THE AGE OF HERETICS

A History of the Radical Thinkers Who Reinvented Corporate Management

Second Edition

Art Kleiner

JOSSEY-BASS
A Wiley Imprint
www.josseybass.com

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More Praise for *The Age of Heretics*

"Art Kleiner has written a book that is both brilliant pop culture history and bible for busine radicals. The perfect book for managerial martyrs who are prepared to be burned at the stake—b would prefer not to be."

—Michael Schrage, author, *Serious Play*

"I know of no other book that deals so completely and so effectively with the topic of recent corpora history in America. It is alive with fascinating information. The introductions to each chapter a absolute gems."

—Myron Stolaroff, author, *Thanatos to Eros* and *The Secret Chief*

"It took persistence on Art Kleiner's part to flush out the histories of the people at National Trainin Laboratories, SRI International, and the Shell planning group. And he has a wonderful way explaining what they did, and why and how they did it. The book deserves a wide audience."

—Milt Moskowitz, author, compiler of the "100 Best Places to Work" list in *Fortune*

"*The Age of Heretics* shows the insidious impact of the cult of numbers that gripped America management thinking after World War II. I like very much Art Kleiner's statement that the purpose o a corporation is, and always has been, to recreate the world."

—H. Thomas Johnson, author, *Profit Beyond Measure*

"Why would anyone bother with a book like this? Because it's terrific. *The Age of Heretics* offers o of the few compelling, intelligent, thoroughly researched histories of the field of organization development. Kleiner proves particularly adept at summarizing an approach or technique succinctl as if in passing, and all the while in the context of corporate change movements. *The Age of Heretic* is what the English like to call 'a rollicking good read': fast-paced, persuasive, and written for adult not sixth-graders."

—Jonathan Leyrich, Linkage

"*The Age of Heretics* is almost unfairly engrossing (I read it in a single sitting). Its superb a nuanced documentation at times reads almost like an additional narrative. And Kleiner's wonderful accessible writing makes this intellectual history of organizational development speak to tho otherwise put off by the cerebral work."

—R. Michael Bokeno, Murray State University, Kentucky

"This book provides a brilliant and passionate intellectual trip through the history of corporate vitali today. Above all, it explores how business (that domain so many of us care deeply about) can rega its 'vernacular' roots—reaching back to recognize and re-form some of the meaningful 'communit ties it once had. I urge anyone who cares about business as a place where personal growth takes plac where work is more than a mere job, and where groups of people achieve great things, to read th book.”

—Tom Ehrenfeld, author, *The Startup Garden*

“Anyone who works in the area of organizational design or development should read this book. A puts the history into context and lets us know the people who shaped the ideas. I loved learning abo Kurt Lewin, Ron Lippitt, Tom Peters . . . and so many others. The stories Art tells help me understar the events that shaped their lives and their thinking. I was truly sorry when I arrived at the la chapter. I wanted to hear more.”

—Roger Breisch, founder, Midwest Organizational Learning Network

“Art has done a great job looking at leaders who have the attribute of going ‘against the grain’ of th times. It is a very interestingly different cut on leadership models at a time when we seem to b getting a new book on the topic each month that is not always that new.”

—Charlie Seashore, Fielding Institute, American University/ NTL Institute

“Isn’t the debate over layoffs, C.E.O. compensation, shareholder value, and corporate responsibility- if not about demons and chaos—really about the role corporations play in society? *The Age Heretics* pushes that debate past good and evil into ambiguity, where it is really interesting.”

—Barbara Presley Noble, *strategy+business*

“*The Age of Heretics* is a fascinating read, illuminating the roots of corporate culture changes that a still evolving today. Very informative and well grounded in history, and the storytelling style makes a pleasure to read. Not only does it all hang together as an entire piece, but you can sample sectior and still get a ton of value.”

—Dan Simpson, vice president, Office of the Chairman, Clorox

“This is a journalistic history of an important chapter of the 20th Century that could easily have gor unwritten: a generation of attempts, more or less countercultural, to reform and reinvent th corporation. It’s all here: unpredictable experiments in social engineering, weird tales of enginee dropping acid, computer programs predicting the future of the whole world, and the truly oc omnipresence of an Armenian mystic named G. I. Gurdjieff.”

