AS WE ADVANCE deeper into the knowledge economy, the basic assumptions underlying much of what is taught and practiced in the name of management are hopelessly out of date.

As every seasoned executive has learned, few policies remain valid for as long as 20 to 30 years. Nor do most assumptions about the economy, about business, about technology remain valid longer than that.

Yet most of our assumptions about business, technology and organization are at least 50 years old. They have outlived their time.

As a result, we are preaching, teaching and practicing policies that are increasingly at odds with reality and therefore counterproductive.

This essay attempts to reexamine these assumptions and practices. Basic assumptions about reality are the paradigms of a social science. These assumptions about reality determine what the discipline focuses on. The assumptions also largely determine what is pushed aside as an annoying exception. Get the assumptions wrong and everything that follows from them is wrong.

Mary Parker Follett (1868-1933) was one of the most insightful of the early management scholars. But her work was ignored for decades because her assumptions differed from those that prevailed when management was becoming a discipline in the 1930s.

Follett preached the use of conflict to create understanding. She believed in managing for increased yield and that increased yield could be achieved through better understanding among employees. Follett was out of tune on two scores. The 1930s were Marxist-tainted, and Marxists believed that class conflict was unresolvable. The Thirties also believed that cost-cutting was the essence of good management.

Yet we now know that Follett was closer to reality about society, people and management than were the theorists and practitioners who ignored her work.

These assumptions that determine what we pay attention to and what we ignore are usually held subconsciously by the scholars, the writers, the teachers, the practitioners in the field. Thus, they are rarely analyzed, rarely studied, rarely challenged -- indeed rarely even made explicit.

Because the generally held assumptions about management no longer apply, it is
important that we first make them explicit, and then replace them with assumptions that better fit today's reality.

For a social discipline, such as management, the assumptions are actually a good deal more important than are the paradigms for a natural science. The paradigm -- that is, the prevailing general theory -- has no impact on the natural universe. Whether the paradigm states that the sun rotates around the earth, or that, on the contrary, the earth rotates around the sun, has no effect on sun and earth. But a social discipline, such as management, deals with the behavior of people and human institutions. The social universe has no "natural laws" as the physical sciences do. It is thus subject to continuous change. This means that assumptions that were valid yesterday can become invalid and, indeed, totally misleading in no time at all.

That's where we are today with the discipline of management.

What are the assumptions that are leading management astray?

Underlying today's orthodoxy, for instance, is a basic assumption that has been held by practically all management theorists and by most practitioners since the earliest days of thinking about organization; that is, since Henri Fayol in France and Walter Rathenau in Germany around 1900. It has been taken for granted that there is one right form of organization.

Fayol laid down the principle that there was one right structure for every manufacturing enterprise: a functional division into engineering, manufacturing, selling, finance and personnel, each division to be managed separately and to come together only at the level of the chief executive.

Though theories about what constitutes the right organization have changed several times in the past century, practitioners and students of management still hold the assumption that there is a single right form of organization for every business.

This is just one of seven underlying assumptions about organization that are out of date: That there is only one right way to organize a business.

That the principles of management apply only to business organizations.

That there is a single right way to manage people. Way back, the right way was top-down control -- centralization. Later, decentralization came into vogue. Today the team approach is considered to be ideal.

That technologies, markets and end-uses are fixed and rarely overlap. That is, each industry has a specific technology and a specific market.

That management's scope is legally defined as applying only to an organization's assets and employees.
That management's job is to "run the business" rather than to concentrate on what is happening outside the business. That is, management is internally, not externally, focused.

That national boundaries define the ecology of enterprise and management.

Until the early 1980s all but the first of these now outdated assumptions were close enough to reality to be useful. In this essay I will show why every one of these assumptions is now either wrong, out of date or both. Failing to abandon them in fast-changing reality can cause your business to fail and your career to flounder.

MANAGEMENT AS A DISCIPLINE

Management writers, management practitioners and the laity do not even hear the word "management"; they automatically hear "business management."

This assumption regarding the universe of management is of fairly recent origin. Before the 1930s the handful of writers and thinkers who concerned themselves with management -- beginning with Frederick Winslow Taylor around the turn of the century and ending with Chester Barnard just before World War II -- assumed that business management is just a subspecies of general management.

