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COMMUNICATION STRATEGIES IN CRISIS SITUATIONS

by

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ABSTRACT

At the time of major risk, those organizations in charge can find themselves facing huge problems of communication as a result of technological breakdowns. This brings in its wake operational paralysis and a destruction of public image which might be described as extremely worrying, to phrase it mildly. A lack of equipment and especially a heritage of a less demanding past-awareness of risk realities, which did not require such great internal mobilization, such highly developed external networks, such close links with the media and public opinion, has often led to spectacular failures. One needs to have a thorough look at the dossier again, in all its complexity, in order to try to give a clearer definition to better considered preparation of strategies of communication.

We will first examine (I) in this text the classic scenario which leads the first difficulties into a quagmire which swiftly swamps an ever-growing number of parties concerned. How should the challenge be met (II)? Understanding the situation - a game of numerous partners - fashioning new tools and rules constitutes a first step in the right direction. But one must guard against allowing oneself to become too readily fascinated by some over-simplified model : attitudes and reactions are largely determined by the "mentalities" of the organizations concerned ; crises situations are highly conflicting ; the stakes are often considerable. In part three (III), this text touches on those delicate issues which are at the heart of the strategies of the handling of a crisis.

PRESENTATION

- * The waste from Seveso : Is it in France ? " [1].
- * Is the North Sea drowning in Uranium ? " [2].
- * Rue de la Magdeleine, in Rheims : is dioxin in residence at N° 21 ? " [3].

Dioxin drums from Seveso, the wreck of the Mont-Louis with its drums of uranium hexafluoride, the explosion of an Alkarel transformer in Rheims (150 km east of Paris): these three affairs which occurred recently in Europe have shown us only too well how crucially important communications are in post-accident situations - even when risks are not excessive. When disaster can strike on a grand scale, as it did in Bhopal, then it is more than time to create new ways of coping.

The possibility of an event of enormous gravity; the disconcerting uncertainty which marks the phenomena at play; the complexity of the organizational systems implicated; the rapidly developing domino effect which continues to spread in the ensuing months and hits hard and irreparably at multiple and colossal interests ("Union Carbide fights for its life"[4]); the irresistible power of the media when it trains its cameras on the "fissure"... have now become the factors which structure post-accident dynamics [5 to 8].

In such a highly turbulent context, "getting through" - communication - becomes a strategic factor of the prime importance. We are not, let us insist, talking here of communication as simply a superstructure whose sole concern is to protect a public image in some way, but rather of a vital key without which there is a huge risk of even losing the capacity of immediate action; and from there on slipping rapidly from hesitation into a skid, and from a skid into a scientific, technical, organizational, economic and political swamp.

Communication holds this key role for fundamental reasons:

- The problems posed are technically difficult to define: diagnoses can only be established if numerous experts are in liaison.
- Interests, points of view, attitudes, "mentalities" which have to be taken into account are those of a very wide and diversified range of concerns: decisions can only be reached through extended consultations and joint-efforts.
- Notions of probability and conviction (less of certitude) are central points of reference in the procedures adopted: the chosen options can only acquire a firm operational nature if they are regarded pertinent and credible by the majority of those concerned (especially when the phenomena remain invisible and so cannot be perceived by the senses).
- These events take place while the media puts all under permanent and particularly acute pressure, with little or no let up over an extended period: manifestly inadequate information leads in no time to stinging failures.
- A better informed public is more exigent than was the case in the past, and at times immediately suspicious as a result of attitudes adopted until recently with regard to information. This public develops a resolute suspicion at the first signs of incoherence, and is radically rejectful at the slightest hint of dissimulation. Any difficulty or failure in communication leads rapidly to a firing of ill-conceived, even wild accusations at all and sundry: a veritable gangrene, this, in all fragile post-accident situations.

Immediate operational action, such as the long term exercising of economic and administrative responsibilities, demands communications of a very high quality. The internal communications of the organizations concerned, inter-organizational communications, communications with the public via the media (or directly, in case of extreme urgency): experience shows just how necessary it is to master these multiple lines of communication.

Here is where we are going to concentrate our attention in order to try to view more clearly:

- The most common pitfalls: on such an explosive field of action a clear perception of "natural" errors is a preliminary and indispensable requisite. It is important to emphasise here that instructions and rules of response concerning a crisis situation should thus carry an initial heading: "Actions you will almost certainly take, and which you must avoid at all costs".
- The necessary abilities and tactical tools: this concerns the assembling of all the key factors in order to construct a communication base with respect to the crisis situation (an analytic and dynamic table of all parties concerned; working guides to operate in this complex set-up).
- Crucial questions for the establishing of strategies of communication: rarely well pinpointed, these questions weigh heavily on the implicit choices made in controlling communication., and rush one into the dangerous reflex action mentioned above, so hindering the triggering off of proper responses and required techniques. Work undertaken at this level must at all times lead to the avoidance of failures, and, more positively speaking, leave one's thinking unfettered, and ready to introduce any required innovation whatsoever.

Let us emphasise, here, that the simple search for "techniques" of communicating remain quite inadequate, even if it is the case that they provide useful assistance - as we will, indeed, demonstrate later in the text. The point is rather, though, to weigh up all aspects of the problems, thoroughly, so that it is possible to build in depth strategies of communication as required by present-day post-accident situations.

I. UNDER THE WEIGHT OF THE EVENT : ALL COMMUNICATIONS DISINTEGRATES

The event takes place. It imposes its law: turbulence, elusiveness, continual new developments. What is important is to be able to arrest this whirlwind which threatens to carry all off with it through a process of wearing down, explosion, implosion... But before attempting to draw up a list of tactical recommendations, it would be advisable to stop and take stock of what experience has taught us. This we will try to do here, using a consciously simplified analysis.

I. 1. Rapid failure, arrived at through three convergent paths

1° Technical and organizational problems characteristic of a state of crisis

With regard to the number of major problems radically affecting the dispatching and reception of communication, one might here cite:

- Problems of transmitting information

Here we have a basic problem: the means of enabling the ready conveying of information in post-accident situations are regularly lacking. Having a central telephone system on site, as was the case when 216,000 persons had to be evacuated in Mississauga (near Toronto, where on 10 November 1979 there was a rail accident involving a chlorine car), comes under the category of the anachronistic. The jamming of telephone lines, the impossibility of getting through to those in charge (duties not carried out, or carried out by unqualified personnel) are the classic obstacles. The same scenario in Mexico, following the earthquake in September 1985, with the loss of the communications building, an unprotected strategic point. Likewise in Andorra, during the floods of November 1982, where communications with the outside broke down - the two central telephone exchanges (linking Andorra to France and Spain respectively) housed in neighbouring premises, both disappeared under lakes of mud. Men had to be sent out on foot to sound the alarm [9].

- Problems of understanding messages

Informing the population in cases of disaster is a determining factor. A careful reading of emergency plans can have some surprises in stores at times. For instance, in Canvey Island (England, an industrial site on the Thames estuary), the handout issued to the teachers in the zone stated that they were to lift children onto the tables should a "heavy" gas cloud descend over the schools, but that the children should be made to lie down flat under the tables if the gas were relatively "light". What was hardly made clear was how the teacher should arrive at such a diagnosis.

In the area surrounding the Union Carbide factory - meanwhile - the object of very particular attention in the wake of the Bhopal accident, as Newsweek reports [10], few people were aware of how they should react in cases of emergency. Admittedly, according to the plant spokesman, a letter outlining the plant's emergency programs had been addressed to them every year since 1975 - but few had received it. And Newsweek goes on to state: "If they had, they might still be confused. According to the letter, two three-second blasts of the plant's whistle means a fire or medical emergency; three three-second blasts means a gas release; two-second blasts every three seconds for two minutes means a major disaster, with two-second blasts every 30 seconds until the danger has passed. (Last year, when a valve broke on a chemical barge moored at the plant and a neighborhood had to be evacuated at 3 a.m., most people were sleeping with the windows closed and never heard the whistle). Instructions for what to do next are equally confusing: if the wind is blowing favorably, stay put. If the wind is blowing toward you from the plant, evacuate «by going crosswind». «In some cases, you can see the fumes as a white cloud», the letter added. «However, this is not always the case so don't depend on your eyes» [10, p.40 and 44].

- Technical incertitude

If the means of transmitting exist, one must still have something to communicate. Here one hits a second problem: the impossibility of making a rapid diagnosis. Take Seveso in July 1976: no-one knows how much dioxin escaped, nor the exact toxicity of the product. At Three Mile Island, the chief technical officer (H. Denton, NRC Commissioner) speaks of an "Einsteinian black hole" [11 p.206]. As for Bhopal, Union Carbide, denied access to the site, is lacking information [12].

- Organizational confusion

The Three Mile Island (TMI) case is a model of the genre. The Governor is advised by the federal bureau of the NRC (Nuclear Regulatory Commission) to prepare himself for the imminent evacuation of one million persons, whilst the same agency's regional bureau orders no such a thing. Moreover, no evacuation plans are available, seeing that the possibility of such a scenario has always been excluded (the local authorities received written affirmation of this under the double signature of the operator of TMI and the regulatory authorities). The mayors threaten the Governor with taking unilateral measures as a result of the authorities' shortcomings.

