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The Beyond Petroleum oil spill : when Risk-management meets History ?

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Management is a discipline which, while encompassing quite a lot of models (such as in marketing) and tools (such as accounting and finances), rests upon values such as initiative and responsibility when facing risks. Grounded on such values, management would play a major role in times of crises, as Joseph Schumpeter demonstrated with the notion of “destructive creation” as a process of creative change induced by failures. Confronted with risks, the “innovator” is able to find suitable answers and therefore to adapt new solutions which will take on the crisis with efficient answers. In other words, the more gifted managers are “entrepreneurs in risk-management” which, being able to find new solutions, help the society at large to adapt to contemporary challenges in economy.

When confronted with a major accident such as the BP massive oil spill in the Gulf of Mexico does the theory of creative destruction still hold its promise of explanation ?

On April 20, 2010, two explosions and a fire occurred on the BP-operated oil rig, “Deepwater Horizon” (BP has a Transocean property lease for 2009-2013), operating on the Mississippi Canyon block 252 lease allowing BP to drill for oil and perform oil-related operations at the Macondo prospect in the Gulf of Mexico. After the Deepwater Horizon sank with 11 crew members reported missing on April 22nd, the subsequent 90 days showed BP's inability to stop the continuous oil spill estimated at more than 55,000 barrels a day – which means a minimum of 5 million barrels polluting the coasts of the USA from Texas to Louisiana, with the formation of a “oil & water plume” drifting between Panama and Cuba adding risks of further pollution – not to say that the Gulf Stream itself could be affected later on. Although the Minerals Management Service (MMS) of the US Department of the Interior agreed on the plan for the Deepwater Horizon rig to open its operations, there are quite a number of questions raised by the real (as opposed to planned) well, its casing, its centering and the dysfunctions of the multiple security systems which were supposed to stop operations before any explosion occurs. A provisional account of the disastrous effects of the Deepwater Horizon explosion is given in Insert n°1 below.

In light of this accident, our purpose is to question : *What is risk-management ? How would it be qualified as not satisfying into BP's hands ?* Is risk the uncertainty at reaching some objective alone (according to its ISO-31000 definition), or is it also created by mismanagement and misbehaviors all along the chain of command ? Harry Truman had a sign in his oval office at the White House which read: *the buck stops here*. Saying it would be sufficient to get this mantra in BP's top managers' offices is not a proper answer. Risk cannot be eliminated at once by a simple psychological trick: let's dig it up as a reality.

Insert n°1-Facts on Oil Spill Disaster - Date : April 20, 2010 - to date : July 20, 2010 (92 days)

Cause: Wellhead blowout ; Blow-Out-Preventer not functioning ; Riser inadequately centered; etc.

Nature of flow : mixture of 60% heavy petroleum (asphalt types); & 40% methane gas compounds;

Material loss: The Deepwater Horizon rig, estimated value (with equipments) : \$ 1 billion

Human rescue : 135 workers evacuated by helicopter and Coast Guard boats

Casualties 14 dead (11 killed on Deepwater Horizon, 2 additional oil-related deaths; 1 suicide of Officer)

Injured : 17 Transocean subcontractor for BP

Illnesses: 343 declarations in Texas, Louisiana, Alabama and Florida

Spill Volume : up to 100,000 barrels / day ;

estimate for 89 days (cap placed on leak July 15th)= **6 to 9 million barrels**

Sea area polluted by oil : 8,000 to 24,000 km²

Coast lands polluted by oil : estim. 1200 kms from Texas to Florida + the Mississippi river delta.

Use of chemical dispersants: estimates at 4,000,000 US gallons of Corexit (60%); and Others like Dispersit (40%). (those dispersants probably created oil plumes).

Underwater Oil Plumes into deep waters of Gulf (at date 20th July): Length*Width*Thickness L*W*D:

(1)- first oil plume (kms) at -1300 m towards Texas and South: $L*W*D = 16 * 5 * 0,1$

(2)- second oil plume (kms) at -700 m towards Alabama : $L*W*D = 35 * 8 * 0,05$

(3)- third oil plume (kms) at - 500 m towards Florida and East : $L*W*D = 14 * 4 * 0,1$

Ecology threats : FAUN =petroleum toxicity + oxygen depletion endanger 300 species of birds, 1200 species of fishes, 1500 species of crustaceans and mollusks, 4 species of sea turtles and 29 species of mammals. FLORA = thousands of species. Harte Research Institute for Gulf of Mexico Studies, Texas A&M University has released a study on "Biodiversity of the Gulf of Mexico: Applications to the Deep Horizon oil spill". It seems that if the total amount of oil spread up would reach 4 million barrels, it would be enough to wipe out life deep at sea, because it has the potential to reduce oxygen levels and suffocate marine life and create dead zones by emitting benzene and other toxic components on a very large sub surface.