To them "management" applied to any kind of organization, not just business. An organization was an organization, and they differed only in the way that one breed of dog is different from another breed of dog.

The first practical application of management theory did not take place in a business but in nonprofits and government agencies. Taylor (1856-1915), the inventor of "scientific management," in all probability also coined the terms "management" and "consultant" in their present meaning. On his calling card he identified himself as "Consultant to Management." He deliberately chose these unfamiliar terms to shock potential clients into awareness of his offering something totally new.

But Taylor did not cite a business as the "perfect example of scientific management" in his 1912 testimony before the Congress, which first made the U.S. management-conscious. He cited the nonprofit Mayo Clinic. The most publicized application of Taylor's scientific management (though aborted by union pressure) was not in a business but in the government-owned and -run Watertown Arsenal.
The first job to which the term "manager" in its present meaning was applied was not in business. It was the city manager -- an American invention of the early years of the century.

The first conscious and systematic application of management principles similarly was not in a business. It was in the reorganization of the U.S. Army in 1901 by Elihu Root (1845-1937), Theodore Roosevelt's secretary of war.

The first management congress -- Prague in 1922 -- was organized not by business people but by Herbert Hoover, then U.S. secretary of commerce, and Thomas Masaryk, a world-famous historian and the founding president of the new Czechoslovak Republic.

Mary Parker Follett, whose work on management began at roughly the same time, never differentiated between business management and nonbusiness management.

The identification of management with business management began only with the Great Depression, which bred hostility to business and contempt for business executives. In order not to be tarred with the business brush, management in the public sector was rechristened public administration and proclaimed a separate discipline -- with its own university departments, its own terminology, its own career ladder. What had begun as a study of management in the rapidly growing hospital sector (e.g., by Raymond Sloan, the younger brother of GM's Al fred Sloan) was split off as a separate discipline and christened hospital administration.

Not to be called "management" was, in other words, political correctness in the Depression years. Hospitals and governments wanted to be thought of as somehow less "capitalistic."

In the postwar period, however, the fashion changed. By 1950 "business" had become a good word -- largely the result of the performance of American business management during World War II. We are finally catching up with this reality: Witness the renaming of so many business schools as schools of management; the rapidly growing offerings in "nonprofit management" by these schools; the emergence of executive management programs recruiting both business and nonbusiness executives; even the emergence of departments of pastoral management in divinity schools.

But the assumption that management is business management still persists. It is therefore important to assert -- and to do so loudly -- that management is not business management, any more than, say, medicine is obstetrics.

There are, of course, differences in management between different organizations -- mission defines strategy, after all, and strategy defines structure. But the differences between managing a chain of retail stores and managing a Roman Catholic diocese are amazingly fewer than either retail executives or bishops realize.

The differences are mainly in application rather than in principles.
The executives of all these organizations spend, for instance, about the same amount of their time on people problems -- and the people problems are almost always the same.

So whether you are managing a software company, a hospital, a bank or a Boy Scout organization, the differences apply to only about 10% of your work. This 10% is determined by the organization's specific mission, its specific culture, its specific history and its specific vocabulary. The rest is pretty much interchangeable.

The differences with respect to the last 10% are no greater between businesses and nonbusinesses than they are between businesses in different industries, e.g., between a multinational bank and a toy manufacturer.

Why is it important to break down the artificial distinction between business and nonbusiness organization? Because the growth sector of a developed society in the 21st century is most unlikely to be business -- in fact, business has not even been the growth sector of the 20th century in developed societies. A far smaller proportion of the working population in every developed country is now engaged in business than it was a hundred years ago.

Then virtually everybody in the working population made his living in economic activities (mostly farming). The growth sectors in the 20th century in developed countries have been in nonbusiness -- in government, in the professions, in health care, in education. In the 21st century that trend is going to continue with a vengeance.

So the nonprofit social sector is where management is today most needed and where systematic, principled, theory-based management can yield the greatest results fastest. Just think of the enormous problems facing the world -- poverty, health care, education, international tension -- and the need for managed solutions becomes loud and clear. THE ONE RIGHT ORGANIZATION

Concern with management and its study began with the sudden emergence of large organizations. A standing army was the novelty of late 19th-century society. Businesses and governmental civil services were other large organizations that developed around the same time.