Such problems do not remain without effect. The void of information being intolerable for those in charge of operations, and even more so for the public, communication channels are soon abounding in contradictory messages, whose reliability becomes increasingly questionable. Such has been the case on TMI, where the mayors no longer know whom they should trust: "Use your own judgment. We dare not tell you to leave your homes" [13, p.111]. A general absolution has been granted in the local parishes... [14].

And a second line of breakdown appears to render the situation more fragile.

2° A crisis-generating "mentality": the reticence inspired by information about the risk

Numerous cases give ample demonstration of the inhibition felt. Quite obviously, caution and intelligence are not to be frowned upon, as we will be reiterating further on - the vehicle of the media, in particular, not being exempt from producing the undesirable, to put it mildly. But what should be emphasised here is less the necessity of knowing how to cope, than the irresistible compulsion those in charge often show themselves to be prisoners of. Deep-rooted reflexes drastically inhibit the margin of mental manoeuvrability and lead almost immediately towards "suicidal"

points-of-no-returns.

Practically with no delay, and with a regularity which borders on caricature, the following mechanisms appear as soon as there is a failure or threat of a major problem:

- Silence heavily marked by embarrassment

The very first reflex is to draw a veil over technical breakdowns. This, so as not to "panic the population". In order that the public image should not be tarnished in any way. In order to be spared "a media test". Or yet, more profoundly still, because the acknowledgement of difficulties would go against the unwritten rule: equipment and the experts are both infallible (this is the central point of reference of a scientific and technical society with too many milk teeth). Information not being slow to filter through, those in charge rapidly find themselves in an embarrassingly defensive position... from which they attempt to extricate themselves by a route which exacerbates still further their strategic position.

- The relentless denial of risk

Let us return once more to Seveso. It took a fortnight before it was acknowledged that the situation was one for concern, and to abandon declarations of the "everything is under control" variety. And not before the Hoffmann-La Roche director of medical research had thrown the cat among the pigeons by declaring "the situation very serious indeed, requiring draconian measures; in short, removing the top 20 cm. of earth, burying the factory and destroying the houses" [15, p.14]. While the regional minister of health attempted a final evasion: "I have the impression", he said, "that this person is bluffing, and am not convinced that the gentleman concerned is as aware of the gravity of his declarations as he ought to be" [16, p.18]. This complete denial continued through to the most damaging capitulation for an authority. Scarcely had the gravity of the situation been denied for the last time, in the most solemn tones, when it was felt that one was going to have to "accept the evidence" and let the veil drop. Thus, this communiqué issued by the Lombard authorities at the conclusion of their exhausting battle against reality: "179 persons will have to evacuate their premises within the next 24 hours" [15, p.14].

- Information given as a rearguard action

The principal is a general one: defeat follows on the heels of defeat, as the retreat is conducted in increasingly clumsy manner, the authority digging in to try to defend, at each stage, positions already lost. The enormous confusion which reigns, imposes its law, as in Seveso. "Crumbs of information were handed out, following a calculated system of reticence, misrepresentation and partial admission (which were given, or else extracted), affirmations and denials; all this being conducted in such a manner that the elements of certitude remain invisible and, in particular, for the population affected, completely elusive - so much so, in fact, that the most extraordinary reasoning's and conclusions end up by making it impossible for those involved to react as the circumstances require they should" [17, p. 89-90].

- Blank refusal, to the point of provocation

At Three Mile Island, Metropolitan Edison's Vice-President (J. Herbein) declares at one press conference: "I don't see why we need to... tell you each and every thing that we do specifically" [13, p. 120]. The Presidential report comments: "It was that remark that essentially eliminated any credibility Herbein and Met. Ed. had left with the press" [13, p. 120].

There you have only some of the features of the dynamic which can develop. One could go on to review the miscellaneous array of defence mechanisms identified by Freud. Any and all might be used in this systematic evasive action - rationalising featuring very high, in the second row of action behind bald negation. And what is more, this doggedly determined denial, stifling lucidity, is only more marked in contact with the media; though the same scenario is played out within the very organization itself and between the organizations in charge:

- This is why one very often sees that the senior management of a corporation is informed very belatedly, each echelon not reporting the problem to its superior echelon until it is already too late. In a certain case which we have made a very close study of, the top management was more or less

assured right until the end (the explosion of the affair in the media) that the situation was not at all one to cause concern.

- The case of the accident in Taft, Louisiana (a Union Carbide plant, an accident involving an acrolein tank, 1982) illustrates what reticence there is to inform the other organizations concerned; the management refusing throughout the episode to establish the proper relations with the relief, rescue and public order authorities [18]. Which naturally gave rise to unbearable situations of confusion and tension. The public, hearing rumours of an evacuation of personnel from the factory, started calling the Emergency Operation Center to enquire what evacuation routes the law and order authorities had chosen... only to discover that the authorities appear completely in the dark. "Evacuation? ... What evacuation?" asked the surprised authorities. Worse was yet to come. When the specialists arrived at the site, at the authorities' request, they were taken in hand by... the public relations department, with no access to the technical crew. "Nobody knew nothing, nobody was telling us anything" one of the officials observed [18, p.29]. And, in the midst of all this, the authorities were responsible for having 17, 000 persons evacuated, blocking off the Mississippi for 50 miles, and preparing themselves to face up to the worst - the damaged tank, to make matters even more alarming, being extremely close to five other acrolein tanks.

Everything is conducted as though any information concerning risk were perceived of as far too "delicate" to be handled but by obscure mechanisms, themselves as elusively shadowy as the reality posing problem.

As one will see immediately, however, technological risks, major accidents, cannot benefit from any right to absolute secrecy in a society of open and free communication. On the contrary: anything which potentially affects a large number of people, anything out of the daily routine, will find those whose work is to keep the public informed concentrating the greatest attention on it. This mentality, some of whose contours have just been mapped out, collides head on against another mentality, that of the media, equipped as it is with means and powers it proves suicidal to challenge lightly.

3° The norms and practices in a society of open information

Information can no longer be reported in a thoroughly "anaesthetised" way for the "outside world" once the affair has been brought to a conclusion, having been directed in an honorable fashion. A radical change has come about. Any system which fails, can no longer be considered as isolated from the observation and action of sundry third parties.

Major risk (which does not respect the boundaries of the plants), on the one hand, and the development of our society of communication, on the other hand, demands that there should be quite different mental checkpoints. Affected either directly or potentially, the public is ever more vigilant and concerned. The media now takes an interest in what has become a problem for everybody, and not only a question of the internal activity of an enterprise. This often would appear to escape the observation of those in charge, still labouring under the conviction that factory premises offer some sort of absolute protection, and that the economic activity, in general, comes under the aegis of "reason of State", preserving it in advance from any "outside interference".

Here then we have industrial activity exposed to the high winds of public opinion and the media. The TMI case (just an example among many others one might have chosen), enables one to measure the magnitude of the challenge to be met by any who discover the rules of this new world.

- The lightning speed with which critical information can spread

"A Harrisburg music station broke the story of TMI-2 on its 8:25 a.m. newscast. The station traffic reporter, uses an automobile equipped with a CB radio to gather his information. About 8:00 a.m. he heard police and fire fighters were mobilizing in Middletown and relayed this to his station. [The] news director called TMI and asked for a public relation official. He was connected instead with the control room to a man who told him: "I can't talk now we've got a problem" [13, p.103] - and to telephone Met Ed's headquarters. He finally reached the company's manager of communication

services who said there was a general emergency: "There's no danger off-site. No danger to the general public" [13, p.104]. "I tried to tone it down so people wouldn't be alarmed" the radio director declared to the President's Commission [13, p.104].

"At 9:06 a.m. the Associated Press filed its first story - a brief dispatch teletyped to newspaper, television, and radio news room across the nation. The story contained only six sentences in six paragraphs, but it alerted editors to what would become one of the most heavily reported news stories of 1979" [13, p.104].

- Information not flowing in the usual direction

As a result of the power and manoeuvrability of the media, the officials, barely have the breathing time to call a discreet committee meeting in order to discuss how and when the information should be made available. The classic procedures fly out the door, the news already being on the air before it has been possible to contact quite a number of officials: they will learn the news through the radio stations.

- The formidable power of the media

"Reporters took down licence numbers at each shift at the plant; got the names and addresses from the state motor vehicle department... Then (they) started knocking on doors. Many employees were belligerent, most were exhausted but fifty agreed to interviews" [19, p. 48].

"Parked directly across the Susquehanna from the plant, Nordland (a reporter) tooled with his fancy scanner radio searching for TMI transmissions. Nothing on the utility band nor the police band. He switched to a frequency the instruction booklet said was reserved for 'federal interagency cooperation during nuclear war'. And they were there" [19, p. 52].

