



solving tough problems

An Open Way of
Talking, Listening,
and Creating
New Realities

ADAM KAHANE

Foreword by Peter Senge

"This breakthrough book addresses the central challenge of our time: finding a way to work together to solve the problems we have created." **NELSON MANDELA**

An Excerpt From

***Solving Tough Problems:
An Open Way of Talking, Listening, and Creating New Realities***

by Adam Kahane

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Contents



Foreword by Peter Senge	ix
Introduction: The Problem with Tough Problems	1
<i>PART I: TOUGH PROBLEMS</i>	5
“There Is Only One Right Answer”	7
Seeing the World	13
The Miraculous Option	19
<i>PART II: TALKING</i>	35
Being Stuck	39
Dictating	45
Talking Politely	53
Speaking Up	59
Only Talking	67
<i>PART III: LISTENING</i>	71
Openness	73
Reflectiveness	79
Empathy	87
<i>PART IV: CREATING NEW REALITIES</i>	93
Cracking Through the Egg Shell	95
Closed Fist, Open Palm	107
The Wound That Wants to Be Whole	113
Conclusion: An Open Way	129

Notes	133
Bibliography	137
Index	140
About the Author	148

Introduction: The Problem with Tough Problems



*T*OUGH PROBLEMS usually don't get solved peacefully. They either don't get solved at all—they get stuck—or they get solved by force. These frustrating and frightening outcomes occur all the time. Families replay the same argument over and over, or a parent lays down the law. Organizations keep returning to a familiar crisis, or a boss decrees a new strategy. Communities split over a controversial issue, or a politician dictates the answer. Countries negotiate to a stalemate, or they go to war. Either the people involved in a problem can't agree on what the solution is, or the people with power—authority, money, guns—impose their solution on everyone else.

There is another way to solve tough problems. The people involved can talk and listen to each other and thereby work through a solution peacefully. But this way is often too difficult and too slow to produce results, and force therefore becomes the easier, default option. I have written this book to help those of us who are trying to solve tough problems get better at talking and listening—so that we can do so more successfully, and choose the peaceful way more often. I want talking and listening to become a reliable default option.

Problems are tough because they are complex in three ways. They are dynamically complex, which means that cause and effect are far apart in space and time, and so are hard to grasp from firsthand experience. They are generatively complex, which

means that they are unfolding in unfamiliar and unpredictable ways. And they are socially complex, which means that the people involved see things very differently, and so the problems become polarized and stuck.

Our talking and listening often fails to solve complex problems because of the way that most of us talk and listen most of the time. Our most common way of talking is telling: asserting *the* truth about the way things are and must be, not allowing that there might be other truths and possibilities. And our most common way of listening is not listening: listening only to our own talking, not to others. This way of talking and listening works fine for solving simple problems, where an authority or expert can work through the problem piece by piece, applying solutions that have worked in the past. But a complex problem can only be solved peacefully if the people who are part of the problem work together creatively to understand their situation and to improve it.

Our common way of talking and listening therefore guarantees that our complex problems will either remain stuck or will get unstuck only by force. (There is no problem so complex that it does not have a simple solution . . . that is wrong.) We need to learn another, less common, more open way.

I have reached these conclusions after twenty-five years of working professionally on tough problems. I started off my career as someone who came up with solutions. First I was a university researcher in physics and economics, and then an expert analyst of government policy and corporate strategy. Then in 1991, inspired by an unexpected and extraordinary experience in South Africa, I began working as a neutral facilitator of problem-solving processes, helping other people come up with their own solutions. I have facilitated leadership teams of companies, governments, and civil society organizations in fifty countries, on every continent—from Royal Dutch/Shell, Intel, PricewaterhouseCoopers, and Federal Express, to the Government of Canada and the European Commission, to the Congress of South African Trade Unions and the Anglican Synod of Bishops—helping them

address their organizations' most difficult challenges. And I have also facilitated cross-organizational leadership teams—composed of businesspeople and politicians, generals and guerrillas, civil servants and trade unionists, community activists and United Nations officials, journalists and clergy, academics and artists—helping them address some of the most difficult challenges in the world: in South Africa during the struggle to replace apartheid; in Colombia in the midst of the civil war; in Guatemala in the aftermath of the genocide; in Argentina when the society collapsed; and in deeply divided Israel-Palestine, Cyprus, Paraguay, Canada-Quebec, Northern Ireland, and the Basque Country.