And from the very beginning, more than a century ago, the study of organization has rested on one assumption: that there is or must be a single "right" form of organization. That one-size-fits-all idea persists today.

What is presented as the "one right organization" has changed more than once. But the search for the one-fits-all organization continues today.

Organization structure in business was first tackled in France, around the turn of the century, by Henri Fayol (1841-1925), the head of one of Europe's largest but also totally disorganized enterprises, a coal-mining company (he did not, however, publish his book until 1916).
As in Europe, so in the U.S: The first management theorists were practicing businesspeople: John D. Rockefeller Sr., J. P. Morgan and, especially, Andrew Carnegie (who still deserves to be studied and who had the most lasting impact). A little later, Elihu Root applied organization theory to the U.S. Army. It is hardly coincidence that Root had been Carnegie's legal adviser.

These were the days when really large-scale business organizations were just emerging and their managers had to evolve their discipline as they went along. There were no texts to consult, no consultants. In a sense they learned from each other. Georg Siemens (1839-1901), the founder in 1870 of the Deutsche Bank, adopted, around 1895, the organizational concepts of his friend Fayol to save the rapidly foundering Siemens Electric Co. his cousin Werner von Siemens (1816-1892) had founded but had left leaderless at his death.

Yet the need for organizational structure was by no means obvious to everybody in these early years. Frederick Winslow Taylor did not see it at all. Until his death he wrote and talked of "the owners and their helpers." Well into this century, many businesses still ran on the owners-and-helpers nonorganization concept. Right up to his death in 1947, Henry Ford tried to run what for many years was the world's largest manufacturing company that way -- with unfortunate results.

World War I made clear the need for a formal organizational structure. Managing tens of millions of soldiers and refocusing whole economies on war production made formal organization indispensable. The war showed, however, that Fayol's (and Carnegie's) functional structure was not the one right organization for massive undertakings. Their highly centralized management just couldn't work on that scale.

Decision-making had to pushed down into the organization.

Thus immediately after World War I, first Pierre S. du Pont (1870-1954), and then Alfred Sloan (1875-1966), developed decentralization. It soon became the managerial mantra, the one right way.

And now, in the last few years, we have come to tout the team as the one right organization for pretty much everything.

By now, however, it should have become clear that there is no such thing as the one right organization. There are only organizations, each of which has distinct strengths, distinct limitations and specific applications. It has become clear that organization is not an absolute.

It is a tool for making people productive in working together. As such, a given organizational structure fits certain tasks in certain conditions and at certain times.

For example, one hears a great deal today about "the end of hierarchy." This is blatant nonsense. In any institution there has to be a final authority, that is, a "boss" -- someone
who can make the final decision and who can then expect to be obeyed. In a situation of common peril -- and every institution is likely to encounter it sooner or later.

If the ship founders, the captain does not call a meeting; the captain gives an order. And if the ship is to be saved, everyone must obey the order, must know exactly where to go and what to do and do it without "participation" or argument. Hierarchy, and the unquestioning acceptance of it by everyone in the organization, is the only hope in a crisis.

But what is the right organization to handle crisis is not the right organization for all tasks. Sometimes the team approach is the right answer.

In fact, in the pharmaceutical industry, the team approach was applied successfully long before the current enthusiasm for it. Since around 1950, first in Switzerland, then in the U.S., pharmaceutical companies have used teams to develop and introduce new prescription drugs. As soon as the basic science has been developed, medical people, manufacturing people, financial people and patent experts work together in development teams. The team doesn't disband, its purpose achieved, until the drug is actually on the market. Yet within these same companies, other projects -- such as converting a prescription drug into an over-the-counter product -- are handled by conventional functional organization.

Henri Fayol assumed the "typical manufacturing enterprise." Alfred Sloan in the 1920s organized each of General Motors' decentralized divisions exactly the same way.

Thirty years later, in the massive reorganization of the U.S. General Electric Co. in the early 1950s, the same principle held: that there was only one way to organize work. A small unit of a few dozen researchers, engaged solely on development work for the U.S. Air Force, was to be organized almost exactly like a huge department employing several thousand people and manufacturing a toaster or an electric generator. The small development group was actually saddled with manufacturing, personnel, financial and public relations managers.

