

Memory of Prospective's interviews:
**Professeur Michel Godet,
holder of the Chair of industrial
Prospective, CNAM**

Philippe Durance

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Foreword

The *Memory of Prospective* is a research project directed by Professor Michel Godet at the Lipsor, a research laboratory in prospective and strategy within the polytechnical university, the *Conservatoire national des arts et métiers* (CNAM) in Paris.

The project grew out of two observations:

- 1 Practitioners do not know the fundamentals of the art of prospective or the basic documentation;
- 2 Canonic documents in this field from the past 50 years are not readily available because they are lost, forgotten or out of print.

Building a memory of prospective consists of promoting and disseminating its rudiments and concepts whether French, European or American.

Our goal also includes acquiring cognitive capital in prospective with a view to intellectual rebuilding. We must practice what we preach for history enlightens us on the present in parallel with the prospective process itself.

Acquiring and managing this capital involves a core group of figures in France—the Plan, DATAR, Futuribles and LIPSOR. They now share the following mission: Make sources available, optimize resources and maximize operating costs. This work-in-progress entails building a co-operative learning network, which may expand beyond the founding partners and the initial framework.

By highlighting the roots of prospective, we hope to promote evaluation, a much-needed component in today's project culture firmly installed at the highest levels of government.

The interviews for *The Memory of Prospective* are part of this greater process. As such, they seek to provide historical and conceptual points of reference drawn from discussions with the main witnesses to the birth of modern prospective in France or abroad.

Philippe Durance

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Brief Biography



Michel Godet holds doctorates in both economics as well as in mathematics and statistics. Now at the Conservatoire National des Arts et Métiers (CNAM), he is holder of the *Chaire de Prospective industrielle* and co-director of the *Laboratoire d'Investigation en Prospective, Stratégie et Organisation* (Lipsor).

Former director of the prospective department of SEMA, he has written several manuals on the concepts, methods and tools of strategic prospective. In fact, his books have been translated into several languages. Professor Godet's passion for prospective has led him to write many award-winning articles on such topics as education, employment and demographics for the public at large.

From the moment he submitted his dissertation on the crisis in prediction and rise of prospective in 1976, Michel Godet has continued contributing to the renown of the French school of prospective. In fact, he recently made his tools available around the world, at no cost, through the Internet. (<http://www.cnam.fr/lipsor/>).

The interview

Paris, the 24th of August 2004

Philippe Durance: Prospective, or foresight as it is sometimes translated, is your passion, one that has been your career for over 30 years. How did you discover this vocation?

Michel Godet: In 1971, I was 23 and developing rigorous scientific methods with mathematical probabilities. This was before the oil crisis. I was working then at the CEA¹. Later at SEMA², I had the chance to travel round the world as a member of various missions. One stop was North Africa. There, I realized that the keys to industrialization in Algeria were agriculture, education, mastery of urban development and demographics. Soon thereafter, in 1978, in the Far East, I saw that Confucius had got it right long ago: *Teach people to fish rather than to give them fish*. In other words, good ideas are not those that we have or give but those we elicit. The word is appropriation. The French all know the story of the Parmentier potato. Only by creating an elaborate set-up and having soldiers guard the field did people want to appropriate, or steal, Parmentier's potatoes. Yet from a more basic point of view, we need to ask a few questions. Besides *How to?* or *How?* we need to ask *Who am I?* We need to remember the ancient Greek advice: *Know thyself, thyself*. We often forget to ask or forget the actual questions. Let's get two things straight. First, what will happen is not written down somewhere. Second, thinking about the future does not eliminate uncertainty. Instead it prepares us better. Everyone will face the same changes; the real differences lie in how each one of us reacts. The elements of both success and failure lie within. All in all, learning how to maximize your strengths and minimize your weaknesses is more effective than trying to change the world.

Philippe Durance: Let's backtrack to how you started out.

Michel Godet: I started as a research engineer at SEMA in 1974. A year later³, I was promoted to senior engineer and headed a profit-making center within the SEMA. In 1976, I became head engineer, and then in 1978, I led the Prospective department that I had initiated. Only then could I really apply and develop the prospective methods and systems analysis that I had studied as an intern in the CEA programs from 1971 to 1974⁴.