Commuting back and forth between these different worlds has allowed me to see how tough problems can and cannot be solved. I have been privileged to work with many extraordinary people in many extraordinary processes. From these experiences I have drawn conclusions that apply not only in extraordinary but also in ordinary settings. In the harsh light of life-and-death conflicts, the dynamics of how people create new realities are painted in bright colors. Having seen the dynamics there, I can now recognize them in circumstances where they are painted in muted colors. I have learned what kinds of talking and listening condemn us to stuckness and force, and what kinds enable us to solve peacefully even our most difficult problems.

My favorite movie about getting unstuck is the comedy *Groundhog Day*. Bill Murray plays Phil Connors, a cynical, self-centered television journalist who is filming a story about Groundhog Day, February 2, in the small town of Punxsutawney, Pennsylvania. He despises the assignment and the town. The next morning, he wakes up to discover, with horror, that it is still February 2, and that he has to live through these events again. This happens every morning: he is stuck in reliving the same day over and over. He explains this to his producer Rita, but she laughs it off. He tries everything he can in order to break this pattern—getting angry, being nice, killing himself—but nothing works. Eventually he relaxes into appreciating the present, and opens himself

up to the town and to Rita. Only then does he wake up to a new day and a better future.

Many of us are like Phil Connors. We get stuck by holding on tightly to our opinions and plans and identities and truths. But when we relax and are present and open up our minds and hearts and wills, we get unstuck and we unstick the world around us. I have learned that the more open I am—the more attentive I am to the way things are and could be, around me and inside me; the less attached I am to the way things ought to be—the more effective I am in helping to bring forth new realities. And the more I work in this way, the more present and alive I feel. As I have learned to lower my defenses and open myself up, I have become increasingly able to help better futures be born.

The way we talk and listen expresses our relationship with the world. When we fall into the trap of telling and of not listening, we close ourselves off from being changed by the world and we limit ourselves to being able to change the world only by force. But when we talk and listen with an open mind and an open heart and an open spirit, we bring forth our better selves and a better world.

“There Is Only One Right Answer”



*W*HEN I WAS YOUNG, I thought that the world’s toughest problems would be solved by the world’s smartest people, and I wanted to be one of them. So in 1978, when I started university at McGill in my home town of Montreal, I chose honors physics. This degree involved courses only in theoretical physics and advanced mathematics—nothing but the laws of nature and of pure reason.

My classmates and I were proud to be inducted into this elite intellectual fraternity. We trained by reproducing an increasingly difficult series of logical proofs. Our textbooks contained questions at the end of each chapter and the answers at the back of the book. Our quantum physics course was graded based on a single open-book exam. Before the exam I worked through every exercise in the text, and so I got a perfect grade.

We understood that there is only one right answer.

During the summers, I had electronics jobs in different laboratories. When you’re troubleshooting circuits, either the wires are connected properly and it works, or not: you’re completely in control. One weekend I went horseback riding, and I was concerned with how to get the horse to raise its leg to get over a log, when—without any instructions from me—the horse did it! I was not used to dealing with living, sentient systems.

One year, while I was still a student at McGill, I participated in a meeting of the Pugwash Conference, an association of the

world's top scientists dedicated to preventing nuclear war. I had written a paper arguing that airplanes were more ideally suited than satellites to monitor nuclear test ban treaty compliance, because airplanes are cheaper and more flexible. I ignored the practical and legal reasons why this regime would be harder to implement. Bob Williams, a Princeton scientist and policy advocate, pleaded with me not to fall into the idealist's trap of "letting the best be the enemy of the good." I didn't understand his point. Wasn't there only one right answer?

At one of the conference sessions, a woman from Sri Lanka gave a compelling speech about her country's shortage of energy. I liked the idea of using my scientific training to solve complex societal problems. One of the conference participants, physicist John Holdren, ran a graduate program in energy and environmental economics at the University of California at Berkeley, and so in 1982 I moved there.

The Berkeley economics department had a strong theoretical and mathematical orientation. They and I thought that my physics degree was adequate preparation—even though I had not taken any undergraduate courses in economics or other social sciences—because their mathematical models of economic behavior treated people like predictable, inert objects. I discovered that economists are only slightly less confident than physicists that they possess objective truths about the way the world works. When their truths were questioned during the recession of the early 1980s, my professors were embarrassed and distraught. "This really isn't a good time for you to study macroeconomics," one counseled.