- The media: a power which reserves the right not to be held up to ridicule.

One might quote the commentary of a European radio ("RTL" -Radio Télé Luxembourg) Washington correspondent, broadcast on 2 April 1979. It shows that, in a crisis, the henceforth classic "Washington-Post/Watergate" model can somewhat upset the fine prescription "reason of State/Economic reason", if the official communication appears too suspect. "What irritates Americans is the feeling that they are being badly, very badly informed. The spokesman for the owner company of the plant announces right from the start that everything is just fine. He is obviously lying. As for government experts, their opinion alters every two hours. So, what Americans seem not to be willing to put up with is that nobody has the honesty to come out into the open and say: "We just don't know what is going to happen". On this same note everybody noticed in Le Monde, April 1979, a scathing caricature bearing the simple caption: "American engineers are asses"- signed: "EDF". (Note: EDF= Electricité de France).

These three paths slide steadily together their negative effects combining. Organizations put barricades up from the inside, their networks become deaf and blind, consequently, and information filters through in the worst possible conditions. The media takes a close interest in the accident - by now transformed into a darkly mysterious affair. The difficulties experienced serve only to increase the strain felt by one and all. The "mentalities" mentioned only serve to weigh heavier on people's responses: problems mushroom... and one teeters towards the precipice, and topples over the brink.

1. 2. How giant quagmire are formed

The cases most pertinent for analysis are precisely those which presented the least effective risks, and which produced catastrophes which were almost entirely media events. We will take three recent examples, concentrating our attention on the initial phases of those episodes - decisive moments in the dynamic of all crises.

1° The "Seveso drums" affair

This is the biggest "media-affair" France (and even Europe) has ever known concerning the

environment. For two whole months, the suspense more often than not monopolising the front pages of the newspapers, Europe was trying to track down 41 drums of waste material from Seveso. It is an affair abundantly rich in the matter of communication, revealing how it is possible, at every instant, to maintain a crisis at its apex of activity, by continually distilling half-truths, half-lies, half-denials, implicating some new party with every passing day, everything and everyone unfailingly coated in a thick, muddy layer of confusion-dissimulation apt, quite naturally, to provoke the most searching enquiries [20].

Without entering into every single one of these points, we will here take a look at a relatively little emphasised aspect of this crisis (which exploded on 25 March 1983 with the publication of a bombshell article in the journal "Science et Vie"). We will examine how communications during the affair, from as early as October 1982, set in motion the conditions most favourable for the development of a crisis.

- 2 and 6 October : Greenpeace denounces a project to dump at sea waste material from Seveso (ACP, AFP [Agence Centrale de Presse; Agence France Presse]).
- 14 and 16 October : to gain the favour of their citizens, the Lombard authorities offer up to the public extracts from the dossiers on Seveso's waste material... needing twilight or even dusk for the dark stains of trouble to go unspotted. Some facts : 2, 200 kg. of waste from Seveso, placed in 41 drums, were buried outside Italy, having crossed the French border at Menton (near Nice)- the final destination remaining unnamed (AFP, 14 /X). All that implied a strange underlying significance: the authorities claim they do not know which country, adding the while: "only Givaudan knows". This can only trigger trouble, suspicion. Another element is introduced: there is a red hot dossier which everyone tries to discard into other hands (GDR in particular, which denies to have been the final destination of the shipment)) before it gets burnt.
- 19 October: Givaudan enters on the scene and declares he is unaware of the whereabouts of the "42"(and not 41 as was said by Italian authorities) waste drums. "The firm responsible for the transportation alone knows, but Italy and Switzerland may be excluded; the deposit was made in complete respect of all the regulations of the country concerned".

The whole crisis sphere is by now rapidly becoming a potential minefield : surprising ignorances concerning an explosive dossier, exclusions which will not fail to be picked up on as indelicate and, even more, stupefying in their admission... Everything is transformed into a dangerous rendering of "pass the parcel" or "musical chairs", guaranteeing a swiftly developing snowball effect. The crisis did not break out on the spot: few of the press were taking an interest in this trivial news. One might have noticed, though, an article in the "Quotidien du Médecin"(26/10) which took a look at the entire issue (six months ahead of the "Science et Vie" article). The question is let drop. But there is just a surface calm. On 5 January 1983 "Le Canard Enchaîné" (French satirical journal) whispers: "Somewhere in Europe there are people likely to wake up with a nasty surprise one day".

On 25 March the media explodes with irrepressible force. Over 40 organizations, half a dozen countries are involved, with searching rapid-fire questions thrown to the music of machine-gun clicking of press cameras.

2° The wreck of the Mont-Louis

The first news bulletin is broadcast on Saturday 25 August 1984 at 16:10 : " Collision off the Ostend coast between a French cargo vessel and a ferry. There has been no victims" (AFP). At 20: 56 (AFP) one learns that, following the collision which occurred shortly after 14:00, the Mont-Louis cargo vessel sank. Here are some extracts of teletexts of 26 August. They are key-passages taken from the original texts published by AFP. We have only underlined certain particularly important words.

AFP, 15:01. "According to Greenpeace the Mont-Louis may have been transporting uranium".

AFP, 16:23. Urgent. Several containers holding radioactive waste material were on board the French cargo vessel, said a seamen's union official, speaking in Le Havre on Sunday. A representative of the CGM (Compagnie Générale Maritime), the owners of the Mont-Louis,

acknowledged that it was, indeed, a case of products with a radioactive content, but failed to specify the exact nature".

AFP, 16:41. "When first speaking, the CGM representative stated that he was ignorant of what the containers were holding, hinting that it was «possibly medical materials»".

AFP, 17:48. "Having in the first place stated ignorance as to the content of the containers, then saying that were «possibly medical materials», the CGM representative has finally admitted the presence of radioactive matter. It has been impossible up to now, late Sunday afternoon, to obtain any indication whatsoever of the degree of noxiousness, and the danger which the submersion of these products might represent, following the capsizing of the Mont-Louis".

AFP, 18:48. Urgent. "Sunday evening, the CGM has let it be known that the vessel was transporting, in particular, 450 tons of uranium hexafluoride (UF-6). According to the CGM, quoting the CEA (Commissariat à l'Energie Atomique), «the temporary submersion of these containers of gas represents no danger whatsoever». The CGM has also let it be known that the ship's officers have been able to assure themselves that the containers had remained perfectly sealed after the accident."

AFP, 19:50. "The Mont-Louis survivors were sworn to silence concerning the nature of the cargo they were transporting, the secretary of the National Seamen's Union (CFDT) stated on Sunday evening. «A CGM representative met them in England shortly after their disembarkment from the car-ferry (which had rescued them). On their arrival in Le Havre, several survivors explained to me that they had been advised to remain silent as to the nature of the content of the containers». During these brief exchanges with members of the Mont-Louis crew, the CFDT official noted that a CGM representative «always managed to be present to listen in on the conversations and thus to discourage any possible divulging of confidences»."

AFP, 19:52. Sworn to silence (continued). "In fact, journalists present at Le Havre airport were struck again and again by the overwhelming silence of the survivors, manifestly ill at ease when it came to speaking about the containers. It had, however, been possible to gain from some of them, and in particular from a young officer who had been on board, the confirmation of the presence of containers carrying radioactive material. After having tried to elude the journalists' questions, a CGM representative who had earlier notably tried to say that it concerned «possibly medical materials» finished by admitting that it was none other than radioactive materials in the containers."

AFP, 20:13; 20:28. "It was the ecologist organization, Greenpeace, then the seamen's trade union, CFDT, which on Sunday afternoon revealed the presence of uranium hexafluoride on board the Mont-Louis[...]. The survivors of the French cargo vessel, according to the seamen's trade union, CFDT, were, on their arrival in Great Britain, sworn to silence by the company, as to the cargo. It took the insight of the ecologist organization to break down the wall of silence."

One image appeared immediately to colour everyone's perception of the affair: that of dissimulation. It was to be headlined all over the French press: "Le Monde", «Silence» (Editorial, 28/8); "Libération", «Uranium: Silence, Sunk» (28/8); "VSD", «The Law of Silence» (30/8); "Le Quotidien de Paris", «A More Dangerous Cargo Than Was Said» (31/8); "L'Express", «A Dossier Marked By An Astonishing Discretion!» (31/8); "Le Point", «The Sound of Silence» (3/9); "Le Canard Enchaîné", «The Silence of the Sea» (5/9); "Le Journal du Dimanche", «What France Hid» (16/9); etc.

And now the media crisis was being coupled with the beginning of a diplomatic crisis of which RTL (Radio-Télé-Luxembourg) (27/8) made mention "nearly live": the Belgian minister in charge of the Environment - while at the same time affirming in a communiqué that there was "no danger whatsoever" - complained strongly through the media about the total lack of information coming from France. So the dissimulation, denounced by a foreign government (a hypothesis certainly not foreseen in the plans for the control of information), acquired a new status. But this did not prevent the Belgium minister from "reassuring" his fellow citizens: about this dossier, which he had not yet managed to lay his hands on, he was still able to affirm "there was no danger whatsoever".