In any enterprise -- probably even in Fayol's typical manufacturing business -- there is need for a number of different organizational structures coexisting side by side.

Take managing foreign currency exposure, an increasingly critical -- and increasingly difficult -- task. This requires total centralization. No one unit of the enterprise can be permitted to handle its own foreign- currency exposures. But in the same enterprise, serving the customer, especially in high-tech areas, requires almost complete local autonomy -- going way beyond traditional decentralization. Each of the individual service people must be the "boss," with the rest of the organization taking its direction from him or her.

There are thus vast differences in organizational structure according to the nature of the
task.

Though, as I have said, they share most of the same problems, a Catholic diocese is organized very differently from an opera company. A modern army is organized very differently from a hospital. But within them these big organizations typically have more than one organizational structure. In the Catholic diocese, for instance, the bishop is the absolute authority in certain areas; a constitutional monarch in others (severely limited, for instance, in his right to discipline his diocesan clergy) and virtually powerless in others -- he cannot, for instance, visit a parish in his diocese unless the parish priest invites him to do so.

Yet there are universal principles of organization.

One is surely that organization has to be transparent. People must know and understand the organizational structure they are to work in.

This sounds obvious -- but it is far too often violated in most institutions, even in the military.

It took something like 20 years, for example, for the U.S. Air Force to really understand who should have the last word as to whether a new aircraft was ready to fly. It turns out that the real boss was the sergeant crew chief, not the colonel who commands the repair crews. MULTIPLE ORGANIZATIONAL STRUCTURES As I have already mentioned, someone in the organization must have the authority to take command in a crisis. It is also a sound general principle for all kinds of organizations that any member of the organization should have only one "master." There is wisdom in the old proverb of the Roman law that a slave who has three masters is a free man. It is a very old principle of human relations that no one should be put into a conflict of loyalties -- and having more than one master creates such a conflict.

That's where the so-called jazz combo teams, so popular now, often go wrong. The engineer member, for example, reports to the team leader, but she also reports to the chief of her specialty function. So with the finance member: He owes loyalty both to the team leader and the organization's overall finance chief.

It is a sound structural principle to have the fewest number of layers, that is, to have an organization that is as "flat" as possible -- if only because the first law of information theory tells us that "every relay doubles the noise and cuts the message in half."

One implication of all this is that individuals will have to learn to work at one and the same time in different organizational structures.

For one task they'll work in a team. For another task they will have to work in a command-and-control structure. The same individual who is a boss within his or her own organization is a partner in an alliance and even a junior partner in a joint venture.
Think of it this way: The executive of the future will require a toolbox full of organizational structures. He will have to select the right tool for each specific task.

That means he or she will have to learn to use each of the tools and understand which one works best for each task. And when, in the performance of a task, should he or she switch from one kind of organization to another?

This analysis is perhaps most needed for the currently politically correct organization: the team.

It is generally assumed today that there is only one kind of team -- the jazz combo -- where each participant does his or her own thing but together they make great music. Actually there are at least half a dozen -- perhaps a full dozen -- of very different teams, each with its own area of application, each with its own limitations and difficulties and each requiring different management.

Here are some examples of teams: The old-fashioned functional team is the kind that prevails in department stores. The different departments -- buyers, displayers, promotion and advertising, selling -- do not work together, and none of their members ever does the task of a member of another function, except in a rare crisis.

The advantage of this team -- as with a baseball team -- is that each member can be trained in a particular strength, as are hitters, pitchers and catchers on a baseball team. And each member can be measured and judged against clear and specific goals. The weaknesses are rigidity, slowness in changing anything and the danger that each group will be focused only on its own function. It will do its job well but pay little attention to the organization's overall performance.

Another team is exemplified by the way service to customers is now being organized by the world's major manufacturers of heavy equipment, things like Caterpillar's million-dollar drag lines or the even more expensive high-tech medical MRI machinery. The service person assigned to the customer has the ball, in football parlance. The service person can and does call on anyone in the company to help a customer with a particular problem; that expert is then on the service person's team for as long as it takes to fix the problem. Similarly the big multinational banks have organized their work for major customers like a football team's. The executive in charge of an account, e.g., Exxon or Unilever, is directly responsible for what the client needs or wants. And he or she can recruit anyone in the that bank's -- and in any of that bank's locations -- to help the client.