Cost to date (BP estimates): \$ 3.5 billions

Fund for Oil Spill Cleaning proposed by BP at White House meeting, June16th: \$20 billions

Worst case scenario (Adam Sharp, *Energy and Capital* e-Letter, July 2010, based on Exxon Valdez Costs) : leak up to 20m barrels; total costs between \$ 70 to 560 billions Damages

Number of means deployed: 2 C-130 Hercules military aircrafts; 3 helicopters; 400 cleaning boats of all sizes; more than 12,000 voluntary and professional individuals mobilized; 50 oil/water separation machines;

Moratorium and legal action: suspension of 33 rigs permits in the Gulf of Mexico; more than 150 lawsuits, mostly Class Actions against BP ; a dozen lawsuits against State or US federal Agencies;

Comparative study in History : The Ixtoc disaster, Gulf of Mexico, PEMEX corporation, 1979, was of comparable size but with 3 major differences : (a)- well was at a shallow depth (70 meters) so much easier to control; (b)- quality of crude oil was much lighter, so 50% evaporated on surface; (c)- the coast was less densely populated than the USA coast line. Therefore the BP oil spill is the worst ever known on earth.

Niccolo Machiavelli, as a fifteen century political adviser at Firenze [1], taught and advised “the prince” that it was more important to appear to be reasonable and good than to actually be good and reasonable. By stressing the fact that a gap may exist between what is said and what is actually done – which we might call a “manipulation gap”- Machiavelli offers a way to appreciate how and why BP's top management disappointed so much the public and deceived so well all the inquiring bodies, among which the US Congress Committee on Energy and Commerce (Subcommittee on Oversight and Investigations) during its hearings and specially the June 15-17, 2010 hearing [2]:

- On the one hand Tony Hayward, BP's C.E.O, maintained an ambiguous position, telling simultaneously, all along the inquiry, that he cared for safety but that he did not know anything about the Deepwater Horizon operations before the accident. (cf : Transcripts [2] p.69 : *' Since I have been CEO of this company, I have focused on safe, reliable operations'*; and Transcripts [2] p.78, 80 and 82: *' I am not a cement engineer, I am afraid'*; *' I had no prior knowledge'*; *' I was not involved in any of the decision-making'*).
- On the other hand Carl-Henric Svanberg, BP's Chairman, was equally ambiguous when he met president Obama on June 16th, expressing the will to create a 20 billion dollars fund for relief, but at the same time showing signs of annoyance to ordinary people : “ *we care about the small people* ”.

In Machiavelli's terms, BP has succeeded in transforming an accident into a political issue where BP would appear “a good guy” in front of the US administration and its president which are now labeled “a lenient bureaucracy taking bad citizen care”. Although the US President received BP's to managment on June 16th at the White House and obtained their promises to create a special \$20 billions Recovery Fund, it did not save the face of the US executive powers. On the following day, a Congress member and Great Old party member, Mr Barton (representative of Texas), sacked President Obama and presented his apologies to BP for “what happened at the White House” ! A symptom of this fuzzy situation is that both the popularity and image of Obama collapsed, in spite of his declaration on BP chief Tony Hayward: *'He wouldn't be working for me after saying those things'*. Indeed by July 2010, in Obama's poll [3] *BP spill: Obama's Katrina ?*, there are 69% negative ratings for his handling of the disaster, 58% opinions saying he was wrong to let BP manage the oil spill and 72% opinions saying this Obama is “unsatisfactory” at managing the situation.

Following his audition by Congress, Tony Hayward fled the USA on June 18th, rushing to a sailing race in the Channel, while two Congressmen had captured the essentials of his personality. Henry Waxman, the chairman of the Committee on Energy and Commerce observed [2,p.5]: *' We could find no evidence that you paid any attention to the tremendous risks BP was taking. We reviewed 30,000 pages of documents from BP,*

including your emails. There is not a single e-mail or document that shows you paid even the slightest attention to the dangers of this well'. And Bart Stupak, chairman of the Subcommittee on Oversight and Investigations said with premonition [2,p.14]: ' I look forward to hearing M.Hayward answer the many hard-hitting questions that our committee members will ask today. I hope we will hear honest, contrite, and substantive answers. M.Hayward, you owe it to all Americans, we are not "small people" and we wish to get our lives back.. M.Hayward, I am sure you will get your life back and with a golden parachute to England. But we, in America, are left with the terrible consequences of BP's reckless disregard for safety'.