The first 48 hours had been catastrophic: a media crisis had been created, a diplomatic crisis had been avoided by a hair's breadth, the seeds of future crises had been sown. All this, backing up an idea

already too widespread, that "nuclear" can only be linked with "dissimulation". Already the crack was widening, (RTL, 27/8): "No one wanted to reveal how much the material had been enriched...".

3° The Rheims dioxin affair

January 1985: an Alkarel transformer explodes in the basement of an apartment building, firemen intervene, EDF workers reinstall electricity; for the authorities, everything is normal and the residents are strongly urged to come back to the flats they have evacuated for few a hours. March 1985: "Science et Vie" (again) reveals "the astonishing episode which took place in Rheims on 14 January, illustrating once again the irresponsibility of the EDF and the public authorities in matter of safety". This article, based on the victim's viewing of the episode, brings together a series of points which are again just as much ingredients for the development of a crisis [21].

- Some strange facts, which did not go unnoticed by the victims

"A flat owner in the building, in talking with one of the firemen, learns that he and his fellow officers have received instructions from EDF to keep their uniforms and boots aside so that they can be collected and destroyed. Why such a precaution? ". "A visitor to one of the inhabitants says that he can smell Alkarel in the flat. The inhabitant is a works inspector, and she has no difficulty whatsoever in finding the characteristics of this product documented in her files. What she finds worries her."

- The impossibility of finding anyone ready to consider the dossier

"As early as Saturday morning (16 January), the inhabitants of the building, having received a letter from their managing agent - declining all responsibility for them still being in the building and not being evacuated - decide to leave their flats and find themselves out in the street". "Hoping to find help in being relogged, one of them telephoned the town hall. The deputy mayor knew nothing about the affair. Neither the mayor nor the sub-prefect (local governmental authority representative) was available.

- Blank rejection, proof of cynicism

"Faced with the residents' insistence, a meeting was held [...] which was to lead absolutely nowhere. Just like the meeting held in the local EDF offices shortly afterwards, on Monday 21 January. The EDF experts were not in the least downhearted. To that lady, the works inspector who stated that «polychlorinatedbiphenils could produce polychlorinated-dibenzofurans and polychlorinated -dibenzodioxins», Mr.[...] head of the Rheims branch, replied in a tone both ironic and condescending: «Apparently, madam, you consider yourself an expert ».

- Absolute assurance, but the refusal to commit oneself in writing

"«In any event, there was no risk: there were not the conditions which were going to mean that any toxic products were emitted» concluded the EDF branch head, refusing nonetheless to commit his words to paper, as asked for by the residents of the building. «We prefer to wait for the results of the analysis» was all he chose to say".

- Some pointers...

"The results of these first analyses, however, were to be a long time in coming [...]. It would be learnt later that even more samples had been taken [...]. A high-ranking official from the EDF in Paris had had to make a special trip for that. These samples, which the Rheims EDF branch were to feign ignorance of for a long time, were given for analysis to the Centre for study and research of "Charbonnages de France".

- Some questions

"We have just become aware of the results of the first analyses. They reveal the presence of certain products, without giving their concentration [...]. But no dioxins. Is it because there weren't any, or because the instruments were not sensitive enough to register them? "

- The immediate situation

"Meanwhile, the building, which without more searching analysis one does not know whether or not is contaminated with dioxin or furan, remains open. The residents come to water the plants on the upper floors, and collect their mail. The children come to collect their school books...".

The scene was set. Two months later the crisis exploded in the media. Pr. Rappe a Swedish

specialist with faultless credentials, who had been asked by J. Denis Lempereur (*Science et Vie*) to analyse some samples taken in secrecy from the building, had come up with very worrying results. The difficulty of the analyses and scientific interpretations, which were to become most delicate, were, to be handled with anything but a light touch in all matters of communication. But in what state were the credibility and the image of the EDF then left? In May, a "*Science et Vie*" headline read: "Once again the policy of burying one's head in the sand has led nowhere" [22].

Today, while the ex-residents no longer know what to fear or in whom to have confidence, the EDF is, on its side, measuring how much it was caught off guard. Persuaded at the outset that the incident could not have really serious consequences, comforted by the first analyses (insufficient), shaken by the results obtained from abroad (Sweden and Canada), reassured yet again by the most recent expert opinions (absence of "Seveso dioxin" which nonetheless does not signify an absence of all dangerous products)... The EDF has still to study in detail the determining factors of this crisis. An episode which presents itself as a real headache for the immediate future, a damaging stain on its image in general, and for its image as a nuclear power plant operator in particular.

Here then we have summed up three cases, all of which outline an infallible recipe for finding oneself trapped in a crisis:

- the construction of a maze in which truth and falsehood are as elusive as those in positions of responsibility;
- the opening up of this maze to the curiosity of observers convinced, by the mistakes of the officials involved, that each line of questioning will lead to a never-ending chain of "revelations".

Other means of competent handling must be arrived at.

II. THE CONSTRUCTION OF COMMUNICATIONS TO CONTROL THE EVENT

The brief outlines already given have landed us fairly and squarely at the heart of the crisis. Here we might stand back a little: to fix points of reference; to find other ways of coping with this maelstrom which threatens to engulf all those concerned, both directly or indirectly.

II. 1. Understanding the complex system of all involved

Two complementary requirements must be adhered to: always keeping in view the major points of reference; giving ground when necessary to the complexities or irregularities of the situation.

1* Topological approach

A first look at the network caught up in the crisis allows immediate identification of the major groupings to be taken into account; not a single mind must be overlooked (and particularly the last):

- The operator.
- Public authorities.
- Experts.
- Population.
- The media.

But this overview must be broken down at once as each of the categories identified in fact only represents a complex sub-system, in turn filled with its own questions of communication:

- The Operator. This includes: those playing a part on the site itself and at the firm's headquarters; such diverse categories as internal experts, emergency staff, press and public relations people, company spokesmen, lawyers, the top management; diverse internal forces such as trade unions, safety committees; diverse bodies also involved such as affiliated companies, direct partners such as

clients or suppliers, other manufacturing plants involved in the same processes, etc.

- The authorities. This category includes: the emergency services (local, regional, national, international; fire-brigades, para-medics, police, ambulance services, etc.); regulatory bodies; public authorities at local, regional, national level; elected authorities, etc.
- The population. Here must be taken into account: those living in the immediate area (organised or not into associations); immediate or potential victims; populations threatened with the same type of risk at other sites; public opinion in general...
- Experts. This category covers the many experts linked with one or other of the categories cited.
- The media. A particularly well-represented body which embraces the press in all forms: spoken, written, and televised; local, regional, national and international; general, specialised and scientific, etc.

One could be even more precise still. What is important, though, is to note that complex relationships will be built up between all these sub-groups, often in the shortest possible time, but which will continue to function over long periods. So another approach will be enlarged on here to try to appreciate the nature of the key factors in these networks.

2° A dynamic approach

Models need to be drawn up to define the ground rules which will govern how communication between those concerned will develop: how do all these people usually function ?

In the case of the media, J. Scanlon and S. Alldred [23, p. 13-18] have drawn up the following model (this first presentation will be gone into in depth in part three):

1. The media will hear of an event (some citizens will usually call the media; media also monitor the activity and communications of key emergency agencies; major accidents are difficult to conceal).
2. The media will try to obtain more information (they will start to use whatever means available; the speed of this activity may be incredible).
3. The media will use its file to add to the story (most major news agencies have substantial libraries; past errors are extremely likely to be repeated).
4. The media will dispatch reporters to the scene (again: incredible speed).
5. All staff resources will be applied to a truly major event (global mobilization of the whole network).
6. The media will use all of its technical resources and ingenuity (specialized vehicles; access to communication networks, etc.).
7. As information becomes available it will be reported (the attention given to immediacy is a canon of journalism; the news is reported as available, however scanty or inadequate the information and however marginal the original source or sources).
8. Information will spread from medium to medium (the various news media are intertwined in a way which makes information sharing inevitable; they also monitor each other in order to pick up information they may have overlooked; a story by one is soon a story for all).
9. The media will attempt to fit the news into a framework (loss of life, injury, persons left homeless... the media will push very hard for this sort of information to be made available - there is no perception that the confused aftermath of a disaster may make this most impossible to obtain).
10. The media will demand official news conferences at which official statements can be recorded (to give the news form and structure; to clear up conflicts between sources; to be sure not to be scooped; to be able to attribute their "facts" to somebody; etc.).
11. The media will shape the story to suit particular needs (according to their respective audience).
12. The media will persuade people to act in such a way as to conform to news norms (TMI: TV crews asked people to move indoors so they could show deserted streets).

