



# DEFINING A PARADIGM

*“It’s Twenty Cents, Isn’t It?”*

By Joel Arthur Barker

[Reprinted by permission from Joel Arthur Barker’s “Defining a Paradigm,” from his book *Paradigms: The Business of Discovering the Future* (New York: Harper Business, 1993): 30-41.]

When I began talking about paradigms in 1974 to corporate audiences, a lot of people asked me why I was wasting my time with such a strange idea. Most people didn’t even know how to pronounce the word, much less define it.

Most of the changes [in the business environment] were driven by a special phenomenon – a switch in paradigms (pronounced pair-a-dimes). And, in the jargon of futurists, they would be called “paradigm shifts.”

The concept of paradigms and paradigm shifts can help you better understand the nature of those unexpected changes [in the business environment]. Being able to understand what caused them will give you a better chance to anticipate other paradigm shifts.

Today, “paradigm” is a buzzword and people use it loosely. But it is not a loose idea.

What is a paradigm? If you look up the word in the dictionary, you discover that it comes from the Greek *paradeigma*, which means “model, pattern, example.”

Let me give you some definitions that have appeared in various books since 1962. Thomas S. Kuhn, a scientific historian, and author of *The Structure of Scientific Revolutions*, brought the concept of the paradigm to the scientific world. Kuhn wrote that scientific paradigms are “excepted examples of actual scientific practice, examples which include law, theory, application, and instrumentation together – [that] provide models from which spring particular coherent traditions of scientific research.” He adds: “Men whose research is based on shared paradigms are committed to the same rules and standards for scientific practice” (page 10).

Adam Smith’s definition, in his *Powers of the Mind*, is: “A shared set of assumptions. The paradigm is the way we perceive the world; water to the fish. The paradigm explains the world to us and helps us to predict its behavior.” Smith’s point about prediction is important. We will see that most of the time we do not predict things with our paradigms. But paradigms do give us the added advantage of being able to create a valid set of expectations about what will probably occur in the world based on our shared set of assumptions. “When we are in the middle of the paradigm,” Smith concludes, “it is hard to imagine any other paradigm” (page 19).

In *An Incomplete Guide to the Future*, Willis Harmon, who was one of the key leaders of the Stanford Research Institute, writes that a paradigm is “the basic way of perceiving, thinking, valuing, and doing associated with a particular vision of reality. A dominant paradigm is seldom if ever stated explicitly; it exists as unquestioned, tacit understanding that is transmitted through culture and to succeeding generations through direct experience rather than being taught.

In *The Aquarian Conspiracy*, Marilyn Ferguson, who first made her name as editor and publisher of the *New Sense Bulletin*, writes: “A paradigm is a framework of thought . . . a scheme for understanding and explaining certain aspects of reality” (page 26).

Let me offer my definition:

**A paradigm is a set of rules and regulations (written or unwritten) that does two things: (1) it establishes or defines boundaries; and (2) it tells you how to behave inside the boundaries in order to be successful.**

And how do you measure success?

For most situations success is really measured by your ability to solve problems, problems from trivial to profound. If you think about that definition, you should immediately get a sense of how widely it could be applied. For example: Based on my definition, is the game of tennis a paradigm? If you think about it for a minute, you’ll discover that it is. Does the game of tennis have boundaries? Of course, that’s the easy part. The tricky part has to do with success and problem solving. What is the problem in tennis? It’s the ball coming over the net. And you must solve that problem according to the rules of tennis.

You must hit the problem with the tennis racket; not a baseball bat or your hand or your foot. And if you hit it back over the net so that it drops inside the boundaries on the other side, you have solved the problem. And your successful solution becomes your opponent’s problem. In a very real sense, you and your opponent exchange problems until one of you offers the other a problem that he or she cannot solve. Tennis is a paradigm. All games are paradigms. The beauty of games is that the boundaries are so clearly defined and the requirements for winning – problem solving – are so specific. Games allow for clear winners and losers. It is that aspect that generates much of any game’s attraction. It is also that aspect that greatly disconnects them from reality.

Let us look at more important paradigms. Like your field of experience. Almost everyone has one, either at work or at home. You may be an engineer, or a salesperson, or a chef or a carpenter or a nurse or an economist. Are these paradigms?

Again, let us apply the test. What does the word “field” suggest? Boundaries. How do you feel when you are outside your field? Not competent, right? Not competent to do what? Solve problems. Why do people come to you? To receive help from you in solving problems in your field. That sounds like paradigms, doesn’t it?

Do artists have paradigms? I used to tease and say artists were just wild and crazy folks. Then I got straightened out by an artist. She came up after one of my speeches and said, “I’m a sculptor. What do you think the piece of marble I work with is?” I saw that it was her “field” and then realized she was going to work “inside the field” by chiseling into that block of marble.