BP's safety data and records (1997-2009)

Year 2000 marks the birth of an enlarged BP group : its Annual Report shows as a turning point for the company at large its buying and integration of four oil & gas sisters which came within its perimeter from 1997 to 2000: the Amoco corporation; the Atlantic-Richfield ARCO corporation; Vastar, and the Burmah-Castrol corporation. These mergers-acquisitions almost doubled BP oil and gas reserves, and they enabled BP to become the second global oil company in 2000, with a turnover of \$ 162 billion with \$ 95 billion asset capital employed (instead of respectively \$ 91 and \$ 56 billion in 1997). BP changed its size, it also modified its name from "British" to "Beyond Petroleum" - this being the accomplishment of its C.E.O, Sir John Browne, who wrote on behalf of Beyond Petroleum the following paragraph [4, p.10]: *" To mark the launch of the new group, we have a new brand, which expresses in a simple but exciting form our values and potential".*

Under the banner of the new 'solar-flower' logo, BP was then driven by the desire to please local governments in order to realize its business deals; typically on November 9, 1999, BP got the green light from Alaska's Governor to acquire ARCO, giving the BP-Amoco-Arco group a 75% share in Alaska's oil production, at a few minors conditions, such as BP's increasing its participation in the Alaska's Fund. With the extension of the BP group, questions regarding the incoherences between BP British identity and the diverging "internal cultures" of Amoco, Arco and others to be integrated were raised. But the philosophy of the global group was believed to be able to absorb all existing newly acquired companies: it was to maximize profit and shareholder value of BP's shares on the financial market.

Peter Sutherland, ex European Commissar and British High Representative at the European Community, BP chairman from 1997 to 2009, expressed this position in the 2000 Annual Report of BP [4, p.6]: *" We have always been a significant oil company, but*

now we are in a different league. This brings new responsibilities as well as opportunities. In welcoming new shareholders to BP, I assure all our investors that the protection and enhancement of long-term shareholder value remains our fundamental objective. Shareholder value is the yardstick against which all our decisions are being tested". And Sir John Browne completed the Chairman's statement by enunciating the means to reach this end [4, p.11]: *" First, we believe in the principle of mutual advantage as the foundation of secure and successful relationships.. ; Secondly, the growth potential of our businesses arises from our ability to apply innovative technology.. Advances in drilling technology are allowing us to explore and develop new fields in water depths of more than 2,100 meters in the Gulf of Mexico..;"*.

From then on, the scene was set regarding the risks taken in operations by two major choices expressed in BP's annual report 200 and repeated (or as we will see amplified) from year 2000 to year 2009:

(a)- safety summarizes all of Health Safety and Environmental (HSE) performance [4, p.11]: *" last year we recorded our best-ever safety performance, reducing the number of incidents resulting in injuries to our workers. Despite this there were 23 fatalities in 2000, compared with 30 in the previous year"*.

(b)- insurance is to be limited to the lowest possible spending [4, p.27]: *"The BP group generally restricts its purchase of insurance to situations where this is required for legal or contractual reasons. This is because external insurance is not considered as an economic means of financing the losses for the group. Losses will therefore be borne as they arise rather than being spread over time through insurance premia with attendant transaction costs."* Later in the Report, it is mentioned that approximately 200 lawsuits have been engaged regarding BP's majority stake in the Alyeska pipeline, and its role in the Exxon Valdez oil spill in Prince William Sound in 1989; the text reads [4, p.60]: *"Aleskya and its owners have settled all the claims against them under these lawsuits Exxon has indicated that it may file a claim for contribution against Aleskya for a portion of the costs and damages which it has incurred. If any claims are asserted by Exxon which may affect Aleskya and its owners, BP would defend the claims vigorously"*.

Clearly BP's top-management had a philosophy of risk appetite which falls into the risk-loving, excellent lawyers and harsh litigation when needed to minimize his responsibility. And the subsequent events have shown that BP has a record of accidents to the environment which is

it clearly because they repeated and unfolded a profile of risk which was unique to BP: better pay fines by the \$ million and go on considerable profits by the \$ billion rather

than have a policy of risk-adverting and insurance. THIS POLICY, WHEN TRANSLATED INTO FACTS AS SHOWN ON TABLE 1 - WHICH IS A PALE SUMMARY OF British Petroleum ACTUAL ACCIDENTS- gives a payoff which is profitable for BP but tragic for the public good. No doubt despising insurance policies has created huge costs for the civil society.

Insert 2- BP major accidents and incidents 2000-2009

<i>Incident or Accident</i>	<i>Date</i>	<i>Casualties and consequences</i>
Felony conviction, illegal dumping hazardous, Alaska	2000	Environment Protection Agency 5-year probation period (threat of Debarment of US contracts)
State of Alaska	2002	Warning : failure to maintain pipelines
Vinson & Elkins Law report on BP's North Slope Alaska	2004	BP practice 'run to failure' endangers Alaska + BP's intimidation of workers who raise concerns
Texas City plant	2005	15 dead, 150 injured, \$21 million in criminal fines
Alaska pipe-line Purdhue Bay	2006	200,000 gall. spill, repair \$15 million, debarment
Texas pipe-line	2007	280,000 gallons spill, criminal fines, debarment
OSHA Federal Agency/Texas	2009	Failure correct potential hazards, \$87million fines

The above record of failures and environmental damages by BP is just a subset of what actually happened in terms of misbehavior from this corporation worldwide. For if BP behave so badly in the USA, with all the American laws, regulations and agencies available, one wonders what's really happening in less developed countries like Angola. Indeed an in-depth inquiry into BP's misconduct should be set up worldwide to get a minimum knowledge of what happened in management's heads. What is at stake here is the basic framing of risk, which seems to be the exact counterpart of the philosophy advocated in BP's 2000 Annual Report, as applied to the letter : no insurance, but safety for our workers.