13. The media will have trouble dealing with technical matters (most correspondents go from crisis to crisis: they are generalists rather than specialists).
14. The various media - radio, television and print - will act differently (each medium has its own needs and its own technical and logistical problems).
15. The foreign press tend to support each other and often antagonize local media.
16. The media will make demands on communications, transportation and other local resources.
17. In a truly major incident almost all reporters will share what they have.
18. The media - whatever techniques they use to obtain information - will not publish it if they decide it could be harmful.
19. The media will also co-operate with official requests that certain information be withheld (but if anyone should break the agreement, the other would follow suit).

Apart from the basic ground rules, it is imperative that close scrutiny be given to the whole complexity of the system which is plunged into crisis. For every active participant, an attempt must be made to draw up a checklist of his:

- primary objectives and interests;
- secondary objectives;
- decision-making criteria;
- uncertainties;
- internal conflicts;
- imperatives as regards the apportioning of times;
- major loyalties;
- etc.

Major organizational structures equals complexity. It is also imperative to take into account those very exceptional factors which can play such a decisive role in the dynamics of communication. So, additional points not to be overlooked, for example (to take instances observed in cases we have studied) :

- The personalities and temperament of those involved in the situation; an ordinary citizen may be an expert of the highest degree; one key person may prove to be terribly determined; some officials can be more outspoken than diplomatic.
- The ties which may grow up between sub-groups which at the outset fell into different categories; hence, a journalist may have privileged relations with the entourage of a centrally placed figure in the affair; several key people may belong to a particular "club" which may diminish other more visible loyalties; a member of a firm may feel a conflict of interests if he has fears for his family (the constraints to silence may be ignored), etc.
- Role changes which can determine the crisis situation: the media can become part and parcel of the emergency administration, if information is an essential in the situation (as was seen with Televisa - the main Mexican chain - during the San Juan Ixuatepec catastrophe [24]).
- Problems, slippings and slidings which can come to light in matters of expertise. A lack of serious scientific support surrounding the media and environmental associations has often been observed, but this danger has even been known to appear at the very heart of the bodies responsible: recent events have shown the huge difficulty encountered in trying to establish rapidly the desired communications with the most reliable experts, as jeopardising contacts may be made with "quasi-experts" who know the field sufficiently to exercise a considerable ascendancy over the decision-makers, but inadequately with the very "pointed" questions which arise during a crisis. And questions have a tendency of evolving so often during a crisis that no expert can be sure not to be subjected to the danger underlined. Any expert can become a "quasi-expert" (or a "pseudo-expert", if one would rather use a stronger term).

So it is in the midst of all this complexity that actions to counter the event must be implemented, and especially so in the field of communications.

11.2. Developing fundamental abilities for crisis communication

In the face of the event, the task of communicating is, from all evidence, a delicate one; a key issue is the strategy of this whole activity. But, before tackling the problem, some basic guidelines,

illustrated by some relevant examples drawn from experience, should be laid down.

1* The main working guidelines

a) Internal information

- Assemble the greatest amount of information on the event from all possible sources.
- Contact immediately the relevant people responsible; report regularly.
- Set up a control room, with the means for passing on information (but a control room is more than a series of telephones [25]).
- Seek out all available data on the installation, and the risk in progress.
- Seek out the most competent experts.
- Designate one official to deal with all press questions - especially the one who should be talking to the TV in the hours to come. This step should be taken immediately, without waiting for the classic situation of "designating a volunteer" at the last moment, abandoning him to the microphones and the cameras, with the only knowledge... that this could be a very damaging situation for him (as we have already observed in several close case studies).
- Keep track of all information published by the media.
- Prepare a dossier on earlier episodes of similar events.
- Draw up a dossier on how the event unfolds.

b) "External" information

- Establish without delay all the requisite links with the other people concerned.
- Establish these contacts at high level, even if that seems technically difficult or touches on delicate matters of protocol.
- Confirm in writing all oral communications (telex).
- Discuss with all those concerned what communications to establish with the media, roles and responsibilities to be assumed by all those involved in this field of media communications.

c) Information for the media

- Draw up very precise press releases.
- Ensure that information is not only available, but that it actually reaches the media.
- Set up a fully operational press centre.
- See that there is a good flow of information (concentrate on the information actually getting through to the press centre).
- Provide self-explanatory documents so that non-specialists can understand the situation .
- Provide audio-visual documentation for television and radio.
- Identify any rumours and correct any errors immediately.

d) Information directly for the population

- In the event of imminent danger it is imperative that the operator intervenes without delay to safeguard people living in the area and anyone who may be passing through the area affected by the accident. Very specific communication channels should be established and tested out.
- This necessity clearly poses legal questions: who is responsible for these flash-interventions and their possible consequences?

2* Some examples

a) Highly developed technical resources: the CHEMTREC case

Worried by transport accidents involving dangerous materials, American chemical manufacturers set up, in the 1970's, a communication centre capable of performing at peak levels; it maintains an around-the-clock telephone line. Through the use of a data bank which lists more than 35,000 chemical products, CHEMTREC provides information relevant to on-scene conditions. More: this crisis centre includes an information system so highly developed that it allows someone actually on the site of an accident to be kept in touch with numerous other concerned persons: the senders of the goods, the shipper, the experts, the emergency teams, the authorities, etc. Telephone conferences can thus be conducted, involving nearly 20 people participating at any one time, no matter where they might be scattered around the States. This system enables the setting up of a greatly extended network of intervention, for very long periods should it be necessary. Such a backup system of communication enables the problem of transmitting information to be dealt with, particularly a problematic question

when it concerns transport accidents which can occur anywhere in the country [25].

b) Organizational procedures rethought: Union carbide's internal notifications processes after Bhopal

Union Carbide has specified the typical accidents that must be considered as "major accidents" requiring strict procedures of internal early notification; it is interesting to observe that it has done so with regard to the problem of information. In the "major accident" category the American group has listed, as general guidelines [26]:

- Multiple fatality accident.
- Explosion or fire likely to result in national publicity.
- Bomb explosion or finding an explosive device placed in or near a Union Carbide facility.
- Product spill or other environmental accident likely to result in national publicity.
- Any threat or allegation relating to the facilities or personnel of the Corporation likely to result in national publicity or demanding a prompt corporate decision.

In the same spirit, the communications management of Gaz de France has brought to the attention of all its personnel that it must be notified about all events which might have a repercussion in the media: here one is again very far from purely technical and quantitative definitions.

c) Policies for what information to give to the media: Dow Chemical

Donald R. Stephenson (Director, Corporate Communications, Dow Chemical, Canada) has clearly set out lessons learnt by his company from a certain number of crises [27, p. 3]:

1. The public must be fully informed frequently and accurately through the media, from the outset. This must be done by one or two highly credible senior spokesmen who understand the situation and can explain it calmly and clearly in lay language. The first 24 hours of a crisis are critical.
2. If this is not done, a public information vacuum probably will develop rapidly - and be filled by rumors or alarms far worse than the real situation.
3. Silence in the midst of a crisis implies guilt, whether justified or not.
4. It is not enough merely to assure the public that everything is O.K. and there's no reason for alarm. To be credible, we must provide details of how that conclusion is drawn.
5. It is vital to realise that reporters face deadlines hour by hour. Information must always be correct, consistent and current, even if all the answers aren't immediately available."

Following suit, Electricité de France has established, in case of nuclear accident, the principle of rapid information being passed on to the local media by the branch heads.

3° Work still to be done

The investigation should be given further attention and application, there being so many factors to deal with, and such a volume of lessons to be learnt from a wide range of experiences.

The "communication" grid of emergency plans are call for re-examination. Plans do exist. But aren't they too often "paper-plans" as far as communications are concerned? Exercises should be conducted, involving officials, and also the media and the people - as was recently the case in France near Metz with a drill based on a toxic gas leak (it was shown that population reaction was extremely poor and that much had to be done on communication grounds).

Another question is the problem of communicating with the experts in the crisis situation. As an example, we can here briefly expand on the case of the Mont-Louis, mentioned earlier. It is clear that the events surrounding the incident - with responsibility falling in the first case to a shipper inexperienced in the handling of crises, taking place abroad and during a week-end, non-nuclear but chemical but therefore dealt with by the nuclear industry, led to internal communication problems in the network linking those responsible. Most especially, it was not possible to localise chemical experts who would have had the specialised knowledge necessary to handle the situation [28]:

- the steel containers, tested at 15 bars, were in fact at a pressure of 0.1 bar (and not 10 or 12 bars as it was often thought);
- the hexafluoride was in solid state, and not a gas;
- the hydrolysis of UF₆, in theory vigorous, is slow in practice because the oxyfluoride produced hinders the inflow of the necessary water;

- thus the fluorohydrous acid is produced more slowly than feared, and moreover, it dissolves in water (being very soluble) and is neutralized by seawater (basic).

On all these points, a scientist – even of the very highest competence – not thoroughly acquainted with the question, had every chance of making a mistake without suspecting for a single instant that he might be caught out his "classic" theoretical references. This problem of the quality of the information in the very first exchanges led to such an agitation in the media that it took more than a month to calm it down.