At Berkeley I reoriented myself from solving tough physics problems to solving tough public policy problems. I learned to be a policy "wunk": I'd analyze a societal problem, calculate the right solution, write a paper on it, and then advocate for government decision makers to implement it. I built a computer model of the Canadian economy to assess the impact of different ways to tax energy and to critique the government's policies.

I wrote my thesis on the Brazilian government's program of substituting alcohol for gasoline. After reading every report written about the program, I concluded that it was misguided.

My classmates and I fought for more rational energy and environmental policies. In our second year seminar, "Tricks of the Trade," John Holdren taught us how to testify before a congressional committee—our idea of the ultimate decision makers—and to give a sharp answer on the spot: "That's an excellent question, Senator. The answer is 10.7 exajoules. That's why I recommend that you vote in favor of this legislation." We were learning to be "policy doctors": to make a dispassionate diagnosis and write out a policy prescription, which the decision makers would take and implement and which would cure the problem.

Once I had my degree from Berkeley, I took a series of economics research jobs, first at the Lawrence Berkeley Laboratory in Berkeley, then at the International Energy Agency in Paris, the Institute for Energy Economics in Tokyo, and finally at the International Institute for Applied Systems Analysis (IIASA) in Vienna. Set up during the Cold War, IIASA brought scientists from the East and West blocs to work together, apolitically, on complex global challenges such as population pressure, global warming, and energy shortages.

The institute had a relaxed, intellectual atmosphere. In the mornings we were served Viennese pastries with coffee. In the afternoons there were lectures from resident and visiting scholars. I set out to work on the biggest, toughest problem I could find. I was going to calculate, by hand, a "general equilibrium" model of the interactions among energy, capital, labor, and technology in the world economy. I wanted to prove mathematically the optimum level of world energy consumption. This would indicate the correct policies that the world's decision makers should implement for energy supply, pricing, and conservation. This problem turned out to be more difficult than I expected. I spent week after week covering sheet after sheet of paper with formulae, getting more and more confused and frustrated. Eventually it

dawned on me that the problem was probably mathematically insoluble and, more devastatingly, that nobody had any interest in or use for any solution I might find. I had completely floated away from earthly reality.

This realization led me, when I returned to the United States in 1986, to look for a “real job.” I got one at Pacific Gas and Electric Company in San Francisco, the monopoly supplier of electricity and natural gas to Northern California. PG&E was right in the middle of pitched analytical and political battles over nuclear power, environmental protection, energy conservation, and utility deregulation. I was given the title Corporate Planning Coordinator and an office near the top executives, with a beautiful view of San Francisco Bay. My job was to work on strategic problems and recommend solutions to the executives. I understood that the way to get ahead was to know the one right answer to any question, quickly: “Well, boss, the return on that investment would be 10.2 percent. So I recommend that we go for it.”

PG&E, a publicly traded company, was strictly regulated by the California Public Utilities Commission (CPUC). The company had a simple, highly controlled business model: it forecast what it needed to do in order to serve its ratepayers, added up these “revenue requirements,” and then petitioned the CPUC for permission to charge rates sufficient to cover them. These regulatory rules were designed to provide consumers with reliable, low-cost energy, and to provide PG&E shareholders with a low but steady rate of return. The primary focus of PG&E’s management attention was therefore not on customers, but on formal public hearings before the CPUC. Fittingly, eight of the nine members of the company’s executive Management Committee were lawyers.

In our semijudicial rate hearings before the CPUC, we asked for rate increases to cover the cost of investing in new power plants to meet growing consumer demand. Our case rested on the soundness of our forecasts. Consumer and environmental groups tried to prove that our forecasts were too high and that we did not really need to build more power plants or have higher rates. We had a set of sixteen detailed, linked mainframe computer models that took ten days to run through. At the CPUC hearings, energy policy experts fought “model wars” as to who had the right numbers about the future; in other words, who had the societally optimal answer.

After a year, this whole approach started to seem like make-believe to me. From my work on forecasting at IIASA and before, I knew that no one could really have the right numbers about the future—especially because deregulation was about to upend the industry. This orderly, controlled edifice of models and predictions and hearings was not realistic.

