Innovating: Designing the Future with the Simple Wisdom of the Past

This book is the fruit of nine years of experience in conducting innovative projects through group creativity and four years of cooperation with the Collège de Polytechnique, where my course "Innovation Projects Management" helped me to face other business realities inside and outside the industrial field and to verify that my experience is really useful and innovative enough to be taught. It is also the fruit of ten other years of previous experience in R&D when I was to innovation what Molière's Monsieur Jourdain was to prose…

Innovation is everywhere today: in the fields of business, research, economics and local government. It is no longer the sole province of R&D but constitutes increasingly a true corporate project, aimed at the development of new products and services with a competitive edge in the market, helping to stay ahead of the competition.

Innovation is a process of change, managed and finalized in a pre-defined environment, which boosts the chances of creating inventions and successfully introducing them into societal practise (not only technical, but also economic, industrial, commercial, social and cultural).

As a result, innovation necessarily has flexible relations and shifting interfaces with its "neighbors": Development (including Continuous Improvement and Sustainable Development), Research, Marketing, Creativity... Some aspects of innovation are upstream of R&D, while, by definition, the innovation process should lead to a new product or service being brought to market, i.e. downstream of development.

Similarly, a process of innovation does not necessarily go through a phase of creativity: it can come from an improvement of an existing process (Knowledge Management process) or from a transfer (benchmarking). But the solutions will often rely on methods of creativity.

The latter is too often misunderstood in companies, particularly those characterized by high-tech. Although the importance of individual creativity is generally accepted, collective creativity is too often

confused with the activity of working groups, even evoking distant memories of consultants, gurus and manipulative techniques.

In fact, creativity has remained for too long the domain of consultants coming only from the human sciences. Similarly, « innovation is not (...) a special activity, that of researchers and entrepreneurs, but a permanent movement that engages all the players » [1]. And if the aim is « to link the paradigms of innovation sociology to those of the organization and the company, (...) and link the analysis of motion to that of systems » [1], this won't be possible if we continue with the usual ways of working.

Really effective methods and creative techniques exist and I have personally gained experience with them for over nine years in an area as complex and "hermetic" as civil nuclear energy. For example, I can attest to the essential contribution of a secretary to a creativity team of engineers: through her "*mastered participation*", she managed to identify a solution sought in vain over several meetings (I was the team leader and I am not ashamed to say it); this solution even led to the filing of a patent, but it was necessary to overcome a number of cultural barriers so that the secretary could be admitted as co-author.

I was motivated by this episode to write this book: to show through experience that a process based on a creativity method can be very effective for innovation. I hope to refute, at least partially, this saying of Confucius: "Experience is a lantern that illuminates only its bearer".

Another episode further strengthened my motivation. Recently I had the opportunity to read again the proceedings of the international conference "In Search of the organization of tomorrow", organized by the Innovative Group (Canada) in 1993 which brought together the greatest contemporary management thinkers [2]. I was struck by the realization that the creative approach fits into the organizational and cultural revolution advocated by the Innovation Group, both in the development of thought and in practical achievements.

I also intend to show (with a few objections to some theories of Norbert Alter [1]) that it is possible to "master innovation" even if we

do not control everything. I can also *claim* to speak of "mastered creativity" [(4)].
To understand this position, it is enough to consider the analogy with the risks involved in innovation: we do not take them, we control them. Indeed, we must reconcile innovation (« agree to live with the uncertainty of the means and ends » [1]) with corporate organization (« eradicate the uncertainty by anticipating, programming and standardizing » [1]). "Mastering" is just that: keeping control over the whole process, while accepting a small "fuzz factor", which is monitored anyway!

In a broad sense, innovation is a movement, a "trajectory" [1]. The concept of "tendency" (see the TRIZ problem-solving theory) can make it possible to have overall control, to "stay on course". As stated by Philippe Dupont, a consultant in innovation and creativity, « it's not because we don't know where we are going that we don't know how we are going! » It's like playing jazz while improvising, without a score for a guide.

The process described here is intended to fit naturally into a continuous improvement and sustainable development initiative. Let us remember what was said already in 1904 by Frederick Henry Royce, co-founder of Rolls Royce: « Seek perfection in everything, take the best of what's out there and improve it, and when nothing exists, design it ».

They said...

The best way to predict the future is to create it.
(Alan Kay, Fellow, Apple Computer)

(4) Moreover, Vijay Govindarajan, professor at the Tuck School of Business and Chief Innovation Consultant at General Electric, said that innovation requires "disciplined or organized chaos" (see Business Today, April 20, 2008, page 84).