Here we have examined some of the lines for a "tactical" communication reply. But this whole issue should be looked at from another angle, so that one may have access to much deeper realities which play a decisive part in determining all these attempts at tactical improvement. It remains then to explore these fundamental keys on which hinge communications in crisis situations, and from from which point more developed strategies may be defined.

III. TOWARDS COMMUNICATIONS STRATEGIES

It would not be possible – and we do not intend to try here, either – to supply "recipes". One can, nevertheless, attempt to brighten the problem, examining the key dimensions of this strategic field which must be brought under surer control. To do this, one must try to identify the difficulties which can so complicate the establishing of the required abilities and skills.

III. 1. Developing strategic abilities

Reflection on communication in crises situations is often limited to the realm of speaking in front of microphones and cameras, whereas, in fact, crises demand more than that. Actual policies are required, embracing numerous aspects and areas. Three might be singled out from a time dimension.

1° The preliminary phase : avoiding pre-critical set ups

The prevention of a communication breakdown begins well before the disrupting event. It includes being equipped with all necessary materials and tools, and the creating of a "capital" which can properly support all activities in communication through outstanding peak periods.

- Emergency mechanisms, featuring strongly the field of information : including here, for example, internal exercises on this theme, exercises involving the media (the mode of application being left wide open to invention according to the particular context).
- A general information policy for risks and emergency situations : here we note the requirement set out in Article 8 (S.1) of the European "Seveso Directive" – "Member States shall ensure that persons liable to be affected by a major accident originated in a notified industrial activity [...] are informed in an appropriate manner of the safety measures and of the correct behaviour to adopt in the event of an accident"[29].
- A very serious prevention policy and practice : failing which, (the operational turmoil in which) all communication would be marked by extremely severe conflicts to the extent that only a minimal exchange would become possible among those involved. One can quote here the British H. S. E. statement in a recent conference in London on the theme "Chemical Industry after Bhopal" : "Put caution into the process, not into the telling" [30].
- An internal organizational "mentality" more open to communication in general and information on

risk in particular : the behaviour observed is not due merely to chance; they are patterned by in depth mentalities. The movement towards openness will be a long and exacting task (the tradition of secrecy not being easily forgotten) which will only be accomplished with firm directives from the management. A sign of these directives is, for example, the status accorded to the "communications departments" in the firms : are they viewed only as "publicity machines" both internally as well as externally ?

- Strong positions for credibility and legitimacy : too great a weakness here carries a strong possibility of total failure and uncontrollable situations, no matter the tools and materials or degree of sophistication being applied. The balanced to be aimed at needs to be defined, particularly in relation to the gravity of the problem with which one is likely to be confronted.

2° The instant reflex stage : faced with the shock, instantaneous collapse must be avoided

One overriding rule applies: those "natural" reflexes which lead immediately into a quagmire, must be kept firmly under control; examples of which we have reviewed earlier. The absolute necessity of adhering to this rule cannot be emphasised too heavily.

a) Internal disintegration

The classic outline includes:

- Initial non-awareness of the problem:
 - (i) because it remains outside the usual threshold of fault-detection (J. Scanlon has given the case of a series of earth tremors in Canada, too weak to set up in motion the scheduled organizational procedures, but sufficiently strong to trigger off a general feeling leading rapidly to the loss of credibility of the bodies responsible (31));
 - (ii) or because the problem affects an area to which less attention is normally paid (i. e. it concerns waste materials, and not finished products; "simply" some drums and not a notified installation; a chemical product, and not a nuclear power plant; a factory which is being run down, and not a site which is under constant surveillance...).
- Organizational incoherency, which gets worse, to the point of paralysis when it comes to passing on uncertain, or even more so, worrying information.
- The "isolation" of each of the organization's sub-systems, as the problem becomes clearly visible... at the precise moment when the best possible communications should be in operation.

b) Network disintegration

Fragmentation of the whole can be attributed to numerous factors:

- Technical problems (lack of availability, the impossibility of establishing the desired connections...) cannot fail to provide a justification for the closing in of each organization in on itself.
- The moment (of peak vulnerability) is not the most propitious for establishing links with "strangers".
- The driving interests at stake are seen in a very limited scope : competition overrides, when complementary measures should be taken.
- The obsession becomes to get oneself "individually" out of the affair as fast as possible, leaving other organizations to cope for themselves : but a crisis often rebounds on those who try to get away too lightly.
- Common-mode failures threaten to weigh heavily. So when a large organization assures that there is no risk , all other parties concerned follow suit instinctively. Once one error has been committed everything falls apart (as was the case with the Seveso dioxin drums where everything leant on Hoffmann-La Roche's statements, which later proved to be inaccurate; or in the transformer case at Rheims, in which all hinged on the local officials' conviction of the infallibility of Electricité de France.

c) "Media catastrophes" triggered off by the reflex phase

It is imperative to extract oneself from the all too classic scenario:

- A silence heavy with embarrassment.
- Immediate declarations of the type, "nothing's happened, and besides everything's under control" (releases signed either by the management or professionals persuaded that they are thus rendering

the greatest service to their firm.

- Denials, right up until the press "gets to the bottom of it".
- The blank mask response or refusals leading to a media as well as a social combat of the "David and Goliath" type.
- The inability to give details about the event, earlier events, or similar risks.
- An attitude of dissimulation giving rise to thinking that the affair is a real mess and that all determined research will wring out "confessions" which are even more and more devastating for those in charge and fabulous for the media.

d) Instant failures

Everything is played out in a matter of minutes if the kinetics of the accident demand instantaneous reactions and communications. There must then be:

- The ability to provide and pass on precise and operationally relevant messages.
- The very highest credibility: it is evident that a long practice of non-information can here have devastating effects. Would one, for example, wish to confine people at home? In no time at all there would be the risk of seeing a headlong flight taking place on the roads. Here is where the limitations of "paper plans" are liable to show themselves with the greatest brutality.

3° The development phase: the challenge presented by the complexity and duration

A precise analysis of the evolution of the communication dynamics between those involved is a requirement which must be met. What forces are expressing themselves? On which ground? Where is the action taking place? What are the possible pitfalls? What are the potential gaps already discernible?

Attention must be kept focused on the diverse lines of communication identified: internal, external, with the media, with the public. In particular, the media dynamic must be observed minutely - all the more, too, since certain newspapers can serve as a means of expression to the advantage of some of those caught up in the situation (this method of indirect communication, via the press, becoming one of the rules of confrontation between organizations). The examination in the greatest detail of the Seveso drums case - as a gigantic battle of communication - served as a good illustration of this [20]

The continuous grasp of this ever-changing reality is, of course, nothing other than the point of departure. There still remains to define the rules to work by: the anticipation of the rumbling of turmoil, the concern with the long-term in the actions developed. There must also be set out:

- The key positions which the organization intends to defend absolutely. Where are the regulatory authorities and the State in general concerned: show that they are in complete control of the activity at risk. Where it is the industrialist: show that he carries out his activity seriously.
- The ability to give a coherent response. Hence, teams combining together technical experts, communication specialists, members of the management, must have carried out different practice drills, which not only test their particular competences but also their ability in dealing together with delicate situations.

But here a feeling of disquiet can be detected: to be more specific fundamentals questions which are generally left hanging in the air must be tackled. They are, nevertheless, those which hinder freedom of action and judgement; and if they are, of course, much too delicate to be "resolved" here, it is nonetheless desirable to mention some points worthy of reflexion.

III. 2. Fundamental questions to be explored

1° Crises and communication: an extremely complex field - ignore it or invest in it ?

Tactical materials and even fundamental strategic abilities rapidly reveal their limitations when an actual crisis situation has to be met head on. The situation unfolds as if in a block, evading any attempt to review "slices" of it, the mass-effect being so destabilising. Bitter conflicts threaten to erupt at any moment. They reflect: the position of those involved, the contexts which date back a long way, particular contingencies (chain of micro-events in particular); and, in great part (not to be

underestimated by any model) the unwieldiness of the organizations concerned, which do not always work in their own best interests.

Precisely with a view to avoiding any simple model, a dual case - particularly illustrative- will be studied here. How to deal with the scale of the shock, and perhaps worse still, the shock of repetition?

Union Carbide 's fight with Bhopal _

- Acute problems

- It takes time to gather in information; even longer to appreciate what has in fact taken place. But the media demands immediate explanations. Concoct lightweight scenarios and there is the risk of making mistakes, of rapidly losing all technical credibility. Refuse speculation, and there is the risk of unleashing suspicion along the lines of "they're hiding the truth". It took ten weeks before Union Carbide were in a position to put forward soundly based technical explanations. Only then did the Corporation regain some credibility.
- Those involved were working to different calendars. The Indians, on the eve of an election, chose to publish scenarios... which the American corporation judged inexact, but which, at the time, could not be denounced as such. And later, the Indian government was so much bound, committed, that to put forward denial was still a delicate matter.
- The press must be informed rapidly. But care must also be taken not to commit any blunders: the governments concerned and internal management have to be informed before the media - which, considering the world-wide information network, is not an easy thing to do.