In the midst of all of these changes and challenges at PG&E, I was very content to be working directly for the real decision makers. I reported to the Senior Vice President of Corporate Planning, Mason Willrich, a former law school professor and an arms control policy expert. I was delighted with my boss, and I could only imagine how much more brilliant *his* bosses must be. The hierarchy at PG&E was so obvious that it was never even mentioned. The CEO was in charge, his senior officers were next in line, and then the officers, and so on down the ranks. I assumed that the people at the top were smarter and more informed than the rest of us.

I was keen to fit in and make a good impression. On my first day I mentally measured the width of Willrich’s trouser leg where it hit his shoe, so that I could make sure mine did the same. After only a few weeks, I found myself smiling every time I walked past a PG&E manhole cover on the sidewalk. I was happy to be doing an important job for an important company.

Because I coordinated internal planning studies for the Management Committee, I went to some of their meetings in the enormous, oak-paneled boardroom on the top floor. Here, conversations were polite, reasoned, and completely under control. The company secretary provided orderly agendas and discreetly negotiated minutes.

In my second year, I was assigned to assemble the analytical material for the annual Management Committee strategy retreat. The meeting was held at a rustic lodge on a wild mountain property, near one of the company's small hydroelectric dams. I was excited to be with the bosses in their inner conclave, even though on the first evening, the president took several hundred dollars away from me in a poker game.

Given my exalted expectations, the retreat itself was a profound letdown. I watched the business sessions in stupefied disbelief. The executives ignored the analytical material, played power games, ganged up on each other, pretended to misunderstand, settled old scores. I was deeply disillusioned and felt my commitment to the company slipping away. This was not at all the brilliant, informed, rational decision making that I had been trained to expect. The world did not work the way my one-right-answer textbooks said it did. Something much messier was really going on—and I wanted to understand it.

Seeing the World



IN 1988 I LEFT PG&E and took a job in the strategic planning department of Royal Dutch/Shell, the giant Dutch-British energy and chemicals company: almost 100 years old, \$100 billion in sales, and over 100,000 employees in more than 100 countries; the fourth largest industrial company in the world. The global petroleum business was much different from the California utility business. Shell was not concerned with regulatory hearings; it was dealing with the hurly-burly of the marketplace. It was wonderfully cosmopolitan, intellectual, and practical: a combination of British subtlety and Dutch bluntness. If Shell staff were arrogant, I thought, it was because they deserved to be: they were the best. Here I could learn how the world really worked.

My job was to come up with new ideas that would provoke, stretch, and challenge the managers' thinking about tough business problems—to improve the quality of their strategic debates. From the window of my office in the London headquarters, I could see the Houses of Parliament. Like Parliament, Shell believed in the value of debate to hammer out a sound way forward. And like “Her Majesty’s Loyal Opposition,” our department had to ask the difficult and awkward questions that would challenge the managers and improve the quality of their thinking.

Our primary tool for this challenging was scenarios. Our leader was Dutchman Kees van der Heijden, a rigorously thoughtful man who had worked with Pierre Wack, the philosophical Frenchman

who had invented this approach in the early 1970s. Shell could neither predict nor control the future of its business environment, and it was therefore impossible for us to compute one right strategy for the company. Instead, the company's managers needed to be alert to what was happening and what might happen in the world, so that they could quickly recognize meaningful changes and adapt to them. Our scenarios were a set of carefully constructed, plausible stories about how the future might unfold over the next twenty years.

Wack's methodology was sophisticated and expansive. He called the first phase of the work "breathing in." We observed the world, as broadly and carefully as we could, looking for underlying trends. We had wide-ranging interests: the future of the nation state, environmental science, automobile technology, social values, Middle East economics, the politics of international trade. I found this a wonderful intellectual adventure and an amazing education. We read books and journals, commissioned and wrote research papers, and organized expert seminars.

The most important way we learned about the world was to go out and talk with people. We had a blank check to go anywhere and meet anyone who could help us see the trends more clearly. The purpose of these meetings was not only to learn what was going on but also how different people thought about it. I talked with civil servants in the UK and Belgium, businessmen in Singapore and Brazil, environmentalists in Kenya and Germany, journalists in Thailand and India, academicians in China and Czechoslovakia, politicians in Korea and Nigeria, engineers in Japan and the United States.