Did BP's really change its policy in safety and insurance (2007-2010) ?

In between 2007 and 2010, BP's top leaders were replaced; first in 2007, John Browne (who had been BP C.E.O for 12 years) was replaced by his former assistant secretary, Tony Hayward who, from 1997 on, had climbed the BP stairs from a modest geological engineer up to becoming BP's Treasurer. Sir Browne being found involved into a homosexual scandal of the purest Victorian style, was led to quit at the beginning 2007 rather than waiting for his scheduled retirement.

Sir Browne was a brilliant manager at BP, one of the most highly paid executives of the

United Kingdom (approximately £5 millions a year), and his 2010 book, *Beyond Business*, is a song of praise to himself when he admits making not a single management error as BP's head, but errors in his 4-years private life with a young Canadian gay partner who threatened to publish their romance in the Sunday Mirror. Secondly in 2009, Peter Sutherland who had been BP's non-executive chairman for 12 years, was led to retire; he conducted the hiring of his successor, Carl-Henric Svanberg the C.E.O of Ericsson, the Swedish corporation controlled by the Wallenberg's, Svanberg leaving Ericsson on December 31st, 2009 to take BP's helm on January 1st, 2010.

Let's be attentive now at the differences between the two top-management duets who succeeded each other, since the exact titles given to each of them are different: Sutherland-Browne were called Non-executive Chairman and C.E.O, while the duet Svanberg-Hayward calls itself Chairman and Group CEO: this means that Sutherland had the clout of his reputation to play a rather political score, while Svanberg is not British, has no political experience, but comes from the business world where he was, so to speak a senior alter-ego to Hayward. So probably requiring some more formal power (and probably salary), and not accepting to be "non-executive", Svanberg ending up with more powers than Sutherland, as actually the executive chairman of BP. To ponder this Tony Hayward had himself reshuffled "BP group chief executive", which means that nothing escapes his area of decision-making and powers. A sign of the mental strength of Svanberg is to be found in his 2009 interview with Tricia Bisoux where he delivers a lecture on the need to change generations; he is still the Ericsson CEO, but on open talks with BP, and what he says is not indifferent to this period of transition. Remember that, in spite of similarities, The telecommunications sector is very different from the oil and gas area, since the risks are so fully different between both areas. But Svanberg wants to speak up against any "old-bachelor" conservatism, since he holds himself, in spite of his high-Swedish-society profile, as a prophet of modern times. What he says to T.Bisoux is not indifferent for risk-management [5, p.20] : *"The younger generation naturally thinks about things as they are. They can approach any new application with no fear, because they have no legacy. When we grow older, we have our legacies. We are always nervous to start something new in case something goes wrong"*. So it may be possible that upon his arrival at the beginning of 2010, CH.Svanberg had a mindset in search for people "with no legacy", a profile rather different from Tony Hayward's. There might have been some uncertainty between the two top leaders, because Tony Hayward liquidated one third of his BP shares in march 2010, as if something induced him to think ahead at another position. We have to remember here that Hayward being the former John Browne's assistant (they met in 1996), could be considered as belonging to the "old school" led by Sutherland and Browne for the previous 14 years, which were the years of

Hayward's ascent.

The question then becomes whether T.Hayward had impulsed or not a new regime to BP, differing from the former Sutherland-Browne BP's strategy; with a special regard at risk-management, was it any different during the 2007-2009 years when Hayward had free hands to drive the group ? This is a key issue because it would say if or if not BP's philosophy of risk would have been modified from risk-taking to risk-transferring or insuring.

At the outset we must remember that for 12 years Hayward was ultra-loyalist to J.Browne. But in September 2007, with BP shares falling -3% in value over a single day, and -30% over a year in the aftermath of Browne's private life scandal, Hayward distanced from "politics", notably by letting a former BP staff member who was also a member of Tony Blair's cabinet (Anji Hunter) quit BP after nicknaming it "Blair Petroleum"... Giving a BP seminar [6], Hayward invited a Guardian journalist to listen to his policy of change: with BP shares at their worst price since 1992 (compared to competitors), and asking for an operational return of more than 20% for all subsidiaries, Hayward outlined a slash in management layers from 11 to 7, BP being too fat and asserts that a -25% reduction of staff at subsidiaries' headquarters would be necessary. So the profile which pops up by the end of 2007 is : "lean management everywhere"; "high operational return first"; "no more politics"... But what about risk-management ? Here Tony Hayward in spite of the Texas City refinery accident, kept loyalty and repeated in a hard voice the very arguments which Browne used at low pitch : "Assurance is killing us", " BP is over-cautious". The 2010 Congress Commission has gathered an interview from a BP executive who was present at the 2007 meeting; his notes show Hayward : *"I do not think having all these layers of assurance reduce risk, and it can actually increase it. The best way to reduce risk is to have deep technical competence where we need it. Individuals need to be accountable for risk and manage it".*

