



THE ART OF
**QUANTUM
PLANNING**

Lessons from Quantum Physics
for **Breakthrough Strategy,**
Innovation, and Leadership

GERALD HARRIS

Foreword by **PETER SCHWARTZ**
Futurist and author of *The Art of the Long View*

An Excerpt From

***The Art of Quantum Planning:
Lessons from Quantum Physics
for Breakthrough Strategy, Innovation, and Leadership***

by Gerald Harris

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Contents

| | |
|-----------------------------------------------------------|-----|
| Acknowledgments | ix |
| Foreword | xi |
| Introduction: Planning, Thinking, and Learning | 1 |
| 1 Learning-Oriented Planning | 9 |
| 2 From Quantum Physics to Quantum Thinking and Planning | 21 |
| 3 Thinking Beyond Duality | 32 |
| 4 Inescapable Uncertainty | 42 |
| 5 Intentions, Actions, and Reality | 52 |
| 6 The Illusion of Time and Space (Things and Order) | 63 |
| 7 Many Worlds: Catalytic and Kaleidoscopic Thinking | 74 |
| 8 Thinking and Planning in the Field of All Possibilities | 84 |
| 9 Organizations As Energy Systems | 102 |

| | |
|----------------------------------------------------------------------|------------|
| 10 Personal Growth and Quantum Thinking and Planning | 114 |
| Conclusion: Change, Creativity, and Innovation | 124 |
| Resource: Scenario Analysis and Applying Quantum Planning | 130 |
| Bibliography | 143 |
| About the Author | 147 |
| Index | 149 |

Foreword

GERALD HARRIS IS A FRIEND AND COLLEAGUE of nearly 20 years of shared experience. His insightful book is based on that experience and his own creative learning. He applies a body of some of the most profound ideas of our time about how reality works to some of the most challenging problems facing organizations as they try to gain influence over their futures in the midst of a time of unprecedented uncertainty.

I have had the pleasure of working in scenario planning for 37 years in the world of consulting and in business. The most important experience was at the Royal Dutch Shell Group in London, where I headed their scenario planning group during the 1980s. I met Gerald a couple of years after a few friends and I started the Global Business Network and Pacific Gas and Electric became one of our first clients. He was then part of their strategic planning team. He showed such aptitude and interest in that work that he left PG&E to join us only a few years later.

In this new book Gerald has taken a very useful approach to gaining insight: applying novel ideas from one field, physics, to another, strategic planning, to see if they shed useful light on the problems of the latter. The important question is whether the realities of organizational strategic planning, similar to the realities described by quantum

physics, not in a literal but metaphorical sense. Here is where intellectual horsepower and long experience come to bear. Gerald makes the case strongly for the utility of these ideas in the world of strategic planning and then proves it by successfully applying the ideas to many of the important problems and issues faced by strategic planners and thinkers.

Gerald's years of experience have provided him the same lesson that came from my Shell experience. The hardest challenge is not anticipating the future or devising a better strategy for that future. Rather it is changing the minds of decision makers, who are usually in their positions because of a long history of success. That success means they trust their own view and judgment and are not easily pointed in new directions. Successfully influencing that mind is not like the rational process of re-programming a machine as in the old mechanistic Newtonian paradigm. Rather, changing another's perception is a more subtle process like the fact that the observer determines the outcome by his act of measurement in quantum mechanics.

At the heart of both quantum physics and scenario planning is the problem of uncertainty, one in the physical world and the other in the mind of the decision maker. The art of the quantum planning applies the tools of one to shed useful light on the other. Planning as a dynamic learning process rather than a control process drives Gerald's thinking and again relies on the models of quantum uncertainty to clarify the issues for the strategic planner.

One after another, Gerald frames the challenges facing the strategic planner and then provides helpful and practical ways of addressing them with the tools of quantum thinking. This is perhaps only the beginning of a dialog with these ideas and both the reader, the wider planning community and Gerald will continue to carry them forward in dealing with ever greater complexity and uncertainty.

—*Peter Schwartz*
San Francisco

INTRODUCTION

Planning, Thinking, and Learning

“Don’t squeeze the club too tightly. Don’t think about everything I told you; just play with it and swing. Let the feeling come to you.”