- Traps at every turn and twist

- Were the safety measures at Bhopal the same as at the other Union Carbide MIC plant at Institute (West Virginia)? If the answer were "no" that opened the door to charges of exploiting the Third World. If the answer were "yes", there was the risk of stirring up serious upheavals at the American sites.
- Was the firm intending to take immediate steps? To mitigate the effect of an affirmative answer to the preceding question, all MIC production could be halted until what happened at Bhopal were fully understood: but could such a decision take the place of policy, the collection of information being difficult and lengthy?
- Was Union Carbide's safety policy on a level with what was required for such hazards? The reply could only be "yes". But then, how could one account for the avalanche of problems uncovered - "revealed" - at Bhopal? Design faults, maintenance deficiencies, inadequate preventive measures, poorly trained personnel... In its inquiry, the New York Times [January 28, 1985] identified ten violations of rules that ought to have been followed. Whilst it was right to point out that the Indians were responsible for the operation of the plant it could not be pretended that headquarters at Danbury (Connecticut) were not keeping serious watch on these problems which Union Carbide said were a top priority. Nor could there be any question of laying everything at the door of the Indians. Interests in India (and elsewhere), now and in the future, ruled that out.
- Was the company in a position to pay? Here, too, the answer had to be yes, but the path to be trod was a hairline. Over-assurance could tempt applicants (and their lawyers of which there were plenty) to step up their claims - which could change the group's financial situation. The big question was that of the basis of compensation. If North American standards were used, that could raise some doubts about the firm's ability to pay. Taking a yardstick with more affinity to the country concerned could again spark off the polemic about multinationals and the Third World, strategically a rather dangerous question. A further point was that the firm had also to contend with attacks from within: its own shareholders had filed a court action against the management for having jeopardised their profits.

...Then with its accident at Institute

On 11 August, 1985, there was a leak of toxic gas at the plant at Institute (USA). This factory (which in particular treats the product made at Bhopal - MIC-) was the one to which all eyes had been turned, about which everyone had been asking: "Can it happen here?" The incident (130 people hospitalized) showed yet again the possibility of worrying technical faults, and more especially insufficiencies in matters of emergency communications - it seems that there had been

a delay of twenty minutes before the alarm had been raised outside the plant. Union Carbide's Chairman had to apologize for this. This "test" of communications proved even more terrible for Union Carbide's image than that of the Bhopal disaster.

Faced with this hyper-complex challenge, an answer does sometimes seem to take shape: it is futile to allocate budgets, to devote energy and ability in order to avert and meet similar situations - , situations which are just as uncertain in their occurrence as in their development and their consequences... and moreover which may indeed never happen. The reasoning continues thus: it is never sure to be worse... even the best prevention measures can never ensure an absolute guarantee... and, if the worse does happen, it may still not be damning for the organization. But what is sure is the economic crisis: a reality which is immediate, certain, daily. So, in consideration of these issues, the choice may be not to take a stand.

In today's organizations, the "governing" mentality seems to sustain and encourage this sort of reflection. Overall, no one is spontaneously inclined to ask himself about the problem of anything other than minor faults - and this tendency is naturally more marked in the technical and scientific community which originated the systems constructed. The "marketing" mentality, which dominates in many highly successful companies, is besides more receptive to questions about an additional part of the market, the profitability of a new product which can be launched or withdrawn according to immediate results. In this scenario and under very intense daily constraints, the management (which come from the two milieux mentioned) are naturally more drawn to being interested in the short and medium term profitability of monetary commitments, rather in the problem of "crises", which fall into the category of the uncertain.

Another line of response is to say that, from now on, and increasingly so, the life of an organization will indeed depend on its ability to prevent and to control crises. Consequently, it would appear imperative to make available new means, to create an internal mentality appropriate to meeting the challenge. The plea here is for organisations to have more confidence in their ability to confront the exceptional, to absorb the irregular (as much as possible) into the arena of scientific management. A truly innovative company might thus envisage, for example, the addition to its "balance-sheets" and chairman's reports a section devoted specifically to its ability to identify, prevent, and control crises - equally on technical and organisational matters as in communication. The intensification of risks as well as the increased vulnerability of the contexts in which they take place, invite this change in company's reappraisal - seen from the angle not only of its immediate profitability, but also its ability to assure its longevity.

According to the answers chosen, it is clear that the overall reaction of an organization in crises situations will be different. And a second deep dilemma appears.

2° To inform or not ?

The problem posed by the media here is a sixty-four dollar question. In order to understand it, one really has to dig out the grievances which are levelled against the press: they are fixed points which there is no getting round, greatly affecting the attitudes of all involved. The major reasons for conflict are the following:

- Fear of sensationalising and its consequences which may be provoked by the broadcasting of inaccurate news, or even too accurate information. J. Scanlon reports on this, in the field of hostage-taking, the case of the media letting the terrorists know where the sharpshooters are positioned, making them feel they should probably substantially raise their ransom demand [32]. In the field of accidents (it happened in a French pit) one might cite, for example, the case of a radio report which, exacerbating public emotion, produced a forced interruption of a vital rescue operation.
- An impasse caused by the over-technical nature of the problems to be tackled (particularly the question of probabilities).
- A withdrawal as a result of the possible destruction of a public image should the affair be given too

much publicity.

- Refusal, faced with the media coming across more as commercial enterprises in search of a share of the news-market, than organisations of information at service of the people.
- Rejection, at the idea of the media being a law unto themselves (acting outside the framework within which regulations can be made on the basis of adjustability), acting with complete impunity (it being impossible to ask for an account of anything written, said or shown; to ask for the sources, nor for the editing, etc).
- Deep suspicion, a certain press organization appearing possibly to be manipulated by a party directly involved in the conflict (or even a certain press campaign being seen as directed by a particular aggressive competitor).

These numerous barriers are answered by determined counter-barriers, on the media's side:

- Conviction that accurate information is being withheld.
- Distrusting of the ability of those responsible.
- Fears as to what freedom the press will be allowed.
- Acute irritation at the mounting of classic anti-press attacks (in particular : the accusation of being sensationalist is often put forward but not always justified [33]).

From mental contorsions to the desire to say little or nothing, the crisis threatens to become an area for acrimonious confrontation - under the formidable weight of the event. Witness the exchanges between a journalist (Mr. Kilmer) and Union Carbide's spokesman (Mr. J. Browning) at the time of the Bhopal drama. The reporter wants to make the industrialist admit his guilt. The latter, while if he agrees to accept a moral responsibility, has absolutely no intention of accepting legal responsibility. So goes the dialogue reported by the New-York Times:

- "I think you've said the company was not liable to the Bhopal victims", Mr. Kilmer said.
- "I didn't say that", Mr. Browning replied.
- "Does that mean you are liable?" Mr. Kilmer asked.
- "I didn't say that either", Mr. Browning responded.
- "Then what did you say?", the reporter asked.
- "Ask me another question", the Carbide spokesman said.
- "Under what circumstances would you not be liable?", the radio reporter asked, his voice rising in frustration, to which Mr. Browning calmly declined to respond " [34, p.30].

It is easy to appreciate that it may be difficult to cope with wide open information:

- the accident (or the risk) may reveal a general problem which the industrialist judges impossible to correct in the short term; difficulties which could have dramatic consequences for the company's image, the entire branch concerned, indeed a national economy (as we have recently seen a case of a country in South-America);
- the accident may reveal failings in expertise, and threaten to discredit it to an unacceptable level;
- the accident may reveal basic defects in the organization of the public services; etc.

So, we arrive fairly rapidly at the basic question: to inform or not to inform? In reply, three major stances show themselves:

- The stance for openness and collaboration with the media

This was the choice of the Canadian authorities during the Mississauga railway disaster. The idea: the population must understand why they have to be evacuated (216, 000 persons); for that they need to be very well informed and that demands excellent information from the press. All was done, from the very first minutes, to work in closest collaboration with the journalists.

- The stance for cautious openness and discretion

This is the most classic class: one gauges at every moments what one can tell the press, when, and through what channel; one identifies what must be kept to oneself, in order always to have a "reserve stock" of news to distill to the media. In brief, one play a game which has its rules of fairplay, but does not excludes making use of well guarded silences, or offering pieces of tempting but hardly relevant information.

- The stance for secrecy and dissimulation

This is the choice for giving "zero" information, practising disinformation, or at any rate giving

the minimum of external communication. The wager ? "The less we say, the less trouble we'll have". In many cases this strategy of silence may effectively succeed. At a public session during a recent symposium in Paris (AFFITE, 25 October 1985), an official from the French emergency management agency reported that last April a huge potential accident could have affected 10,000 persons: the Administration had never said anything about it, and no-one had ever known.

This line of response continues, leading to very tough confrontations - especially in the wings- if the strategy of the secret is in danger of not sufficing. The case of the Seveso drums is a model of its genre, taken to the extremes. Here one must, to avoid committing the sin of naïvety, mention the possibility of the crisis drifting towards modes of response destined to remain obscure. All the resources of the manipulating of symbols, facts, men and groups will possibly be used. It is Machiavelli and Clausewitz readapted for the great battles of communication. Some of the cases which we have studied have shown us some illuminating examples of this.