Where does this attitude of combining lean management with no-insurance lead to when your personality is Tony Hayward's like ? It leads to the will to provoke a "cultural change" or a revolution of minds within the BP's personnel; it leads to "assemble a new team" in order to set up "BP's critical self-assessment".

After two years of such policy, with BP in better financial shape, Hayward was invited by the Stanford business school where he gave a conference revolving around four points of creed [see ref 7] :

"1- our corporate governance is too much on a top-down basis, not good at listening, too directive;

"2- too many people do not understand what it takes to run operations, there is too much staff ;

"3- there are too many shallow generalists, people who know a lot about not very much;

"4- there are too many BP people working to save the world which lost track of the fact that our purpose in life is to create value for our shareholders"

Now we see a picture emerging of the risk-management strategy led by Hayward, - no insurance; every middleman must bear his/her share of risk; minimize costs; maximize operational results; cut all possible fat; etc- and we may suspect it was not exactly to the taste of the new BP executive chairman when he arrived at the beginning of 2010. Indeed in his first written text, Svanberg leads a charge against neglecting risks [8, p.5]: *" Risk remains a key issue for every business but at BP, it is fundamental to what we do. We operate at the frontiers of the energy industry, in an environment where attitude to risk is key. The countries we work in, the technical and physical challenges we take on, and the investments we make - these all demand a sharp focus on how we manage risk. We must never shrink from taking on difficult challenges, but the board will strive to set high expectations of how risk is managed and remain vigilant on oversight "*.

So did BP modify its risk-management between 2007 and 2010 ? The answer is probably yes, but in the direction of reinforcing its deficiencies, because the "cultural revolution" promoted by Tony Hayward was towards more "self-defined" risk-management at the local levels and less operational control by headquarters entities. Apparently the CEO believed in the virtue of cultural change as a trigger to make every agent able to manage risk at his or her own expense.

This is where Niccolo Machiavelli [1] and Igor Ansoff [9] may help us : the former author to remind us that Hayward was playing with words and representations at top level which might have induced lower levels of hierarchy to think that the conventional inhibitive barriers by fear of an external control of risks were suppressed off by the new policy. Indeed the email exchanges between the rig operators reveal a type of fatalism within the team itself; one engineer writes [2, p.6] after learning of the risks and BP's decision to ignore them : *" Who cares , it's done, end of story, will probably be fine"*. If what The Prince says is not necessarily what The Prince does, who cares then about reality ?

Igor Ansoff brings another point in, that resistance to change is not composed only of the cultural dimension; it also encompasses two other variables which are the change in political powers; and the time delay needed to make change effective. In the BP case we

see that Hayward precipitated a runoff towards more risks without taking care of what it implied in terms of politics and policies.

The only thing Hayward did to support his strategy of 'no more inhibition with risk-taking' was apparently to create a dedicated information system for existing operations. Called the Operating management system, it *"governs how BP's operations, sites, projects and facilities are managed. In Exploration and Production, 47 out of our 54 sites completed the transition to OMS by the end of 200, and I expect all BP operations to be on OMS by the end of 2010"* [8 , p.6)

But this information system seems not to be operational on the Macondo actual rig, and the OMS is presented as the absolute solution while it is only a fallible management information system. Tony Hayward would be well advised to rehearse his assumptions and knowledge regarding how management information systems might become "management mis-information systems" as Russell Ackoff had it explained [10].

Risk-management shattered : anatomy of risks with Deepwater Horizon

In BP's 2009 Annual Report Hayward himself gives a detailed account of Gulf of Mexico's operations: *" 2009 was an outstanding year... We are now the largest producer in deepwater fields globally. In the Gulf of Mexico, we ramped up production at Thunder Horse to more than 300,000 barrels of oil-equivalent per day Production started from Atlantis phase 2, Dorado and King South. And in September we announced the Tiber discovery, the deepest oil and gas discovery well ever drilled. These successes make us the largest producer and leading resource holder in the deepwater Gulf of Mexico"* (February 26th, 2010).

While the BP Annual Report shows that the Gulf of Mexico's drillings were on top priority for BP's CEO's Tony Hayward, who was very proud of results to date; yet during *his audition by the US Congress Representative Dr Burgess (see the enclosed Frame "Congress Hearings")*, not a single question raised by Burgess (B) on the Gulf of Mexico drillings received a clear answer by Hayward (H). The latter was then unable and/or unwilling to say a single information, or to accept any knowledge of anything, negating the cardinal notion of "CEO accountability" to a point where Hayward looked definitely childish and/or autistic ([2], pp 74-78).