A final example: The team is the top management of the big German company. Each member typically has one clearly defined area of responsibility in which he (still very rarely a "she") is the boss That area may be functional -- engineering -- or geographic -- e.g., North America.

Normally, the person in charge of such an area does not even consult his colleagues about decisions in the area; he just reports them. But there is a "speaker" -- usually elected by
the board. He too normally has a specialty area of his own, but in addition he has a vote, especially when there is disagreement in the group. He is somewhat similar to the conductor of a good orchestra -- he sets the score. But each player plays his own instrument.

And there are many, many more kinds of teams. We are now only beginning to explore them and to define the strengths and weaknesses of each and where each works or doesn't work.

But unless we work out, and fast, what a given team is suited for, and what a given team is not suited for, teams will become discredited as just another fad.

So executives will have this toolbox full of organizations, some highly specialized. They will need to be able to use each one properly and to think in terms of mixed structures rather than only pure structures.

There are not yet many organizations that can do that. An exception is Merrill Lynch. It has organized its institutional business quite differently from its retail business, even though they are run by the same people.

What in all this is the role of the chief executive? I doubt that anyone would assert that we really know how to organize the top management job, whether in a business, a university, a hospital or even a modern church. We talk incessantly about teams -- and every study comes to the conclusion that the top management job, requires a team. But here rhetoric parts entirely from reality, and we practice the most extreme personality cult of supermen chief executives -- Bill Gates, Jack Welch, Lou Gerstner, celebrities all.

But how were these people selected and who will succeed them -- and by what process? People pay little attention to the succession process, though it is, in fact, the ultimate test of good management.

In this respect, a nonbusiness organization has done a much better job: The first conscious attempt to deal with the succession problem was made by the framers of the U.S. Constitution. They figured out for the first time in human history how to assure orderly succession without the killings, poisonings, plots and coups d'tat that stained the history of royal successions. While I don't know of any cases of garroting of rivals in corporate successions, neither am I aware of any successful systems to assure successful succession in the corporate or organizational world. The Constitution made sure that there would always be a chief executive officer legitimately selected and waiting in the wings without being a threat to the incumbent, as were the crown princes of yore. The vice president who succeeds a president who dies in office may not be the best person for the job, but his legitimacy and authority is never in doubt. ONLY ONE RIGHT WAY?

In no other area are the basic traditional assumptions held as firmly -- though again subconsciously, as a rule -- with respect to people and their management. In no other area
are they so totally at odds with reality and so totally counterproductive.

Douglas McGregor's book The Human Side of Enterprise (1960) asserted that managements have to choose between two and only two different ways of managing people: "Theory X" and "Theory Y." The first assumes that people don't want to work, so must be coerced and controlled. The second assumes that they really do want to work and require only proper motivation.

McGregor asserted that Theory Y is the only sound one. A little earlier I had said pretty much the same thing in my 1954 book, The Practice of Management.

That one way or another people need to be managed remains the prevailing view, but it is wrong. A few years later, Abraham H. Maslow (1908-1970) showed in his Eupsychian Management (1962; new edition 1998) why both McGregor and I were dead wrong. He showed conclusively that different people have to be managed differently. Maslow is best known for his theory of the hierarchy of human wants -- from filling the belly to self-actualization. But for management, Eupsychian Management is his most important book.

I became an immediate convert -- Maslow's evidence for his view that different people require different ways of managing is overwhelming.

But to this date very few other people have paid much attention.

On this fundamentally wrong assumption that there is only one right way to manage people rest all the other assumptions about people in organizations and their management.

One of these assumptions is that the people who work for an organization are working full time, and dependent on the organization for their livelihood. Another such assumption is that the people who work for an organization are subordinates expected to do what they are assigned to do and not much else.

Seventy years ago, when these assumptions were first formulated, during and at the end of World War I, they conformed closely enough to reality to be considered valid. Today every one of them has become untenable.

A very large and steadily growing minority of the work force are no longer full-time employees. They work for an outsourcing contractor, be it a cleaning service or a data processing outfit. Increasingly, the big car and truck manufacturers build cars from parts made by suppliers, with the result that most of the labor in their product is supplied by people who do not work directly for the manufacturer. This is certainly true in the computer business.