These are some of the instructions given to me on how to swing a golf club.

MY BOOKCASE HAS MANY GOOD BOOKS about business planning, strategy, and leadership. Many of them have served me well throughout my career as an executive and strategic planner both in a major corporation and as a management consultant. So what is it that would drive me to write another book on those subjects, and why should you take time to read it? The short answer is to address a failure that I have witnessed that has cost companies and organizations a great deal—the failure to think and plan in a more open, learning-oriented, and innovative manner.

What’s Missing in Good Books on Strategic Planning?

I have seen a tendency to get stuck in old patterns, unhealthy group-think, and narrow safe zones. Certainly it is not for a lack of trying to break those tendencies that this failure has occurred. What has been

missing in efforts to break free is a set of clear and well-grounded tools that can be relied on to spur innovative thinking and keep minds open to continuous learning. What is needed is something that can serve as a relatively easy-to-use tool to help managers, planners, and their teams “get out of the box,” break through unhealthy or stale group-think, and reliably point to ways to give constructive challenges to what might be dangerous assumptions. This book is for people involved in planning the future of their organizations (from the top management down to individual contributors) who want sure-fire protection against narrow thinking and a quick, easy-to-use reference for some stimulating concepts to assure more innovative thinking.

Starting with my time at Pacific Gas and Electric Company as Director of Business Planning for the Engineering and Construction Unit, and throughout my fifteen years as a management consultant with Global Business Network, I have been involved with well over a hundred planning teams. I have led and participated in world-class planning, as well as some efforts that I thought were half-hearted. I have worked directly with CEOs and senior managers to help them develop key strategies for the future of their companies. In the best of those engagements, managers were dedicated to thinking and learning in an open way. I experienced a resistance to “locking down” and closing off ideas, and openness to contributions from a wide range of sources. I have not been able to “reverse-engineer” all of what I experienced, but I decided it would be useful to find some tools to generate the quality of thinking I was seeing. In my search I found the best ideas, surprisingly, in quantum physics! I will say more about this shortly.

Here are the problems I want to solve for you in this book:

1. You are about to start or lead, or are in the middle of, a strategic planning process for your organization and you want

to guard against doing “the same old thing” and coming up with “in-the-box,” safe, and unchallenging results.

2. You want to have a reliable checklist at hand to help yourself, or possibly your team, avoid any unhealthy groupthink that might emerge.
3. You or your team have settled on your core facts, beliefs, stories, and related strategies, and there is little real innovation. You want a way to systematically and quickly revisit your results to generate more expansive thinking.
4. You are using scenarios in strategic planning, but you want high-quality wild cards and more challenging and innovative stories that might lead to more innovative strategic thinking.

Those four problems are ones I have continually encountered in my career. What I have created here is a book that addresses those problems by interpreting seven core ideas from what scientists are learning about how the universe works and translating them into ideas that can spur innovative thinking for planners.

This book is not for physicists or people who want to learn more about physics. (For the curious I include some references I have found useful.) It is for people who want to help their organizations grow and have better futures and who want great ideas to accomplish these goals in an innovative, strategic plan.

My core belief about what makes for quality strategic planning is to have a *learning-oriented* approach. Planning is a way for an organization to learn its way forward and compete more effectively by making quality decisions. I believe this based on my own experience and also from the advice of experts in the field whom I have been fortunate enough to work with and become friends with (Don Michael, Peter Schwartz, Kees van der Heijden, and Arie de Gues among them). Good

strategic planning occurs in cycles, in some cases annually, but more often in two- to three-year increments (because it takes time to implement and get feedback from strategies pursued and actions taken). The integration of what has been learned through past actions and the efficiency of that process is the core of quality strategic planning.

Learning is a thinking process, so the quality of thinking is central. This book presents tools for thinking differently and in a more open and innovative manner. As the quality of thinking increases in an organization through using the tools presented in this book, I believe that the quality of the results will improve as well.