The last sentence by Congressman Burgess looks like the recognition of a total misunderstanding by Tony Hayward of the dire consequences of the BP disaster. The strategy of naively addressing the fundamental risk-management questions, and of making gaffe after gaffe has gone to an end. How come a man who earns more than £ 3

millions a year (\$ 4.5 millions) not be able to assess the environmental catastrophe which his business has generated over such a sensitive area as the Gulf of Mexico ? How could he reasonably defy management reason with such inept comments as : *“What the hell did we do to deserve this?” [New York Times, April 30th] ; “The Gulf of Mexico is a very big ocean. The amount of volume of oil and dispersant we are putting into it is tiny in relation to the total water volume.” [Guardian, May 14th]; “I think the environmental impact of this disaster is likely to be very, very modest.” [Sky News, May 18th]*. These “little sentences” coined by Hayward during almost 60 days of oil spill have had a symbolic power on two grounds:

- 1- in hindsight, they revealed a lack of accountability coming from one of the most powerful oil companies in the world;
- 2- the manifested an a low cognitive complexity (unable to recognize risks and uncertainty) coupled with “shareholders' value” as the only short-term obsession.

Insert 3- Congress Hearings, Dr Burgess(B) vs T.Hayward(H), 6-17-2010

B- What safety briefings do you get as your office's chief executive officer, and who provides them to you ?

H- The basis of management of safety performance is through something that we call our Group Operating Risk Committee. It's a Committee that I set up, and I chair. It involves the heads of the business streams, and we meet upon a bimonthly basis to review the safety performance across the company. The process is mirrored down through the company..

B- Is there another well, to your knowledge, in the Gulf of Mexico, that has been done in the same manner as this well that was drilled under the Deepwater Horizon ?

H- There are many wells in the Gulf of Mexico.

B- Are there any other wells where you did not put the proper number of centralizers in ? ..

H- There are many wells in the Gulf of Mexico that have the same casing design. There are many wells that have drilled where the same cement procedure..

B- Prior to April 20 when the well blew up, were you briefed on the progress of the drilling of the Macondo well ?

H- The only knowledge that I had of the macondo well occurred in April when it was evident that the team drilling it had made a discovery, and they notified myself that we made a discovery. That was my only prior involvement in the well.

B- Who briefed you on that discovery ?

H- The person who would have briefed me would have been the chief executive of exploration and production.

B- Were you privy then of any other information, the difficulties that they had, the multiple gas kicks, the losing of the tools down the hole, the length of time they have been over the hole, the decisions to move quickly because we had spent too much time over this well ?

H- I had no prior knowledge.

B- Who would have had that information ?

H- Certainly the drilling team in the Gulf of Mexico

B- But you are the CEO of the company. Do you have any sort of technical expert who helps you with these things who might have been there ?

H- With respect, sir, we drill hundreds of wells a year all over the world

B- Yes, I know, that's what is scaring me now.

Source : Official Transcripts, [2], pp 74-78

As a result of this unability to speak and explain on June 17th, after 59 days of oil spilling in the Gulf, the BP's chairman Carl-Henric Svanberg announced the following day on B-Sky-B satellite business broadcast that Tony Hayward was no longer in charge of the oil spill crisis team. Apparently the assumptions made regarding the strategic choices and management information system used by Hayward were now evaluated by BP's chairman as all leading to major pitfalls – exactly what Ackoff had described years ago [10] : (1)- the belief that the more information on top, the better the decisions below was dismissed; (2)- the choice to diminish the number of insurance contracts and cut spending to external risk-managers looked critically bad; (3)- the cultural change towards individual commitment attitudes at balancing “risk-rewards” did not bring as expected more responsibility, but less accountability all along the hierarchical chain. T.Hayward's crisis executive mission was then immediately handed over to Bob Dudley, former head of TNK-BP and managing director of the BP Group. Dudley was appointed president and chief executive of the newly created *BP Gulf Coast Restoration Organization (GCRO)*, and said to report directly to Svanberg in the future.

Diagnosis of BP's accountability in risk-management

There are two ways to frame BP's disaster in terms of hypothesis:

Hypothesis H0 – Business as usual, the oil spill is a regrettable incident which happened as all security measures were all well taken; it was a pure lack of chance due to a particularly difficult casing and cementing of a powerful flow.

This hypothesis is the baseline of BP CEO's defense strategy when he says that “according to our calculations, this explosion had only a one chance over 1,000,000 to happen”. Unfortunately this probability comes from theoretical calculations which have not much to do with reality. If we all agree there was methane popping up the well plus an ignition point which blew up the rig, it is not a reason not to look for the causes ahead of the explosion...