“Okay,” I said to her, “but you can do anything you want with that piece of marble.”

“Not if I want to be judged successful,” she retorted. And then she told me of the rules of “texture” and “form” and “balance” and “content” that she had to follow in order to be considered successful.

Since that encounter, I have begun to listen to artist’s talk, especially about the “problems” they have solved in their work, whether it is a problem of perspective, or of color, or of tonality, or of character development. Artists have paradigms.

In a sense, I am constructing a hierarchy. At the top sits science and technology. That’s where Thomas Kuhn focused. Science and technology deserve top billing because they are so careful with their paradigms, in terms of writing them down, and of developing measurement devices of increasing precision to tell whether they have solved a particular problem.

And, once a scientist has performed a successful experiment, it is expected that he or she should be able to hand the notes and the apparatus to another scientist who should then be able to replicate that experiment, getting the same results.

We would never expect a tennis player to be able to “replicate” Boris Becker’s serve by just reading his notes and using the same tennis racket. Or someone to replicate an artist’s work by being given the same pigments, paintbrushes, and canvas. The requirement of reproducibility constitutes a very important difference between science and all other fields. It results in science and its technologies having much more power to manipulate reality. But, even though they are more powerful, if you apply the definition I offered to science and technology, you will see that it holds true.

Over the years, I have collected words that represent subsets of the paradigm concept. Below they are ordered on a spectrum ranging from challengeable to unchallengeable. You may disagree with my arrangement, but take a look at the words

and think about the boundaries and rules and regulations for success that the implicit in them.

<b>Theory</b>	<b>Patterns</b>	<b>Prejudices</b>
<b>Model</b>	<b>Habits</b>	<b>Ideology</b>
<b>Methodology</b>	<b>Common Sense</b>	<b>Inhibitions</b>
<b>Principles</b>	<b>Conventional Wisdom</b>	<b>Superstitions</b>
<b>Standards</b>	<b>Mind-set</b>	<b>Rituals</b>
<b>Protocol</b>	<b>Values</b>	<b>Compulsions</b>
<b>Routines</b>	<b>Frames of Reference</b>	<b>Addictions</b>
<b>Assumptions</b>	<b>Traditions</b>	<b>Doctrine</b>
<b>Conventions</b>	<b>Customs</b>	<b>Dogma</b>

Please note that nowhere in the list do the words “culture,” “worldview,” “organization,” or “business” appear. That is because cultures, worldviews, organizations, and businesses are **forests of paradigms**. IBM is not one paradigm; it is a collection of many. That is true for any business. Large or small, they have management paradigms, sales paradigms, recruitment paradigms, marketing paradigms, research and development paradigms, human resource development paradigms. It goes on but I am sure you get the point. And there are even more paradigms in our cultural life: how we raise our children; how we deal with sex; how we define honesty; the food we eat; the music we listen to.

And the interrelationship of all these paradigms is crucial to the success and longevity of any culture or organization. That is captured in the word “forest” – a highly interdependent structure. As we know from the environmental paradigm, when one thing in the forest is altered, it affects everything else there. So when someone within your organization starts messing with their paradigm and says, “Don’t worry, it’s got nothing to do with you,” start worrying. It is never just one paradigm that is changed.

A paradigm, in a sense, tells you that there is a game, what the game is, and how to play it successfully. The idea of a game is a very appropriate metaphor for paradigms because it reflects the need for borders and directions on how to perform correctly. A paradigm tells you how to play the game according to the rules.

**A paradigm shift, then, is a change to a new game, a new set of rules.**

It is my belief that changes in paradigms are behind much of society’s turbulence during the last thirty years. We had sets of rules we knew well, then someone changed the rules. We understood the old boundaries, then we had to learn new boundaries. And those changes dramatically upset our world.

In *Megatrends*, the best-seller of 1982, John Naisbitt reflects in an indirect way how important paradigm shifts are. Naisbitt suggested that there were ten important new trends that would generate profound changes in our society in the next fifteen to thirty years.

**I believe that if you look for what initiated those trends, you will find a paradigm shift.** What Naisbitt identifies for us in *Megatrends* is important, because he shows us a pathway of change that we can follow through time to measure how we are getting more of something or less of something.

But even more important than the pathway is our understanding of what instigated that change in the first place. We almost always find that at the beginning of the trend, someone created a new set of rules. The trend toward decentralization is an excellent example of a paradigm shift. The old rules, the old game, required that we “centralize the organization and make the hierarchy complex.” But the game ultimately created big problems. Then somebody discovered that there was a different way to deal with the problems, which was to decentralize the organization and simplify the structure; in other words, to change the rules. The result was a paradigm shift.