—Phil Agre, University of California at Los Angeles

“*The Age of Heretics* is great; beautifully written. I am especially enjoying learning about m unknown professional ancestors.”

—Adam Kahane, author, *Solving Tough Problems*

“The heroes of Kleiner’s book are concerned with reducing the psychic costs of work by bett aligning the personal hopes and dreams of employees and the corporations they work for. For studen of organizational development the book is full of fascinating insights into people like Dougl McGregor, Kurt Lewin, Chris Argyris, Saul Alinsky, and Warren Bennis.”

—James McRitchie, publisher, Corporate Governance website (www.corpgov.net)

“I could not put it down, and when I had to, because I had finished it, I promptly ordered 35 mo copies to give to my close circle of heretics in Hewlett-Packard. We are getting much needed energ inspiration, and even direction in some right-brained way from this book.”

—Barbara Waugh, author, *The Soul in the Computer*

“Art Kleiner reminds us that great innovation often originates with some of the most unlikely peopl the heretics who have championed once unconventional ideas and used them to transfor organizations—for customers, employees, as well as the bottom line. *The Age of Heretics* offers compelling grand tour of some of the most important ideas and thinkers that have influenc leadership at its best.”

—Andrea Gabor, author, *The Capitalist Philosophers*

A WARREN BENNIS BOOK

This collection of books is devoted exclusively to new and exemplary contributions to manageme thought and practice. The books in this series are addressed to thoughtful leaders, executives, ar managers of all organizations who are struggling with and committed to responsible change. My hop and goal is to spark new intellectual capital by sharing ideas positioned at an angle to convention thought—in short, to publish books that disturb the present in the service of a better future.

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To the heretics, named and unnamed as such, who have given themselves to a grand dream; and to Faith, Frances, Elizabeth, and Constance, in honor of the dreams they have shared with me

FOREWORD
Warren Bennis

ART KLEINER'S *The Age of Heretics* is that rarest of books, one that is both important and a pleasu to read. Its subtitle—*A History of the Radical Thinkers Who Reinvented Corporate Management*—le readers know at the outset that they are about to encounter something other than the standard cast characters who write or star in most business books today, the exemplary leaders whose names w know almost as well as our own. This highly original history is devoted to the mostly forgotte pioneers, including the eccentrics and rogues, who have shaped American and increasingly wor business and organizational life since World War II.

That is a huge swath of history to take on, and it is evidence of Kleiner's ambition. comprehensive account of those sixty years would be invaluable, but it would also be too heavy to li and all but unreadable. And so the author has made the wise decision to illustrate key events by tellin emblematic stories featuring colorful, often unconventional individuals.

As Kleiner reveals, when postwar American business was a vast sea of gray flannel suits an tasteful ties, a few unorthodox individuals were not so quietly shifting the paradigm toward th breezier, Google-ier workplace of today. These change agents include a raft of idealistic soci scientists as well as nonacademics, like labor organizer Saul Alinsky, who pioneered the use o shareholder activism to open Kodak's doors to more African Americans. Alinsky, who was literall willing to smash dishes to get attention, was the embodiment of the activist principle that behavin badly is sometimes necessary because, in the words of the civil-rights anthem, "The nice ways alway fail."

Kleiner uses religious terms to title each of the chapters of his book—"Monastics "Pelagians,""Mystics," and so forth. At first that seems an odd choice for a study of moder corporations and other secular institutions. But Kleiner is insightful to do so. Like the heretic who rejection of religious orthodoxy might send him to the pyre, Kleiner's organizational heretic " someone who sees a truth that contradicts the conventional wisdom of the institution to which he she belongs—and who remains loyal to both entities, to the institution and the new truth." The perso who is willing to make a great sacrifice to change an institution he or she loves is a hero as well as heretic because, Kleiner writes, "the future of industrial society depends on our ability to transcen the destructive management of the past, and build a better kind of business."