Leaders have a big role in the quality of thinking in their organizations. I see effective leaders as encouraging, creating an environment for friendly and rewarding high-quality thinking. I do not believe the role of a leader is to have all the good ideas and be the sole source of high-quality thinking. A single-person, star-based system of leadership cannot work in the complex business environments all organizations face today. I am advocating that leaders build organizational environments that encourage the use of the tools I set forth to generate higher quality thinking and innovative ideas. Chapter 1 provides more on my core ideas about good leadership and planning in organizations.

Now, you may ask, why use ideas from quantum physics? In my experience, they work and fit well. I also have found the concepts relatively easy to understand, and they translate into truly usable tools to expand my thinking and keep me open to learning more. I can see their direct application to the kind of planning processes I have led. Quantum physics is based on understanding reality as an integrated and wonderfully interconnected system. I see the business environments that organizations face as integrated and wonderfully interconnected systems as well, so translating ideas from physics to the business environment just might prove fruitful.

Physics is a complex subject. It is the science of matter and motion. There are many branches within physics itself: for example, astrophysics, which deals with the physical properties of the universe and the movement of planets, stars, galaxies, and the like, and particle physics, which deals with the smallest particles of matter. The most intelligent and studied physicists approach the subject with awe, respect, and a burning curiosity (a reading of Walter Isaacson's biography of Albert Einstein makes this very clear.)

As a field of study, physics is full of fantastic ideas (e.g., the Big Bang Theory). The discoveries from physics are a powerful influence in the history of man leading to the creation of some of the most wonderful products we enjoy in the modern world (such as the computer I am currently using to write this book). The ideas from physics have also found resonance in philosophy; the interconnectedness of all things is both a physical and a philosophical notion. The step I am taking is akin to finding parallels in the ideas emerging from physics that relate to those of philosophy. I am using them for the more practical tasks of spurring ideas through which we can better create and manage organizations. I want them to serve as pathways for challenging assumptions, inspiring new perspectives, and encouraging more open and learning-oriented thinking and planning. I am not the first person to draw from the work of physicists to try to get some value for the world of business. The mathematics behind the Fischer Black–Myron Scholes models in the world of finance that have led to modeling of risks and share-price movements in modern financial markets is derived from heat-diffusion models from physics.

I am willing to take the risk of not being as precise in my interpretation of the science as a trained physicist might be required to reach for something that might be useful. To any physicists who happen upon this book (it is not for you) and beg to differ with my use of the ideas, my response will be, "Please tell me more."

Playing with the ideas is a good place to start. This brings me to my golf lesson alluded to in the opening display quote. I want to draw from that the attitude I would like you to approach in using the ideas of this book—that is, one of play. Playing is learning by doing, and while doing, being forgiving of mistakes as part of the learning process. A mistake is not failure, but a tool for calibrating and trying again. Playing is an interactive process between doing and thinking, and one’s imagination.

I invite you to hold the ideas in your head lightly, understand my suggestions on the “how to,” yet hold a space to learn by playing with the ideas and using your imagination. I think the twists and turns your brain may go through in pondering the ideas might best be captured with a playful attitude. There may be no “right way” to hold these ideas—just infinite combinations with which to play with them. When you feel you have it, then apply your maximum strengths and intellect. Chapter 2 provides more detail on the ideas.

The central chapters of this book are Chapters 3 through 9; they interpret and translate the seven core ideas I have drawn from physics into usable tools for innovative thinking and improved planning. After your initial read-through of the book, I believe you can use each chapter separately or in combination as ready resources for expanding thought, challenging assumptions, and getting “out of the box.”

Each chapter can be used like special-purpose tools by the reader to logically build solid reasons for an idea or argument that might lead to more innovative planning. At the core of any planning process is a sharing of ideas and perspectives. Individual contributions are often a key and can lead to important pivot points. The purpose of this book is to present a list of core ideas that, when reflected upon within the specific context of a particular organization, can inspire *Aha*’s! There is some note-taking space for you at the end of the central chapters.

This book is primarily about the core ideas; however, I wanted to go an extra step and make them usable in real-life planning situations. In this light I have added Chapter 10, which is about personally empowering yourself to use what I am suggesting. I have met a lot of wonderful and smart people in my career and I have seen how who they are as people has made a big difference. The personal energy required to risk suggesting a new or challenging idea is as important as the brilliance to come up with it.