Other members of an organization's work force may be individual contractors working on a retainer or for a specific contractual period.
This is often true of the most knowledgeable and therefore the most valuable people.

Even if employed full time, fewer and fewer people are subordinates -- even in fairly low-level jobs. Increasingly they are knowledge workers.

Knowledge workers cannot be managed as subordinates; they are associates. They are seniors or juniors but not superiors and subordinates.

This difference is more than cosmetic. Once beyond the apprentice stage, knowledge workers must know more about their job than their boss does -- or what good are they? The very definition of a knowledge worker is one who knows more about his or her job than anybody else in the organization.

For example, the engineer servicing a customer does not know more about the product than the engineering manager does. But she knows more about the customer -- and that may be more important than product knowledge. The meteorologist on an air base is vastly inferior in rank to the air base commander. But he is of no use unless he knows infinitely more about weather forecasting than the air base commander does. The mechanic servicing an airliner knows far more about the technical condition of the plane than the airport manager of the airline to whom he reports, and so on.

An executive, therefore, is not just being polite when he or she refers to an employee as an "associate." The executive is simply recognizing reality.

A regimental commander in the army, only a few decades ago, had worked his way through all the jobs occupied now by his subordinates: platoon commander, company commander, battalion commander. The only difference in these respective jobs was in the number of people each commanded; the work they did was exactly the same.

No longer. Except for a very brief period early in their careers, many of today's senior military officers have spent little time commanding troops. Their main experience more likely lies in administration, logistics or even research.

Similarly, the vice president of marketing may have come up the sales route and know a great deal about selling. But he or she knows little about market research, pricing, packaging, service, sales forecasting.

The marketing vice president therefore cannot possibly tell the experts in the marketing department what they should be doing. In that sense, they are associates, not subordinates. The same is true for the hospital administrator or the hospital's medical director with respect to the trained knowledge workers in the clinical laboratory or in physical therapy.

Their relationship, in other words, is far more like that between the conductor of an orchestra and the people who play the instruments. The conductor may not even know how to play a violin, yet the success of his conducting depends upon the quality of his
associates. And just as an orchestra can sabotage even the ablest conductor -- especially even the most autocratic one -- a knowledge organization can easily sabotage even the ablest, especially the most autocratic, superior.

What this means is that even full-time employees have to be managed as if they were volunteers. In this the typical corporation can learn a lot from the Salvation Army or the Catholic church.

Like volunteers who work for the church and for the army, knowledge workers own their means of production, which is their knowledge. Their means of production are theirs, unlike the machinery, the buildings, the raw materials that industrial workers require to do their jobs.

Furthermore, we have known for 50 years that money alone does not motivate employees to perform much more than it motivates volunteers.

Yes, dissatisfaction with money grossly demotivates. Satisfaction with money is, however, mainly a "hygiene factor," as Frederick Herzberg called it all of 40 years ago in his 1959 book, The Motivation to Work.

What motivates -- especially knowledge workers -- is what motivates volunteers. Volunteers, we know, have to get more satisfaction from their work than paid employees precisely because they do not get a paycheck. They need, above all, challenge. They need to know the organization's mission and to believe in it. They need continuous training. They need to see results.

Implicit in this is that employees have to be managed as associates, partners -- and not in name only. The definition of a partnership is that all partners are equal. It is also the definition of a partnership that partners cannot be ordered. They have to be persuaded. Increasingly, therefore, the management of people is a marketing job. And in marketing one does not begin with the question, "What do we want?" One begins with the question, "What does the other party want? What are its values? What are its goals? What does it consider results?"

And this is neither Theory X nor Theory Y nor any other specific theory of managing people. It goes beyond this and involves aligning the employees' goals with those of the organization -- and vice versa.

Managing people will become increasingly crucial in developed countries like the U.S. For the only competitive advantage developed countries can still hope to have is the productivity of their knowledge workers. The productivity of the knowledge worker is still abysmally low. It has probably not improved in the past 100 or even 200 years -- for the simple reason that nobody has worked at improving the productivity.

All our work on productivity has been on the productivity of the manual worker.
This will require, above all, very much changed assumptions about what constitutes management. One does not "manage" people, as previously assumed. One leads them. The way one maximizes their performance is by capitalizing on their strengths and their knowledge rather than trying to force them into molds.