¹ CEA: Atomic Energy Commission

² SEMA: Society of applied economics and mathematics. The SEMA was created in 1954 by Jacques Lesourne. It was a research group for companies and administrators. SEMA focused on economic problems including future studies, operation research and cost comparisons for different solutions, to name but a few specific topics. Michel Godet met Christian Goux there in 1970. Goux, the 'master of conjecture' of that era later initiated Godet in prospective and supervised his French State PhD in economics.

³ That same year, Michel Godet received his doctorat in economics (Paris I, Pantheon-Sorbonne). Much of his doctoral research would appear in the book, *Crise de la prévision, essor de la prospective* (1977).

⁴ In 1974, Michel Godet had obtained a PhD in statistics and mathematics (Paris IV) on the development of new methods of systems analysis and scenario probablisations.

During the same period, I carried out vast projects on the future of energy, industrialization in developing countries, and air transportation. It was around this time that I began leading teams and going further afield; literally, on missions in the USA, Algeria, Egypt, and most of Southeast Asia, an area really taking off then.

At age 29, I became SEMA's youngest director and was in charge of its second profit-making centre. At that time, I began wondering how useful all those interesting reports that usually ended up lining drawers were⁵.

I answered an ad in the newspaper *Le Monde* and found myself working as deputy project leader of an EEC program on the future from 1979 to 1980: Ricardo Petrella had recruited me to launch the FAST program⁶. Already then, almost a quarter of a century ago, computerized communication technology and the information society were our main interests. At this time, I wrote a report called, "Europe en Mutation". Over 10 million Euros were spent, but little remains for our collective memory and the general manager of the research department launched *Technology Foresight* without realizing that the same questions asked by new teams are not necessarily better. Once again, we have evidence of the lack of collective memory.

Back from Brussels, I tried to get into the CNRS as a prospectivist, often called a futurist in English, but to no avail. Why? There was no department and there still is no such department. I tried the same thing at the Plan, another French government planning centre, with the same result. From 1980 to 1981, I worked alongside Jacques Lesourne as a full-time lecturer at the *Institut Auguste Comte*⁷.

For six years, until 1987, I served as scientific advisor for the *Centre de Prospective et d'Evaluation* (CPE) at the French ministry of research. There I handled international relations. My duties enabled me to participate in several missions and exchanges related to technological change and economic development in Japan, Canada, and the USA, as well as Europe, of course. Some missions were carried out further to requests from the foreign affairs ministries of the American and Canadian governments. This was the case in 1984 and 1993, when our focus was technological change and its impact on growth and employment. In 1986, I also led a mission on the Japanese model, both in society and business. This mission would lead to *Radioscopie du Japon*, published in 1987.

⁵ This situation would become the subject of an article by Michel Godet and J-P Plas, "L'Entreprise sur le divan" that appeared in *Le Monde* on October 14, 1978.

⁶ FAST (Forecasting and Assessment in Science and Technology) was a program directed by Riccardo Petrella from 1978 to 1994. The FAST mission was to study the links between science, technology and society. The focus was on the socio-economic consequences of scientific and technological developments in the short and long term.

⁷ In 1972, Giscard d'Estaing founded the *Institut Auguste Comte*, which sought to train managers from large corporations or very large administrations to solve complex problems by treating all dimensions: legal, economic, social, and international. The *Institut Auguste Comte* has had five research directors including Jérôme Monod, now in the French government, and Michel Crozier, a well-known sociologist. Jacques Lesourne introduced Michel Godet, who was bored by the situation in Brussels, to the institute.

From 1982 to 1987, I was also an assistant professor at the CNAM. In 1987, I became a full professor and the holder of the chair in industrial foresight. This chair had been created with me in mind when I came to the CNAM in 1982. Concurrently, I have served as a consultant in prospective and strategy for major corporations such as Renault, ELF, Pechiney, Electricité de France, Sollar, Chanel, Bongrain, Lafarge and AXA. I have also acted as a consultant to local or regional administrative groups. During the same period, I managed to maintain an international perspective through regular missions to North and South America, as well as several European centres.

Philippe Durance: Many people consider the 1970s as the golden age of prospective in France. They also lament the fact that prospective is little taught at the university or post-graduate level elsewhere. What do you think?

Michel Godet: Personally, I do not see a decline in prospective, or foresight. On the contrary, I find the field more open and less specialized than when I began. The golden age was actually the work of a handful of individuals — Bertrand de Jouvenel⁸, Pierre Massé⁹, Jérôme Monod¹⁰ and Gaston Berger¹¹. They did not try to fit this ‘intellectual *undiscipline*’ into the academic categories nor did they train followers.