I conclude with some of my own reflections about creativity that emerged as I worked with the ideas during the writing of the book. There will be no “grand theory” in the conclusion that “ties all this together.” Not only do I not know one, but as I understand it, the field of physics itself is still searching for one (a giant particle smasher called the Hadron Collider has just been built by the European Organization for Nuclear Research, also known as CERN, at a cost of many billions of dollars to try to figure this out).

As an experienced strategic planner I have included in this book not only ideas and theory, but ways to apply the ideas during a planning process. I use my experience as a consultant and specialist in scenario-based strategic planning to suggest actual techniques for applying what I suggest. You will see this explicitly at the beginning of each chapter, and in particular in the appendix, which addresses the application of my ideas to scenario planning. I hope this material makes this a truly handy little reference book for firing up your plans, opening up paths to innovation, and keeping minds open to more learning.

Learning-Oriented Planning

“We understand that the only competitive advantage the company of the future will have is its managers’ ability to learn faster than their competitors.”

from Arie P. de Geus, “Planning as Learning”
Harvard Business Review, March–April 1988

AS I WRITE THIS BOOK (the end of 2008 and early months of 2009), the world economy is going through economic turmoil that is being compared to the Great Depression of the 1930s. The economic stress is the result of a host of factors, including bad lending practices in mortgage markets, the creation of complex and hard-to-value financial instruments (known as derivatives), plain old fraud (the Bernard Madoff investment scandal), and, from my point of view, poor strategic planning by the managers of some of the world’s biggest companies. Experienced and highly paid executives have mismanaged their companies by not preparing them to deal with changes in the business environment that, in hindsight, seem obvious—in the auto industry rising and volatile oil and gasoline prices, and in the banking sector the truing up

of poor credit-based lending practices and the historical fact that housing prices don't always go up. Clearly, whatever strategic plans they had did not work well.

The Need for Better and Innovative Planning

My purpose in writing this book is not to take easy shots at the managers who missed turns in the market and in the process sent their organizations into disaster. I have been an executive working on strategic plans in a large company and have worked with scores of senior executives as a consultant. I understand the macro (economy and industry-wide level), micro (at the company level), and personal (at the level of individuals and relationships) factors that make high-functioning strategic planning and effective follow-through very challenging. My intention here is to address some of the core challenges preventing real breakthrough planning and to offer solutions. Poor and ineffective planning can be replaced with innovative and learning-oriented planning that can help organizations succeed.

My ideas have emerged from my own meditations about a common and recurring problem that I have witnessed over my 20-year career as a strategic planner: groups and managers, while working hard on charting the future of their companies or organizations, settle for ordinary, limited, unimaginative, and, often, dangerous (almost certain to fail) strategies for success. Often a combination of old thinking, attachment to protected or untouchable ideas that are woefully out of date, political maneuvering, and plain fear of an uncertain future cause intelligent and hard-working people to make poor decisions.

I have consistently run into the following three issues as generic blocks to innovative thinking and planning in almost all companies and organizations.

1. Short-term needs (typically for profits or cost savings) tend to drive out the ability to think long-term.
2. The desire and perceived safety of copying competitors precludes real innovation.
3. The perceived safety of protecting sunken investments and their cost advantages means risky new investments are avoided, and the safety of the well-known provides a comfort zone that stifles creativity.

These blocks occur for a good reason; they are the opposite side of grabbing the “low- hanging fruit” of the obvious. But no organization can long survive or reach its full potential by picking only low-hanging fruit. Competition and the inevitable long-term trend of creative destruction (either you or your competitor will bring about evolution in your business) demand that strategic planning be taken seriously. I think this is why, despite those seemingly insurmountable blocks, organizations still take the time to plan. I believe that taking the time is valuable, and that it can be better spent, and can yield more creative and innovative ideas and plans.

To make this true I have embarked on a personal search for something that will help both individuals and groups step outside self-imposed barriers and go for something that will provide specific tools for some really innovative and out-of-the-box thinking. I have found those tools in, of all places, quantum physics.

