditional situations, which isn't always the case, either;
- Demanding that top management reflect on its responsibilities in non-conventional situations means that culture and practice here not just be limited solely to conventional and stable situations.

For now, operational responses must be based on two principles: humbleness and boldness. Humbleness, for the idea is to take advantage of all the possibilities offered or that can be provoked, in order to lead an institution or a network of institutions on the road to a wiser, more intelligent mastery of the future and the challenges it holds.

One thing, however, is nearly certain: it is quite probably on these complex terrains seen with great foreboding that the safety - and the development- of our major systems will be decided. The frontrunners, in a competitive environment at least, have understood this: they know their only assurance for the future will lie in anticipating crises and breakdowns, in preparing themselves to deal with them and draw an advantage from them. Some emphasize that their sole competitive advantage will consist in being fully involved in breakdowns and crises, in being the operators of these mutations in order to seize the opportunities they create. To paraphrase Schumpeter, they tackle the issue from the angle of the "creative breakdown".

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