After two years of breathing in, we were ready to breathe out. We spent months arguing about the significance of what we had seen and how it added up. I enjoyed these debates and played to win. Eventually we selected two scenarios that effectively and elegantly synthesized what we had learned about what might happen in the company's business environment. Then we wrote these scenarios up in the form of plausible, logical, quantified stories.

The management decisions of Shell were never included in the stories: we assumed that the company's actions had no impact on the scenarios.

Next, we flew around the world, with our thick deck of viewgraphs, to run workshops for every management team in the company. We challenged each team to study the two scenarios and consider what each, were it to occur, would mean for their business. What specific opportunities and threats would arise in their markets? Which of their unit's strengths and weaknesses would be exposed? What actions would be indicated? We wanted the managers to "live in advance" and internalize these different possible futures. We did not want them to operate from a single fixed view of what they thought would or should happen. In this way, every unit in Shell adjusted its strategy so as to be more robust against both of these stories.

One of our global scenarios focused on climate change. I was proud of this work because I was concerned about environmental problems. This helped Shell managers see and recognize the importance of these issues earlier than competitors, and to take the lead in sustainable development. As far as I was concerned, Shell was doing a good job in the world. But I was now more pragmatic, even cynical. I was far beyond the naïve idealism that had brought me to Berkeley. I now knew that every trend had a countertrend, every argument had a rebuttal, and every solution produced a new problem. I knew that there was no longer one right answer. My world had become more realistic—and more complex.

In 1990, van der Heijden retired from Shell. He was replaced by Joseph Jaworski, an outside hire with a markedly different background and orientation. Jaworski was a successful Texan trial lawyer and businessman who had spent the 1980s founding and building the American Leadership Forum, a nonprofit organization dedicated to strengthening collaborative civic leadership in the United States. He was innovative and curious. He was not an expert in global scenarios and did not mind admitting it. He was

also intensely idealistic, which set his pragmatic colleagues, including me, on edge.

We started to develop a new set of global scenarios. After the fall of the Berlin Wall, we focused on the twin revolutions of political and economic liberalization and globalization. We constructed two new stories—named *New Frontiers* and *Barricades*—about how the world might unfold as a result of these dynamics. *New Frontiers* described what happens when poor countries liberalize successfully and claim a larger role on the world stage. This opening up is turbulent and painful to many established interests in both poor and rich countries, but it continues because people believe that it is in their long-term self-interest. In *Barricades*, people resist globalization and liberalization because they fear they might lose what they value most: their jobs, power, autonomy, religious traditions, and cultural identities. Economic and political vested interests are deeply threatened by opening up, and they attempt to contain it.

These new scenarios raised a new set of tough business problems for Shell managers to address. And they had a significantly different twist that was elicited by Jaworski's visionary and activist orientation. He and I and a few other members of the scenario team were convinced that *New Frontiers* would be better for the world than *Barricades*, and that Shell should, in addition to preparing for both scenarios, actively promote *New Frontiers*.

Some people in our department thought that this would not be right. Favoring one story over another would make managers less adaptable in the face of uncertainty. Furthermore, companies should not intervene in politics; they should stick to running businesses.

I was intrigued by this debate about the appropriate role of Shell in the world. I understood the reasons for detached observation and challenge, and why Jaworski's activism did not quite fit in. Shell's business managers were responsible for creative, entrepreneurial action; our department's job was just to challenge these managers' thinking. I also understood the risks of corporate

hegemony, and that many citizens would view any attempts by Shell to act outside its business role with skepticism and hostility. At the same time, the company's belief—"we are just business people, we observe what is going on and try to adapt, within laws and rules that governments set"—struck me as somewhat disingenuous and self-serving, even irresponsible. Shell, one of the world's largest and most powerful organizations, was in general a beneficiary of the way the world's rules had been written, and actively lobbied for its specific interests in economic, energy, and environmental rule making. I wondered whether there wasn't a different, more engaged way for the company to participate in solving complex problems.

Jaworski's passionate and idealistic activism challenged my dispassionate and realistic scientific training. He looked for evidence of the better future he intuited and hoped was possible and then acted entrepreneurially to bring this vision into reality. I admired his whole-hearted commitment and leadership. And I was surprised to discover that my own desire to make a difference, which had faded after I left Berkeley and entered the "real world," was returning.

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