Prospective, as I prefer to call it even in English, has a broad crosscutting nature that is a handicap for compartmentalized organizations. However, the cognitive sciences share this breadth and have received research funding from the CNRS and ministry of research. Prospective could be considered within this same category. All in all, the learning curve for anything requires patience, persistence, and preparation of the next generation of practitioners. We also need to offer theoretical and practical instruction to those interested so that they can capitalize on

⁸ Bertrand de Jouvenel (1903-1987) served as a diplomat, journalist, economist, jurist and professor at several universities in France and abroad. De Jouvenel ran the SEDEIS, or Society for the study and documentation of social and industrial economics from 1954 to 1974. The SEDEIS had been created by a group of managers. Bertrand de Jouvenel was one of the main players in the rise of prospective in France and abroad. He wrote *L'Art de la conjecture* and founded the international association called Futuribles (1967).

⁹ Pierre Massé became an engineer in public works and in the electrical sector in 1928. He was in charge of building hydroelectric plants. He was director of electrical equipment in 1946, then director of economic studies at Electricité de France (EDF) in 1948. In 1957, he became president of Electricité de Strasbourg. He served as general commissioner of the Plan from 1959 to 1966.

¹⁰ Former delegate at the Datar and president of the Groupe Suez, Jérôme Monod is now advisor to the president of the French Republic, Jacques Chirac.

¹¹ Gaston Berger died in 1960 just before a research and teaching program in prospective was inaugurated at the school of higher commercial studies (*Ecole pratique des hautes études*), under the direction of Fernand Braudel. Fernand Braudel wrote the following for a speech: “*Gaston Berger should take his place among us today. He was excited in advance, happy to no longer be just another professor. He also had fun, not to excess, though, with the reversal of our respective roles. He treated me with an amused deference, as one would treat an administrative superior. He proved to himself in this way that he was once again a free man. (...) This fragile science called prospective, that he had created and baptized, he intended to consolidate it and enhance its structure here, in our school.*” (Braudel, 1962).

experience and maintain the collective memory. I am saddened by some practitioners, often the best, who consider prospective a profitable business, and do not try to pass on their know-how. They forget that knowledge is to be shared.

The same applies abroad, especially in the English-speaking world where there is no collective memory, and a noticeable withdrawal from rational methods. Again, the terms create a problem as prospective is translated as foresight usually and reduced to participatory scenario building exercises during which group dynamics and communication take over. As a result, the questions covered and the level of research involved suffer. You can see this in France, too, with ‘scenario entertainment’, which is part of the ‘future of the present’ trend. We should all remember pioneer Gaston Berger’s words of wisdom: *See far, wide, deep, and think of Man.*

I have added three more pieces of advice: 1) *see differently*, to avoid conforming to conventional thinking, 2) *do it together*, to facilitate appropriation and the balancing of differences, 3) *use rigorous methods* to deal with complexity, and pinpoint the group’s collective inconsistencies.

I am glad to see that the past 30 years have been marked by the appropriation of our methods in corporate and regional management, here and abroad. I’m optimistic about prospective; that is to say, the French version. It has taken root and developed well in other countries where romance languages are spoken. The French and international expansion of prospective does, however, stem from the ongoing efforts to disseminate concepts and methods of French practitioners belonging to the international association, *Futuribles*¹². These compatriots have kept alive the tradition of volunteering from the sixties, along with the rigorous approaches to exploring and evaluating ideas that the RAND Corporation¹³ and SEMA developed during the post-war boom and the space race. What we need now is something equal to Erich Jantsch’s book on forecasting and technological evaluation. This book was state of the art in 1967¹⁴. Of course, *Futuribles* contributes tremendously through its journal and training seminars. Also the founding of the *Laboratoire d’investigation en prospective, stratégie et organization* (Lipsor) at the CNAM in the early 1990s, and the doctoral training program in prospective, strategy and organization which I lead with Yvon Pesqueux, assisted by Jacques Lesourne and Rémi Barré, have provided training to several dozen professionals in France and the world. As far as I know, there are some twenty former students of CNAM who are living quite successfully plying their craft in France.

The publication of my manual in 1985, with updated editions in 1991, 1997, and 2001, as well as translated versions in English, Spanish, Portuguese and Italian, has also helped spread the methods of the French school. Writing a manual is an author’s effort to help others, although it’s more of a thankless task than it seems. Each revised edition represents more than a year of work. In fact, I spent a year and a

¹² *Futuribles* was created by Bertrand de Jouvenel in 1967. The current president is Jacques Lesourne and the acting director is Hugues de Jouvenel.