Indeed the CEO has believed that risk-management was a question of psychology and culture, not a question of physics and hard data. In spite of his underground diploma in Geology, or because he had faith in his dated knowledge, Hayward assumed a strategy of “cultural change only” where “more culture” meant that risks and the costs of prevention had to be minimized. BP's mottos were of the sort : “ We know what's good; We are all right with pushing materials; Our culture deploys risk-rewards down to the individual's level; Just do it” up to a point where there were no longer a possibility of reality checks. This is why the emails sent by engineers during the last month (before april 20th) are so

pathetic on hindsight. As an instance of such emails [12] : “ We have 6 centralizers, we can run them in a row, spread out, or any combination of the two solutions. It's a vertical hole so hopefully the pipe stays centralized due to gravity. As far as changes, it's too late to get any more product to the rig, our only options is to rearrange placement of these centralizers”. This message reveals that instead of the needed 21 centralizers to comfort 1600 meters' of stability for the oil riser, the engineers had only 6 centralizers available (thus creating a native instability in the column).

Hypothesis H1- The oil spill is the result of cumulative human errors which spread all along the rig and riser construction. In a time where BP was rushing up to increase its revenue through productivity and top executives pressured their engineering staff to “Drill, Baby drill” (as Rudy Giuliani, John McCain and Sarah Palin promoted it as a “national solution” to the oil shortage), with sparse attention given to the physical constraints of a -1600 meters ocean floor, the accident became “natural”.

What is a “natural accident” ? Charles Perrow [11] provides a documented answer, from the Three Miles Island nuclear accident, which suits the case here:

- Deepwater Horizon sinking is *inherent* to the oil & gas business, *inevitable* under conditions of mismanagement, and '*man-made*', *even though the legal* responsibilities have to be shared between BP as the Macondo main developer (65% share) associated with Mitsui (MOEX = 10% share) and Anadarko Petroleum (25% share).
- Deepwater Horizon rig and its underground tapped oil & gas system were a high-risk endeavor, with a complex set of subsystems to operate comprising three key features described by C.Perrow [11, p.2-4] : tight coupling; interactive complexity; potential incomprehensibility since “*a normal accident typically involves interactions that are not only unexpected but are incomprehensible for some critical period of time*”.

Moderate realism calls for a cautious assessment of the nature of things, and culture should be based on facts not on illusions. The BP's Regional Oil Spill Response Plan illusory, since it included an engagement on paper to deal with a spill up to 250,000 barrels a day that was never materialized in reality. But other reports were written in damped terms so that the actual risks were not properly classified. For instance the Transocean Major accident hazard risk assessment [13] is an interesting document where risk ratings are classified according to a system combining severity rankings for people (casualties), assets (materials) and environmental damages, all with likelihood ratings. The combined risk categories are threefold, with the highest such that “any hazard with a high risk grade require a recommendation unless considered ALARP (as low as reasonably possible)”. The exact grades are from 1 (minimum) to 25 (maximum) thus giving:

- *Low risk (rankings 1 to 9)*
- *Medium risk (rankings 10 to 17)*
- *High risk (rankings 18 to 25).*

This approach looks rational and serious hidden except that NO hazard or incident in the Transocean report is ever classified in the High Risk category ! See:

- Gas in riser, grade is 17 = medium risk;
- Blow out Preventer failure, grade is 17 = medium risk;
- Failure of hydraulic supply, grade is 17 = medium risk;
- Gas blowout (subsea), grade is 17 = medium risk;

One possible interpretation might have been that someone changed down the risks grades so that the Deepwater Horizon looked good with only “medium” risks and with not a single “high risk”. This observation connects with Charles Perrow's notion of *complex interactivity* which is refused by designers : in the Transocean 2004 report, all incidents are supposed independent of one another, while it would have been a necessity to assess the possibility that several incidents combine into a major accident. Indeed, the same Transocean corporation has drawn the root cause tree of the 2010 Deepwater Horizon accident, which was communicated to the Congress Committee. This draft of engineering investigation shows clearly a view of possible combinations of events from elementary (casing deficient; underbalanced mud column; wellbed seal assembly failure; cement deficient) to complex interactions rendering possible the explosion while the Blow out preventer(BOP) was unable to operate at the point of risers' rupture.

Given the preceding considerations our diagnosis follows:

- BP's top management elicited a drift from a culture which was already short of insurance (in 1997-2007 years) to a culture which was driven by an ideology of “lean management” despising cautious engineers, and promoting risk-taking from the top to the bottom of the hierarchical line.
- In order to accompany this “cultural revolution” with a reasonable apparatus to measure & assess physical risks in exploration & production of oil & gas, there was the grand project of an information system (OMS) which, as usual with most Management Information Systems, fell short of holding its promises and was, at best, a rear post event recording system.
- As a consequence of this one-sided only policy, BP went full speed into entertaining and accelerating projects to their maximum possible loss risk. The Deepwater Horizon disaster is mostly management-made;

If we now consider the way the US executive government managed the crisis, it becomes

clear that the US government was unable to control BP's corporate misbehavior not only before the accident but the more so after the accident.