The choice between these three models of reference is not always established in the same organization. Circumstances might have one chosen in preference to another; during the one case, options might vary according to what phase the crisis is in.

The choice will be made depending on numerous criteria: the margin of manoeuvrability allowed by the crisis, by internal mentality, by the quality of the network with which the event has to be dealt with, by external social conditions in which the event takes place. And equally so: more ethical criteria - personal or of organizations. Thus, a certain large enterprise informed us of its determination about having to refuse business and reject certain strategies of communication going manifestly counter the demands made by "good citizenship" (a policy, perhaps damaging in the short run, but clearly viewed as the only viable one in the long term).

Not to come down on any one particular side, it should perhaps simply be emphasised that if the parties concerned must reside with the angels, they must also know not to succumb to the fascination which shady manoeuvres can exert - which can reveal themselves far more dangerous and far less relevant than a strategy conducted in a clearer light. Particularly so if one considers the longevity of the organization. It is true that if one regards economic activity in its narrowest possible form, there are some who have nothing to fear from a total shutting off from these questions of communication. They must, of course, be very certain then of holding winning cards. One must also be able to forget to ask oneself about what coherency might exist between such a principle of shutting off and the very fundamentals of western society, in which freedom of information is one of its dearest held values.

CONCLUSION

This text has attempted to fix some points of reference in order that one might be better able to grasp the problems of communication, linked with the dynamic of turmoil, produced in crises situations. It has pointed out many areas being worked on, as well as the work ahead.

In conclusion, we would simply like to emphasise certain very important points:

- Communication in crises situations today represents a regularly uncontrolled problem, leading to difficulties which are at times of the world of caricature.
- Keeping communication under control is indispensable if one is to cope effectively in a crisis. As J. Scanlon writes:
 - " An emergency, among other things, is an information crisis and must be treated as such " [31, p.31].
 - " To a considerable extent whoever controls the access to information, whoever is the source of information becomes the centre of operations and control; and if you don't have communications systems operational, if you can't disseminate it, then you also lose the power to have operational control and it will shift to whoever has that " [35, p.17].
 - " Communications are so important in the aftermath of disaster that the centres of communication

may well be the centres of operational control as well " [36, p. 429].

- Coping more effectively in a crisis is indispensable for the continuing life of organizations as they have had to or will have to tackle poignantly charged situations increasingly frequently.
- If one is to overcome the all too often observed tendency to failure, then fundamental research, tactical procedures and strategic reflection are all necessary. So too is the choosing of general company policies on the status to be accorded communication in organizations, and more generally on the status to be accorded information for the "outside"; in other words, a society of open communication, in which access to information has a recognised worth.

REFERENCES

- [1] J.DENIS LEMPEREUR: "Les déchets de Seveso sont-ils en France?" Science et Vie, avril 1983, n° 783, pp. 16-23 / Libération, 25 mars 1983, p.1.
- [2] Libération, 27 août 1984 p. 1.
- [3] Libération, 5 avril 1985 p. 1 et 3.
- [4] Business Week, December 24, 1984 (couverture).
- [5] P. LAGADEC:
 - Le risque technologique majeur - Politique, risque et processus de développement -, Paris, Pergamon Press, coll. "Futuribles", 1981.
 - Major technological risk - An Assessment of industrial disasters -, Oxford, Pergamon Press, 1982.
- [6] P. LAGADEC:
 - La civilisation du risque - Catastrophes technologiques et responsabilité sociale, Paris, Editions du Seuil, coll. "Science ouverte", 1981.
 - La civilización del riesgo - Catastrofes tecnológicas y responsabilidad social, Madrid, Editorial Mapfre, 1984.
- [7] P. LAGADEC: Le risque technologique majeur et les situations de crises, Annales des Mines, août 1984, pp.41-53.
- [8] P. LAGADEC: From Seveso to Mexico and Bhopal : Learning to cope with crises, Conference at IIASA, Transportation, storage and disposal of hazardous materials, July 1-5 1985, Laxenburg, Vienna.
- [9] P. LAGADEC: Tempête des 6-7-8 novembre 1982 dans le sud de la France, Rapport de mission pour le Commissariat chargé de l'Etude de la Prévention des Risques Naturels Majeurs, novembre 1982.
- [10] Newsweek, December 17, 1984.
- [11] President's Commission on the accident at Three Mile Island, Report of the Office of Chief Counsel on the Nuclear Regulatory Commission, October 1979.
- [12] UNION CARBIDE : Chronology of Bhopal crisis, 2 II 1985.
- [13] Report of the President's Commission on the accident at Three Mile Island (J. KEMENY and all.), Pergamon Press, New-York, October 1979.
- [14] B. AUGUSTIN et J.M. FAUVE: L'accident nucléaire de Harrisburg, analyse d'une crise, Sofedir, Palaiseau, 1979.
- [15] G. CERRUTI : Cent jours à la dioxine, in Survivre à Seveso. Maspéro-P.U.G., 1977.
- [16] L. CONTI: Visto da Seveso, Milan, Feltrinelli, 1977.

- [17] M. CAPANNA: Un nuage sur l'institution, in Survivre à Seveso. Maspéro-Presses universitaires de Grenoble, 1977.
- [18] E.L. GUARANTELLI: Evacuation Behavior - Case study of the Taft, Louisiana, Chemical tank explosion incident ; final Report for the Federal Emergency Management Agency. Disaster Research Center, Ohio State University.
- [19] P. SANDMAN, and M. PADEN: At Three Mile Island, Columbia Journalism Review, 1979, 18 (7-8) : 43-58. (in : J. SCANLON et S. ALLDRED : Media coverage of disasters -The same old story, Emergency Planning Digest, Emergency Canada, October-December 1982.
- [20] P. LAGADEC : Stratégies de communication en situation de crise - L'affaire des 41 fûts de Seveso : une gigantesque bataille médiatique (septembre 1982-août 1983), Laboratoire d'Econométrie de l'Ecole Polytechnique - Service de l'Environnement Industriel au Ministère de l'Environnement, novembre 1985.
- [21] J. DENIS LEMPEREUR: "L'accident de Reims", Science et Vie, Mars 1985, pp.104-106.
- [22] J.DENIS LEMPEREUR: "Dioxine à Reims : 150 000 accidents possibles ailleurs. Une fois de plus la politique de l'autruche n'a servi à rien", Science et Vie, mai 1985, pp. 92 -95.
- [23] J. SCANLON et S. ALLDRED: Media coverage of disasters -The same old story, Emergency Planning Digest, Emergency Canada, October-December 1982.
- [24] P. LAGADEC: Défaillances technologiques et situations de crises : la catastrophe de San Juan Ixhuatepec - Mexico, 19 décembre 1984, Laboratoire d'Econométrie de l'Ecole Polytechnique, février 1985.
- [25] P. LAGADEC: Dispositifs de gestion de crise, Laboratoire d'Econométrie de l'Ecole Polytechnique - Service de l'Environnement Industriel au Ministère de l'Environnement, janvier 1983.
- [26] Union Carbide: UCE area policy and procedure manual - major accident and serious occurrence notification, May 17, 1984.
- [27] D. STEPHENSON: Are you making the most of your crises ? Emergency Planning Digest, Emergency Planning Canada, October-December 1984, pp. 2-5.
- [28] A. RAGENBASS : Le naufrage du Mont-Louis, note, octobre 1985.
- [29] European Communities Council: Council Directive of 24 June 1982 on the major-accident hazards of certain industrial activities. Official Journal of the European Communities 5.8.1982.
- [30] Health and Safety Executive: News Release, 7 November (A two day international symposium: "The chemical industry after Bhopal" 7-8 November 1985, Royal Garden Hotel, London, organized by Oyez Scientific Ltd. in association with 'Chemical Insight').
- [31] J. SCANLON : The Miramichi Earthquakes : The media respond to an invisible emergency, Emergency Communication Unit, ECRU field report 82/1, School of Journalism, Carleton University, Ottawa.
- [32] J. SCANLON : Police et médias : problèmes tactiques propres aux prises d'otage et actes de terrorisme, Journal canadien de la Police, Vol 5, N° 3, 1981, pp.139-159.
- [33] D. M. RUBIN: What the President's Commission learned about the Media, in T. MOSS and D. L. SILLS : The Three Mile Island Accident : Lessons and Implications, Annals of the New York Academy of Sciences, Vol. 365, 1981 (pp. 95-106).
- [34] The New York Times : Crisis management at Union Carbide, December 14, 1984.
- [35] J. SCANLON : Crisis communications : The ever present gremlins, Emergency Communication Unit, Reference to COMCON'82, Arnprior, Ontario, 26 May 1982.
- [36] J. SCANLON : Crisis communications In Canada, in B.D. SINGES, ed. Communications In Canadian Society, Toronto, 1975.