¹³ Cf. *infra*

¹⁴ Available on the Lipsor website in French and English:

<http://www.cnam.fr/lipsor/recherche/laboratoire/memoireprospective.php>

half on the English adaptation in which I was assisted by a translator who worked on site and attended my corporate workshops. This translation, like those for South America, received partial funding from the French Ministry of Foreign Affairs, which has a translating tradition. In fact, it helped fund a special English issue of *Futuribles (Prospective and French Futures)* and in 2001, a special issue of *Technological Forecasting* devoted to scenario planning.

During the 1990s, I tried in vain to get the Commission in Brussels to structure some form of European prospective. I could not generate interest in research through doctoral scholarships, either. These scholarships would have been funded by the CNAM, Plan¹⁵ and Datar¹⁶. Yet I do remain optimistic and intend to try again at every opportunity¹⁷.

The status of prospective remains fragile, though. Far too much still depends on the good will and persistence of a few people, like Hugues de Jouvenel and Jacques Lesourne, to name but those two. Chance has always played a role in preparing the ground for projects. In fact, this is one of the lessons that I can draw from my own experience in the field. I remember that SEMA's prospective department had produced numerous and voluminous studies on air transportation, the post office, etc. Many of these studies stand the test of time, too, but lay buried in filing cabinets. Given the lack of academic recognition, training in prospective happens by chance, often at the whim of circumstance.

In the early 1990s, given all the seminars organized by *Futuribles*, and in light of the development of some form of prospective in the European Commission, a doctorate in strategic prospective was needed and created at the CNAM. Again the same question: which academic niche? Economics, history, management? Management actually offered more possibilities than the others. It is a more open field with an applied strategic dimension well suited to prospective. This relationship with management enabled us to network with other centres and thus form credible doctoral thesis defense juries. Credibility is important as the jury legitimates the doctoral program as a whole.

Through this program, I was able to create two full lecturer positions; however, it eventually became clear that teaching prospective, like teaching strategy, required the practical experience that a young academic can never have. The academic world is increasingly compartmentalized. In fact, the demands inherent in a university career prevent the further development of prospective. One must publish abstract theoretical articles in juried academic journals to be recognized. Well, prospective does not fit this type of logic. Today's practitioners usually did not follow a traditional academic path; in other words, they came to the field by chance. This often makes them excellent 'deviants', fresh from many different horizons.

¹⁵ Commissariat General du Plan is a French governmental agency.

¹⁶ The Datar is a French paragonmental delegation for regional action and territorial organization.

¹⁷ A European college for regional prospective opened in April 2004. The proposal came from the *Conseil de prospective et de dynamique des territoires*, a forward-looking council focusing on regional cooperation. This new council is headed by Michel Godet. The college seeks to open up to Europe by reinforcing skills in regional prospective through the Datar's and its partners' efforts.

Philippe Durance: You talk about the French school of prospective, but few people agree with you that it exists. Can you clarify this?

Michel Godet: Let's start with the scenario method as an example. Given American cultural domination, the Americans tend to self-attribute the roots of scenario thinking. But, after all, we do share with the Americans some common historical background. To muddy the waters further, we face the terminological problem of the word, prospective, which does not translate fully into one English word. Futurology is the term that dominates in the English-speaking world. Now you also find foresight and even strategic prospective. In any event, the concept of the scenario remains central to the entire process, especially as the scenario appears to be less of the rigorous scientific method that it once was in the 1950's and 60's, under the influence of the RAND Corporation¹⁸. In those days, the RAND had several researchers, often European immigrants like Olaf Helmer (Delphi method) and Fritz Zwicky (morphological analysis in scenario building). At the same time, Gaston Berger and Bertrand de Jouvenel founded the French school of prospective and the Plan in France was an official priority. The peak in this period was the publication of Jantsch's book.

The French school simply kept alive and further developed this legacy of Cartesian methods of systems analysis. It was inherited indirectly from the RAND Corporation, and furthermore combines broad historical, global and voluntaristic perspectives.

