

The world needs Paradigm Shift in Thinking

Prof. Shozo Hibino, Ph.D.Chairman, The Japan Planology Society

Prof. Gerald Nadler, Ph.D.The Center for Breakthrough Thinking

Introduction:

Throughout the world, people, businesses and organizations of all kinds face difficult challenges that need to be solved. Indeed, in 2009, the Union of International Associations issued a new edition of its Encyclopedia of World Problems and Human Potential that identified 56,564 specific problems and issues! Whether it's discovering and innovating new products and services, improving manufacturing or production efficiency, reducing waste and costs, educating workforces, recruiting and hiring new personnel, or improving marketing and sales, companies and organizations must learn how to approach their challenges in an efficient manner to find optimal and creative solutions that lead to profits or public outcomes and satisfy their stakeholders.

1. Why Our Usual Way of Creating Solutions Is Ineffective

Why do we continue have so many problems vexing humanity on earth? Why do so many organizations and individuals have trouble solving their problems in effective and lasting ways?

Our position is that most people continue to approach problem solving in an ineffective, if not inappropriate way, especially given the complexity of many business, government and social problems today. As researchers and consultants in this field, we say this because we've been studying, writing about, and performing problem solving for more than seventy combined years. We have witnessed firsthand the most common method of problem solving used in business, government, and society at large. Our research has been extensive, involving thousands of individuals and in hundreds of different circumstances, including corporate, governmental, and personal.

Our research indicates that the majority of the population, around 92% of people, goes about creating solutions using ineffective and unproductive techniques and thinking.¹ You may be wondering how that could possibly happen, how could so many people have learned ineffective methods of thinking?

The answer is, people in Western societies are taught almost exclusively to use a *reductionist* thinking style for problem solving. This approach derives from the Cartesian scientific paradigm that took root in European society in the 1600s. Named after French philosopher René Descartes, the Cartesian method was originally an attempt to expand

human knowledge beyond the “faith-based” dogma of the Church, which up to that time had largely dictated and controlled what people believed about everything, from astronomy and medicine to social relations and politics.

To counter the medieval mindset and methods of thinking that had dominated the Western world since ancient Greece, Descartes and his compatriots – notably the English philosophers Sir Francis Bacon (1561-1626) and Isaac Newton (1642 - 1727) – recognized that humans needed a new paradigm of thinking and reasoning – one that relied on the use of empirical evidence, logic, and analytical reasoning. In the new Cartesian approach, problems needed to be solved scientifically, which for Descartes meant through study and careful analysis.

In Cartesian thinking, one begins by identifying the problem, then proceeds in lockstep sequence to collect data about the issue, analyze the data, propose a hypothesis for how the problem might be solved, test the hypothesis, evaluate the results, and finally conclude by pronouncing the “correct” answer to the problem. This Cartesian method of scientific investigation and problem solving, developed to analyze the observable nature-based world, is based on four principles:

- First, everything or every problem can be divided into component parts.
- Second, any one of those parts can be replaced.
- Third, the solution of the partial problem can solve the entire problem.
- Fourth, the whole is nothing more than the sum of its parts.

2. Reductionist Thinking is not the only type of thinking

But reductionist thinking is not the only type of thinking we can do. As it turns out, the human mind has developed many types of thinking, each one having its own pros and cons. Though it is the most common framework for thinking, the reductionist paradigm is just one of 94 different types of thinking that are defined in James Adams’s classic book, *The Care and Feeding of Ideas* (1979).

However, reductionism has become the primary system of thinking that we use to approach our problems today. It is the method we have been trained to use, and in our minds, we believe it is sound and reasonable. We like to think it works most of the time, only because we don’t know how much better other methods might be. It’s like the saying, if all you have is a hammer, everything looks like a nail. We wear blinders to superior methods of problem solving. We have been schooled and educated to use exclusively the Cartesian method for our thinking style. Whether as business executives, entrepreneurs, policy planner, lawyers, politicians, social workers, educators, or private citizens, we resort to it every day to manage whatever issues we face in our organizations, institutions, and

personal lives. In fact, almost all the professional literature on problem solving, planning, design, and related fields asserts that this logic is *the* way to proceed.

But it's not, because the reductionist method is replete with limitations and flaws that need to be recognized, especially in today's world. Our position is that the scientific approach, while it appears to make logical sense, tends to be inadequate at handling the complexities of many types of problems, focuses too narrowly on the immediate problem without considering the aftereffects of solving it, and neglects the many stakeholders who are affected by solutions.

3. The Reductionist Approach is Outmoded

- 1) Reductionist thinking demands data, but data collection and analysis about the problem is always incomplete, tends to focus on the past or present, and is far too often focuses on the wrong issue.
- 2) Reductionist thinking tends to treat seemingly related problems in different situations as being similar and deserving of the same solution, when they are not.
- 3) Subdividing problems into their parts does not necessarily create effective solutions for the whole of the problem.
- 4) Complex issues almost always do not have just a single solution that will work forever.
- 5) Creativity is sought only while developing solution ideas and not when deciding who to involve or even how to define the real problem.
- 6) Solutions often overly-emphasize new technologies, engendering other problems.
- 7) Reductionist language and assumptions are taken for granted in defining the problem.
- 8) Reductionism generally forces us to see the world only from our own perspective, neglecting other stakeholders.
- 9) Reductionism tends to create solutions based on past and present conditions, not on the future.
- 10) Reductionism tends to create territoriality and increases conflict between people.

Reductionist thinking was not intended to be the be-all and end-all of human thought, applicable to all situations. It was largely designed to solve scientific problems and to guide scientific research, but it is not the only mental model of thinking that humans can follow. The result of this narrow view of problem solving is that too many of our political leaders, corporate executives, managers, and private individuals who are seeking to grow

companies or improve our local communities or state or federal governments end up practicing an ineffective approach to creating solutions.

Conclusions

The reductionist approach is good for fact finding, but it lacks the depth of creativity, innovation, and stakeholder buy-in that today's complex issues require. It usually results in easy short-term solutions that suffer from a lack of long-term vision. Much of the time, the wrong people are involved in analyzing the situation and determining the solution, which causes the real stakeholders most affected by the problem to dislike what has been selected and to feel disinclined to support the solution.

We agree that the reductionist method of thinking is useful for some problems and has contributed much to the world. It ultimately led to the Scientific Revolution and the Industrial Revolution. Descartes' emphasis on analysis and empirical study helped bring about many significant advances in the fields of medicine, architecture, engineering, astronomy, and life sciences that brought us to our modern era. For good or ill, rationalistic thinking created our modern society, the way of life as we know it today.

But the flaws with the reductionist approach are serious and need to be recognized as an impediment to effective and creative problem solving in our fast-paced 21st century. In some ways, we might speculate that reductionism is even responsible for the continued existence of so many ongoing political, economic, and social issues that have yet to be solved for decades, if not centuries. We would also suggest believe that the reductionist method has created additional new problems by not solving others.

We need a different approach today. There is an illusion that we have created the most sophisticated human society possible. But the reality is that our modern thinking has not kept up with the complexity of problems we face today. To prepare ourselves and our planet for a better future, it is time to adopt *Breakthrough Thinking*.