It is particularly shocking that BP's CEO went sailing in Cowes (England) just one day after his Hearing in Washington, while the oil spill was aggravating its ravages in Louisiana. As a teacher and researcher in management the BP's accident cannot leave us insensitive to the way by which pleasant words are used to cover up dark realities. With the BP's oil spill possibly coming up the Gulf Stream to Europe's Atlantic coast, there is nowadays established in students a distrust of business leaders up to a point where management itself, as a discipline, could be threatened and disqualified. Therefore Jacques Attali [14] offers signs of hope which we must consider helpful :

- The BP's oil spill might be a good news if it leads to a reshuffling of our consumption habits (and spoiling of nature endowments; if the "peak oil" is to come by 2015, better prepare it now in seeing that reserves are exhaustible.
- The BP's disaster might be a good thing if it leads BP to sell some of its gigantic assets and teaches modesty and the virtuousness of middle-size as a means to control locally what happens (instead of relying on Big size alone); in fact BP announced on July 15th that it was in talks with Apache Corporation to sell up to \$12 billions of its American assets (probably in order to "raise" the \$20 billions needed for its "disaster cleanup fund" ;
- The BP's lack of consideration for "small people" at large may lead to class action complaints which might dismantle an ignominious greed in business circles; Mr Duplessis, a fisherman (Louisiana) heard by the Congress as well as Mrs Cynthia Joannou (Florida home owners) in her 300 people class action against BP reveal some Tocqueville's side to this crisis [15].

Tocqueville's insightful analysis searched into understanding the peculiar nature of American civic life. In describing America, he found that, like in France, the balance of property determined the balance of political powers, but why America was so different from Europe ? This point might explain the future of BP's relations with the American people and government. By contrast with the aristocratic version of British powers and BP status (i.e "Blair's Petroleum"), America is, writes Tocqueville, a society where money-making is the dominant reference, where the notion of "small people" does not exist because all men deserve a level of dignity unprecedented in Europe, with no "due respect to so-called elites".. These values have a counterpart : individualism and market realism have taken deep roots, exercising some violence by the intensive usage of money pressure as well as preventing too much of a socialist view on common goods. By applying *A de Tocqueville's* 1835 conclusions and *J.Attali's notes* to BP's 2010 crisis, we

do not pretend at extraordinary findings but look at a few possible scenarios.

- **Scenario 1 :** the oil spill goes on to a point where BP loses 65% of its original market value (from 700 pence down to 250 pence); then its survival is in question, and the piling up of law suits plus States complaints leads to a liquidation of BP's assets through dedicated financial vehicles; the British government might intervene to salvage BP or parts of it (and the pension funds associated with it). TNK-BP which is among the key capital assets still beneficial is sold off to Russian partners. Meanwhile BP's top management is fired off. Democracy in America has won.
- **Scenario 2 :** the oil spill stops and the damages wash away slowly; they are estimated at or around \$50 billions; BP's share value stays at around 400 pence; BP chairman gets rid of the CEO and appoint a wise and recognized business leader with a “human fiber”; negotiations with the US Congress and President leads to a bargain solution which fits a doubling of the initial \$ 20 billion fund ; BP's recovery takes 5 years through a remodeling of the group which sells all its American assets and re-deploys on other continents; TNK-BP is not sold off but becomes more prevalent in BP's strategic orientations. BP and America do not match anymore, but BP is still alive.
- **Scenario 3 :** the oil spill stops and the damages wash away quickly; they are estimated at \$30 billions and BP doesnot want to change its \$20 billion initial funding. BP choses to cling to its usual greed and 20% plus return for its shareholders; the CEO stays in place and fight all possible legal battle versus its subcontractors (Transocean and Halliburton) as well as the American administration and Agencies. Management is seen and practiced as an art of dissimulation and long-time felony to all adversaries. The BP accident leads to more laws implying public control of oil operations, with oil & gas corporations reflecting in rising prices the costs of more bureaucracy. BP is going on its policy of “lean management” with no major legal threat; it escapes the claims of oil spill victims by charging partners, de-localizing its American headquarters or other tricks of the kind. The BP leaders who fooled the US Congress and President are not in jail in the USA, but promoted to prestigious British positions and enjoy golden parachutes. Although there maybe some political turmoil between the UK and the USA, it vanishes out after two years for electoral reasons. Democracy in America has lost.

In sum, though it is too early to forecast the total volume of damages which would occur as a consequence of BP's Deepwater Horizon sinking, it is possible to dress a direct connection between a flawed strategy of “lean management” and the actual disaster. Therefore a sound system of Risk-Management needs a wise top-management team and strategy.

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