Without going into detail, the Vietnam War created a deep mistrust of rational methods of systems analysis. The Americans had failed in their effort to analyze conflict scientifically, so they threw the methods, like the proverbial baby, out with the bath water. You can more or less date a certain decline in logical thinking in the USA from that point on. From one extreme of scientific approaches, the Americans went to the other, intuitive even irrational techniques. This attitude is illustrated beautifully in what they call 'New Age' thinking. As a result, the English-speaking world reduces prospective to little more than scenario entertainment. I don't think that gathering a few intellectuals together to play at pleasing or scaring one another with a concept equals research. It is entertainment in the Pascalian sense — a distraction really. In terms of content, though, this approach is simplistic, often binary, so that the future is divided according to two hypotheses (yes or no), hence four scenarios. Scientifically, this comes close to some kind of mystification, especially when people claim that the strategy of such and such a big group was enlightened by these scenarios. As far as I know, Shell built scenarios on communication and information technology but never invested a penny in that sector. In American practice, scenario building is like bodybuilding! The collective and participatory process of futures thinking, as I call it, is positive in its own right but all

¹⁸ Initiated as a military project in 1945, the RAND Corporation was officially incorporated as such in 1948. Its name is a contraction of research and development. This corporation became a lab and an incubator for the tools used in prospective. Examples include Herman Kahn (scenarios), Olaf Helmer (Delphi, 1950s) and crossed impact analysis.

the more useful for strategy if we ask real questions that are not simply reduced to two possibilities chosen to suit the latest fashion.

Actually, corporate scenario building is an excellent participatory management tool that can get the whole staff involved. Although not all issues are suitable, because of confidentiality, it is possible to have people think not about the company's strategic choices that their employer faces, but rather about the environment affecting those choices. If structured properly, not only the executives use this approach but the rank and file as well. At Renault, in 1983, I was involved in *Mides*, a futures-thinking exercise involving 3,000 people. The scenario process has been successfully applied to regions, too, as seen in the *Pays Basque 2010* project¹⁹. Nowadays, group learning is an integral part of knowledge management; however, in management terms what counts is involvement. A popular American phrase sums it up well: *the reward is the journey*. The goal is a pretext, almost an excuse, for the group effort, shared experience and ties created among the participants.

Last but not least, I'd like to point out that English-speaking authors and researchers themselves speak of the French school of prospective²⁰.

Philippe Durance: The future being what it is, primarily uncertainty, how can prospective separate itself from futurology or future studies?

Michel Godet: Futurology claims to be a science of the future, just as history would be the science of the past. Although the past is as multisided and uncertain as the future, and although we constantly rewrite history, the past remains gone. On the other hand, the future is open, and any form of prediction is tantamount to fraud. For prospective, the future is the fruit of desire, in other words, a dream that motivates present action and drives reality towards a desired future. And we know that an action without a goal is meaningless.

As we asked in the English adaptation of our book: *Do we want the world to change with us, without us or against us?* Simply asking that question begs the answer. It is up to each of us to take charge of our future, to conspire for a better future, one closer to our desires and farther from our fears.

Determinism of any kind does not resist determination, and chance. Pasteur said it best when he said that chance favours only the prepared mind. When you have projects, you are young and alive. As Gaston Berger, creator of the very term, prospective, once said: old age is the shrinking of the field of possibilities. This explains why you find 20-year-olds who seem dead and 70-year-olds who are still planting trees in their garden.

Fortunately, the future is indeed open and uncertain. A totally certain and foreseeable world would be intolerable. However, the clock is ticking and each

¹⁹ This regional exercise has been published as a Lipsor Working Papers (Mousli, 2004).

²⁰ In 1999, the British magazine *Antidote* produced a special issue on scenarios and forecasting methods. It included an article entitled "Creating the Future: a French School, La Prospective, argues against taking a fatalistic approach" (CSBS, 1999). This piece profiled the French school and described the methods developed by Michel Godet.

minute lived is one less to live yet one more at the same time. Now you see why happiness is possible only where there is some degree of uncertainty. Uncertainty is life; certainty is death.

Philippe Durance: What key lessons can you draw from your many years of practical experience in prospective?

Michel Godet: First, it is an art. An intellectual art that requires a poet's imagination, knowledge, common sense and a healthy dose of non-conformity. Second, although it is an art, prospective requires rigour and methods designed to enlighten our action and direct us toward a desired future.

Those who seek our services are large corporations, governments and regional authorities. They are looking for someone to help answer five basic questions: *What can happen? What can I do? What will I do? How will I do it? Who am I?*

Each of these questions is a source of errors, though. If you do not get the diagnosis right from the start then you get the prescription wrong. In other words, there is no correct answer to an incorrect question. Yet a good question may also require being aware of conventional thinking, or cookie-cutter ideas. These are the ones that we all know, that are never discussed and that often turn out to be false.