My purpose in writing this book is not solely to help managers and organizational leaders think differently and see new possibilities. My hope is also that through this kind of new thinking, people will go on to create new kinds of organizations, businesses, and enterprises that will make all of our lives more comfortable, interesting, and prosperous in the future. I believe in a positive future. I believe human beings are at

the beginning of a long creative enterprise. I believe scientific discovery and its applications will allow our creativity to outrun our challenges. We need only see the opportunities and be creative in implementing them.

I think with some of the advances we are experiencing (the accelerating pace of nanotech, biotech, information, and communications technologies), we will also need to advance our models of thinking to enable visions of entirely new kinds of organizations, energized to meet human needs and desires that we are just beginning to understand. We will have fantastic new capabilities, and as we make the social, political, and cultural adjustments to these new powers, they will reshape our organizations and thereby our lives.

Just as we have learned from nature's examples on the earth (e.g., triangles and cones to create strong structures or the strength of curly strands of Velcro from the seeds of burdock weeds), I hope this book provides some new tools to enhance and accelerate our ability to think more imaginatively and creatively in building new organizations that use patterns hidden in the subtle structures of the universe.

My Career as a Strategic Planner

In 1978, my first job after graduating from the Graduate School of Business at the University of Chicago was in the international project finance group at Bechtel Corporation (my degrees are in Finance and Economics). After a couple of years there, I joined the Corporate Finance Department of Pacific Gas & Electric Company (PG&E) to work on asset-based financing for power plants and other facilities. In 1986 I was invited to join a select team of managers at PG&E to form its first strategic planning department. We were led by a very intelligent man who had a successful career in strategic planning with some of the leading foundations and organizations involved in thinking about such

things as the nuclear weapons complex of the United States. I had previously spent the early part of my career in corporate finance and was thus added to the group for my background in finance and economics. There were several big and interrelated questions facing the company at that time, including

- » the beginning of the deregulation-of-markets debacle (which eventually bankrupted PG&E)
- » how to deal with changing generation technology (small and renewable power)
- » how to move toward a more environmentally friendly business structure

At PG&E I learned the skill of writing long, complex planning documents and managing budgets and programs. During this time I met an interesting group of consultants from a small start-up consulting company, Global Business Network (GBN), who were practitioners of something new to me called “scenario planning.” I was asked to lead the company-wide team to apply this technique to augment our strategic planning and help PG&E address the issues outlined above, about which we were highly uncertain. What I found most refreshing about the scenario approach was the open thinking and questioning we were able to do that was far beyond the almost rote approach so common in budget planning (“Ten percent over last year, please!”). As a quick reference, I have included a short introduction to scenario planning in the Resource section on page 130; you can do a Web search and find volumes of information on the subject (including some at www.artofquantumplanning.com).

In 1993, PG&E put in place its first “restructuring.” As a key step, the company discontinued operations in the business of engineering and constructing electricity-generating power plants. I was part of a team of four key managers who, over a 45-day period, reassigned about 2000

employees to different parts of the company. The result, unfortunately, was that leading managers of the business unit, including me, were out of a job. However, I had remained in contact with Peter Schwartz, the chairman of GBN, and he invited me to join the company to work with many of their energy and electric-power customers.

I was a part of the GBN consulting practice until 2008 and worked in Asia, Europe, Australia, and all over the United States, not only in the energy industry but also in the fields of mining and metals, telecommunications, information technology, community development, and education. I have applied my skills as a scenario and strategic planner in over 100 engagements. I remain a part of GBN's team of specialists and experts and, when time allows, occasionally participate in scenario work, where my background adds value. Now as president of my own company, I work with companies and nonprofits, assisting them in business and strategic planning. I also love to play the futurist role and speak to organizations about the future of key issues facing them.

This book thus emerges from those 20 years of experience working with CEOs, executive directors, vice presidents, and the teams of people supporting them. Using scenario planning and developed strategies, I and my colleagues at GBN helped to invigorate some new ideas and perspectives and added value to the ongoing strategic conversations and planning processes within the companies and organizations for whom we consulted. But all too often, I left these engagements wondering if we had played it too safe and not pushed harder for more innovative and creative thinking. What additional tools or more thoughtful questions might we have asked? This book is answers that question.