So if you want to improve your ability to anticipate the future, don’t wait for the trends to develop. Instead, **watch for people messing with the rules, because that is the earliest sign of significant change.**

## Four Questions

One of the difficulties I have with Thomas Kuhn’s *Structure of Scientific Revolutions* is his insistence that paradigms exist only in science. In his afterword, Kuhn takes great pains to talk about all the other disciplines as being “preparadigmatic” because they do not have the exactness of science. And yet, again and again I saw the phenomena he writes about in nonscientific settings and situations. Then I realized that a key element in one of his most powerful examples was not scientific but cultural – a simple deck of cards. The cards were used in a scientific experiment to prove that people have great difficulty perceiving “red” spades and “black” hearts when they are intermixed with standard cards and flashed very quickly to an observer. But even though the experiment was scientific, the objects of the experiment, the cards, are cultural artifacts. And the expectations about the correct colors are cultural expectations, not scientific expectations.

So the experiment was actually a measure of the power of a simple cultural paradigm – the card-deck paradigm – to set up boundaries that dramatically influenced the way the subjects of the experiment saw the anomalous cards.

I am convinced that what Thomas Kuhn discovered about paradigms is a description not just of science but of the human condition.

When we look back to the 1960's, we see nonscientific paradigm shifts: Parents responded so violently to drugs and long hair on their children because these things represented a cultural paradigm shift; we missed the OPEC revolution because of an economic paradigm shift. Our country's inability to understand the Iranian revolution had to do with religious paradigms. Much of the confusion we have about the future is because of changes in paradigms.

These paradigm changes are especially important for all of us because, whether it is in business or education or politics or our personal lives, a paradigm change, by definition, alters the basic rules of the game.

**And, when the rules change, the whole world can change.**

The points that Kuhn makes about scientific paradigm shifts are true for any situation where strongly held rules and regulations exist.

I should also add the following disclaimer: I doubt very much if Kuhn appreciates the extent to which I, and others, have generalized his concepts. In his book he states that only in science, where the rules and examples and measures are precise, can paradigms exist. He also contends that only with the subtlety and accuracy possessed by science can changes in paradigms be measured so as to trigger the search for a new paradigm. I accept the obligation imposed by Kuhn's own careful qualification. In spite of his argument to the contrary, I still believe that his observations can be applied in a broader sense with great utility. I hope you will find this true as well.

To frame this broader discussion, we will ask four questions about paradigms:

**1. When do new paradigms appear?** This question is all about timing. If we can know when the new rules are going to show up, then we can anticipate our future with much greater accuracy. Timing may not be everything, but it's a great place to start.

**2. What kind of person is a paradigm shifter?** It is as important to understand who are the paradigm shifters, the people who change the rules, as it is to know when they show up. Of the four kinds of paradigm shifters that will be described, three are already inside your organization. But typically, we do not understand how to use them to our advantage. In fact, we usually are very hard on these people.

**3. Who are the early followers of the paradigm shifters and why do they follow them?** I call these people paradigm pioneers. Without them, paradigm shifts take much longer. Paradigm pioneers bring the critical mass of brainpower and effort and key

resources necessary to drive the new rules into reality. Very few of us can be paradigm shifters; many more of us, if we understand our roles, can be paradigm pioneers.

**4. How does a paradigm shift affect those who go through it?** It is crucial to answer this last question if we are going to understand why there is so much resistance to new paradigms. It also explains the great gulf between old and new paradigm practitioners.

When we have answered these four questions, we will have identified the Paradigm Principles.

## QUESTIONS FOR DISCUSSION

1. Barker says of the term “paradigm” that “people use it loosely...but it is not a loose idea.” Yet he goes on later to list 27 loosely equivalent terms, suggesting that the definition is not so set in stone.

Does Barker finally settle on a definition? What is it? Based on your reading of Barker, how would you define a “paradigm” in your own words?

As part of the process of developing a definition, get into groups of three and try, as a group, to draw a picture of a “paradigm.” Of course, the word describes an abstract concept and so there can be no actual picture of a “paradigm.” But in drawing a picture you will be able to objectify it and thus make it easier to describe in your own words. Give it a try. What does a paradigm look like? How might you describe it metaphorically?

2. Students often say that they are prevented from being original by the requirement that they use research to provide a rationale for their plan. After all, they ask, where is the room for pure invention if everything needs to be supported by research into what other people have done? How can new ideas come out of old ones?

How might Barker respond to these questions? Can tradition actually *support* original work? Can the fact that fields outside of science do not have the same “reproducibility” introduce an element of creativity? Or does creativity get introduced through the concept of “paradigm shifts”?

3. How do you research a paradigm? For example, if you wanted to solve the common problem of parking on campus, how would you find a paradigm? How would you research it? What would you look for?