Let me give you an example: change. We tend to overestimate the speed of change, especially technological change. We think that we are living in a period of unprecedented tumultuous change after which nothing equally important will ever occur. Some people go so far as to say that we have entered the 'end of history'²¹. There's nothing strange about this feeling because every generation thinks its era is exceptional. And it is, to them, simply because it is the only chance that generation has.

We probably tend to overestimate change because we underestimate inertia. In reality, the world changes, but the problems remain. Why? Human nature. History's great invariable is the human component. Our driving forces, e.g., power, money, love and hate, have not changed since ancient times.

Let's go back to those five questions. We should begin with Who am I? Then we can study and know human nature to understand what is happening. We need to recover our memory of the past in order to illuminate the future. This makes me think of a line from a Visconti film, *The Leopard* (1963): "Everything must change for everything to be again."

Man is always at the heart of difference, so why look for other scapegoats outside us. One example is globalization or technology. For many floundering companies, the cause of the shipwreck lies in internal management deficiencies rather than the storm raging outside. Without a strong captain there can be no winning crew. The ideal leader must know how to anticipate events as well as instill a sense of enthusiasm and belonging. He/she must act firmly and react calmly. The

²¹ Note the title of Francis Fukuyama's best-seller, *The End of History*.

correct destination is not an adequate strategy. If we extend the metaphor: we need a crew that is not only prepared but also motivated to make the journey. For any firm, the home and foreign fronts are actually one strategic segment. The battle must be won on both fronts or it is lost. In other words, when confronted with change in the strategic environment, a company depends primarily on its internal strengths and weaknesses. As Vauvenargues, the nineteenth-century French philosopher put it: *knowing our strengths increases them; knowing our weaknesses decreases them.*

Prospective in a company acts like a mirror. A good prospective exercise teaches one to ask the right questions but most of all to know thyself better. Strategic analysis is rediscovering Socrates' dictum, *know thyself*. So, before asking *Where do we want to go? What can happen? What to do? ...* we must know who we are and know it well.

Philippe Durance: The role of experts in society is increasingly questioned. They are criticized and appear less credible. Does that bother you?

Michel Godet: In this field, a trait that I call intellectual impertinence is necessary. If we want to ask the right questions, these must necessarily be the questions that upset. We are not asking questions full of politically correct gobbledygook. It is easier to think like everyone else, not rock the boat and never have to defend one's ideas. In fact, this explains why experts often are wrong while in agreement with one another. On the other hand, swimming upstream against the dominant thinking is difficult because one has to explain reasons to a massive majority of conformists. In the end, a visionary often stands alone, little heard.

I'm not saying that a minority view is necessarily correct. However, consensus is suspect and should be examined more closely. Some thirty years ago, after the first oil shock, people spoke of an energy crisis. Suddenly we had the diagnosis and R_x at the same time. Energy was the root of the crisis and solid economic growth means guaranteeing energy independence. The underlying logic was clear: no more oil, so develop nuclear power. In reality, though, I managed to demonstrate my idea, later verified, that there was an overabundance of energy. Again, the logic was clear: what is rare is cheap energy and what abounds is expensive energy. Why? Because it is expensive.

Another widespread corporate cliché is critical size. Major investment decisions are justified with a mantra: we don't have the critical size to compete on an international scale. Yet somehow there are always smaller, more profitable companies. Actually, the real question is whether or not the company is profitable at its current size. Often we have to start by growing smaller; in other words, cutting out the dead wood. In short, we often confuse growth with profitability. We need to remember that companies are like trees that need pruning to grow better.

Philippe Durance: As a prospectivist, you have a vision of the 21st century. Can you share it with us?

Michel Godet: Thinking about the future has always been a special

opportunity for us to let our minds run free. We may have dreams or nightmares. Essentially we will be either pleased or frightened by the new technological developments that supposedly will bring about unprecedented changes. The new millennium generated so many predictions, just as the year 1000 did. Of course, the world was supposed to end in 1000! The major issues at this end of one century and beginning of a new one already have known diagnoses and prescriptions. What is needed is an answer to the question: *how should we take action before it is too late?*

The politicians are informed. In fact, they often tell me that I am correct, but that they cannot say much if they want to stay in office. They are there, it seems, to answer to opinions. We need to change opinions by being brave enough to say loudly what others just think softly. The only censorship is really self-censorship. If everyone, each of us in our own corner, becomes aware of the realities and does appropriate the diagnoses, then preventive policies will naturally fall into place. The expert in prospective reminds me of the lookout on the *Titanic*. From the crow's nest he sees the iceberg coming closer. His job is to alert the captain and crew so that they change course and avoid a collision. In short, good foresight is foresight that leads to action.