This book also emerges from studying successful and innovative companies and trying to reverse-engineer some of their thinking. Three organizations stand out in my observations: Toyota (and its breakthrough with the Prius), and, in the nonprofit sector, Wikipedia and the

Grameen Bank. These organizations went against so much conventional wisdom (build a car with no proven demand, created an online encyclopedia open to anyone to edit, and, in a respectable manner, lent money to poor people,) that clearly some really innovative thinking had to be in place. From listening to their leaders on various TV programs and in researching their organizations, it is clear that they overcame some tough and entrenched blockages in thinking and creativity. My desire is that the tools in this book will encourage more of that kind of thinking and more of those kinds of solutions and organizations. I hope that by using the seven core ideas for expanding thinking, more people in organizations (and not just the few exceptional visionaries) can create a better future for us all.

Why Quantum Physics?

Finally, here is the story about my route to quantum physics. It started with a movie, then a book, then a furious search on the Web, then more books. The movie was “What the Bleep Do We Know?” Many people (including some of my friends) found this movie irritating and nonsensical. I liked it because it gives hard science a softer and more usable focus for everyday living. I was intrigued that some really great minds were advocating many of its ideas. I then read *The Self-Aware Universe: How Consciousness Creates the Material World*, by Amit Goswami, PhD. At the time I was reading that book, I was leading a significant strategic-planning consulting project in the energy and technology field. As I worked with the client to come up with innovative strategic responses, I was caught again in a frustration loop (how to push the team to think more innovatively while ensuring that core ideas emerged from their minds and not mine).

It was months later that some of the ideas I had researched on quantum physics began to gestate the list of seven ideas included in

this book. I read about basic quantum physics in introductory books, I read about Albert Einstein, and I even read science fiction ideas on how physics applies (see my suggestions in the bibliography). There was no flashing blinding light—more like a slow burn with occasional sparks. For a couple of years, what kept me coming back to the quantum physics ideas were regular flashes of new perspectives I got from using them to explain both successes and failures I was seeing in the strategies of organizations (examples are provided in the following chapters). I believe this list of seven ideas from quantum physics, if planted in the minds of people making future plans for their organizations, can provide the sparks for some breakout thinking and more creative and innovative formulation of strategies.

Strategy, Thinking, and Learning-Oriented Planning

I sometimes define strategic planning as the process of making decisions and taking actions that will be impossible or very difficult to reverse. Strategy is the reasoning and rationale behind investing the resources of an organization into the creative process.

Strategy is a key part of the process of turning ideas into action and reality. Strategy involves putting thinking into action. Formulating strategy involves applying thinking to creativity and problem solving—the more creative the thinking, the better the strategy. When I see a wonderful new product or invention, I often shout, “Who thought of this?!” Every human invention started with a thought aimed at meeting a desire or need. Thinking is so important that René Descartes, the French philosopher and mathematician, suggested with his famous statement “I think, therefore I am” that it validated human existence. One of the ways death is defined is that the person is no longer thinking—a person may be breathing but is “brain dead.”

I assert that planning is organizational thinking. One of my former colleagues at GBN, Don Michael, insists planning is learning and learning is planning. I agree, and I want to suggest that strategic planning is the process of thinking about what the organization needs to learn; thus learning-oriented strategy. A learning orientation to strategic planning should focus on areas where the organization is strategically uncomfortable (the areas recognized as important to, but are not a strength of, the organization). Just as learning makes us better people and shores up our weaknesses, a strategic plan that has a learning component is a vital way that an organization can become stronger, more creative, and more innovative.

The objective of strategic planning in any organization should be not only to set direction and guide actions and investments, but also to enable an organization to “learn its way forward” and in the process restructure itself. Following on from the quotation by Arie de Gues at the beginning of this chapter, that the only long-term, sustainable advantage is to learn faster than your competitors, I believe that a learning agenda should be a key output of a quality strategic plan (more on this in the Conclusion).

Where I have seen poor, unimaginative planning done, the key factor is the quality of the thinking, and in many cases a lack of a willingness to think deeply or imaginatively. Too often there is a rush for quick, easily explainable answers that validate someone’s frame or worldview. In scenario planning work, often I would have to include the expected future that validates the organization’s current plans as one of the scenarios in order to retain the support of key people in the organization. At GBN, we called this the “official future” (oddly enough, sometimes managers were not always clear on what it was or willing to admit or defend it). I was often warned that if I, and the team that I was facilitating, did not include the “official future,” we would

lack credibility (never mind that what is expected almost never occurs). In many cases, I was amazed at what actually was in the expected future (e.g., continued low or moderate oil prices for car companies) and how vociferously they were argued for by some managers.