I do not hope for change to come from above. No. It must come from below, if we are to anticipate, act, experiment and innovate. In other words, the future interests all of us greatly. Remember that the future is where we will be spending the rest of our lives.

Yet that which is essential is often ephemeral. To paraphrase Karl Marx in his early writings (*Grundrisse*): the productive forces are not only material but are also spiritual. Economic growth alone does not bring happiness. People want to find social affinities and some meaning in their lives. Otherwise, there is despair, real despair out there; as people feel that they are alone. The great paradox of modern life is that information technology makes us more connected to the entire world, but there is nobody next to us for a chat. Of course, some people pay therapists a lot of money for a regular chat. People are always at the core of our thinking on the future. I remember a father's words to his son: *if you don't live like you think, you will think like you live*. It is up to us to decide what we want for tomorrow. Do we want to be like the ancient Romans with their bread and circuses or like the ancient Athenians (without slaves, thanks to modern technology)?

Both the worst and the best are possible. Ghosts must no longer rule the living and we must leave future generations a true legacy. We should bear in mind that we did not inherit the earth outright; we are only borrowing it.

My ambition is to inject people with a healthy dose of prospective so that everyone can hold up his/her compass and lead others toward a shared destination. In the end, initiatives and common projects provide us with social ties and a meaning or direction in our lives. The German proverb sums it up well: *der weg ist das ziel*. The journey is the goal.

Philippe Durance: Practising the art of prospective basically means using

methods and tools. Is there more to it?

Michel Godet: Tools are available to deal with the uncertainty and complexity of problems. These tools have been honed over time and remain useful today for even if the world changes, certain invariables and similarities in the problems remain constant.

The tools employed in strategic analysis and prospective are useful in stimulating the imagination, decreasing inconsistencies, creating a common language, structuring group reflection and enabling appropriation. There are limits, though. There are also the illusions of formalization. Tools are not substitutes for thoughts. They should not block freedom of choice. As professionals, we face the double-edged sword of presenting tools then trying to avoid the errors people make in using those tools incorrectly. For example, the hammer is a useful tool, but only if we need to drive a nail. Just because we know how to wield a hammer, we do not need to apply it everywhere, on every problem. We want people to use the tools that prospective offers, but we also spend a lot of time dissuading beginners from using them incorrectly.

These tools should be simple enough so that people can appropriate them; otherwise, they will reject them. As I said before, the best ideas are not those we have but rather those we generate in others. Leaders and managers have forgotten this, but I try everything to get them to appropriate this very idea. A problem presented properly and shared by those involved is already partly solved. The French author and researcher, Michel Crozier, said it best: the problem is the problem²².

Philippe Durance: Where would you tell young researchers to focus in prospective today?

Michel Godet: There are many potential research areas. If we start with the most difficult, there is the link between game theory and actors' games, begun by Francois Bourse. There is also the integration of prospective tools in operational research. More broadly, there are the mathematical specialties, such as diagonalisation, proper values, unknown number systems, fractals, graph theories, and many more.

In the soft sciences, there is cognition and organization learning, something Philippe Bootz (2001) has developed.

But we have to remember the zero question, the Who are we? This dimension enables us to make projects happen, to build the bridge between the individual and the collectivity.

Last but not least, we need to bring history and prospective together. The past

²² Former director of research studies at the *Institut August Comte*, Michel Crozier is a sociologist. As research director at the CNRS, Crozier founded the Centre of organizational sociology (CCSO), at the Political Science Institute in Paris.

is as multiple, uncertain and controversial as the future, but it affects both the present and future. History, the novel of the real, as Paul Veyne²³ put it, is constantly being rewritten according to the needs of the present. The whole issue of climate change takes on another light when we are reminded of the past by authors like Emmanuel Leroy Ladurie in his work on the history of climates. If prospective aims to enlighten our actions in light of possible futures, the goal of history is to do the same, but in light of past futures.

²³ Author, historian and professor at the *Collège de France*.

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