But this was just the first level of the problem. The second and deeper level is what George Lakoff is pointing to in *Don't Think of An Elephant*—our thinking fits into some frames and structures of which we are often unconscious. Lakoff states,

Framing is about getting language that fits your worldview. It is not just language. The ideas are primary—and the language carries those ideas, evokes those ideas.”

These key metaphors, myths, and archetypes govern our thinking the way interstate highway systems govern how we travel across the country. Those key metaphors, myths, and archetypes arise from some very powerful forces, including our contact with nature and our cultures. When we use a particular word, we are speaking a frame of reference into existence. However, we are just pushing the pedal to the metal and have forgotten that the roads were put there by others. We are unconscious in those moments of the fact that these deeply held notions are shaping our thinking and thus shaping our view of the possible.

In business planning situations I have seen warring departments fight over political control and budgets. These conflicts were often voiced by one group saying of the opposition, “They don’t get it” or “Their heads are in the sand.” Very often there were conflicting views of market developments, technological developments, customer needs, and expected responses. Listening closely, I could hear very different metaphors used to describe the same market or technological developments. These beliefs were often strongly held, and the losing side would in many cases be on the political outs, if not worse (e.g., at risk

of losing their jobs). Maybe in the subconscious minds of people they know, even if they don't acknowledge it, their thoughts are vital in creating the future of their organizations. Their conflicts were about the future!

How and what the people who are involved in business and strategic planning think literally creates the futures of their organizations. Thinking is vitally important. Thoughts lead to the creation of things, and those things are the organization. In a world that is changing at a rapid rate and full of uncertainty, it makes sense to me that strategic planning must be about the organization learning its way forward.

The beauty and genius of scenario planning rests in allowing multiple views of the future, legitimizing different world views or market developments, and thus allowing for the development of alternative perceptions and different metaphors. The names of scenario narratives often capture these metaphors and variations in perception. This book is thus about expanding the metaphors and archetypes and, in the process, expanding perception. The metaphors and ideas I have chosen below have the benefit of reflecting some of humankind's best scientific thinking for how the smallest and biggest things in the universe behave. My experience in playing with these ideas is that they open up completely new avenues of thinking and learning and thus creativity and innovation. They have encouraged me to take second and third looks at a phenomenon or event and see something deeper.

How to Use This Book

This book is written for people who are leading and managing the processes for planning the future of their organizations, regardless of the management structure used to do so. My major objective is to share ideas and tools that will lead to better thinking and, therefore, better planning. This book can be especially useful as a pre-read before

entering the planning process, as a way of warming up the imaginative and creative juices. Read it entirely through once. Make any notes you want in the margins or on the pages provided with suggested questions at the end of the chapters; don't worry about your scribbles making sense to anyone but you. Then look broadly for any examples of the quantum structures and thinking manifesting in organizations you see or read about. Look within your industry and outside of it. Take one idea at a time and try it on in a conversation by forming one or more good questions based on it (experiment to experience—play and don't worry when you don't get a question just right). You will know you are getting there when your questions generate in others a pause for deeper consideration and a richer conversation emerges. Don't mention quantum physics when talking to others about your thinking unless you are prepared for a blank stare and to be ignored.

This book can be useful at any point during a planning process when you (or the group of which you are a part) are stuck in tired or worn-out patterns and need to jump-start more radical and creative thinking. It may also be good to pick this book up when you are awash in confidence that your plan is on target and you cannot possibly think of anything that might disrupt it. Use it as a tool to step outside your comfort zone.

This book is designed so that each of the core chapters on the seven ideas can be used separately. While planning, use the ideas in these chapters to encourage innovative thinking from a different perspective. One tool may be more useful in a given situation than another. A quick review and reread of a particular chapter may be just enough to encourage and crystallize some new thinking. Or it may take a combination of chapters. Just do what works best for you.

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