One of the transformations that Kleiner's heretics brought about is a modern workplace th increasingly recognizes the centrality of work to a person's deepest needs and aspirations. The autho uses the word "vernacular" to describe the sense of community and personal integration that so man of today's workers long for, a desire that is reflected in everything from corporate matching o employees' charitable contributions to the recognition by enlightened employers that workers want t do the right thing as well as put food on their tables. In this sense, Google's motto "Don't be evil" an even more seductive lure to many gifted potential hires than its free gourmet meals.

At its heart, Kleiner's book is a history of ideas, some good, some less so. One of the trends h documents is the absorption into the Western mainstream of aspects of Eastern spirituality advocate by such once-influential gurus as G. I. Gurdjieff. It is fascinating to read how Pierre Wack helpe prepare Royal Dutch/Shell decades ago for present-day oil politics in part because of his exposure Gurdjieff and the wisdom of a Japanese master gardener, who taught Wack to see truly what was i front of him. Wack's consciousness seems to have genuinely expanded because of these teachers. Bu one wonders how many others have simply used the language of Eastern enlightenment to justi substituting gut instinct for a sounder, if more strenuous blend of intuition and old-fashioned Wester style analysis.

Kleiner writes with verve and a novelist's or filmmaker's appreciation for the value of a scene. Th reader is unlikely to forget the image of a group of United States rear admirals on their knees trying identify "their" lemon among a pile of lemons on the floor during a National Training Labs sessio Equally memorable is the moment when my sometime coauthor and longtime friend Chris Argyr used a shocking demonstration to shatter the antibusiness bias of his Harvard education students.

One of the pleasures of this book is its expansive frame of reference. I cannot think of anoth volume that refers to Heloise and Abelard, Norwegian resistance fighters of World War II, my mento Doug McGregor, consumer crusader Ralph Nader, *and* counterculture cartoonist R. Crumb (he "Keep on Truckin'"). Moreover, the book is studded with delicious, unexpected factoids. Did yo know that the term "scenario," now ubiquitous in corporate planning, was first suggested by sometime writer for the Rand Corporation—Leo Rosten, later author of *The Joys of Yiddish*?

Although it is unsettling to discover how others see and write about you, I am happy to be one of th many heretical change agents who appear in this book. As Kleiner points out, all of us—heroes an outlaws alike—are the spiritual and intellectual children of the great social psychologist Kurt Lew and, almost two millennia before him, of the heretical British monk Pelagius. Both believed in th perfectibility of humankind and helped us to believe in it as well. To a greater or lesser degree, each us helped destroy, if not the Man in the Gray Flannel Suit, the soulless organization that stole his lab and his days. And in doing so, each of us contributed to a new organizational reality in which th personal and business are inextricably linked and success is measured in human terms as well dollars and euros. That is a worthy history to have been part of, and this is a worthy account of th history.

Warren Bennis
April 2008

PREFACE

Steven Wheeler and Walter McFarland

THE NATURE OF EFFECTIVE MANAGEMENT has become increasingly clear in recent years. W now know, for example, that the leader of an organization has only a few years to make chang succeed; that attention to people can make the difference between success and failure; that business run by the numbers alone, without a sense of purpose, tend to fail; that high-quality teams can opera with autonomy and be trusted with the future of the enterprise; and that organizations that treat peop as fully invested participants, and themselves as full-hearted citizens, and become great places work where people continually learn and improve are the companies and agencies that end up wi competitive advantage.

These are simple ideas, taken for granted in many companies, but all of these were heretical not s long ago. This book is a history of those countercultural ideas and others, their grounding in Worl War II and then in the cultural changes of the 1960s and 1970s, and the ways in which they may b influential in the future. This book was written by our colleague Art Kleiner, the editor-in-chief o *strategy+business*, the management magazine published by Booz & Company. Art wrote the fir edition between 1990 and 1996, after a stint helping Peter Senge develop *The Fifth Discipline* and *Th Fifth Discipline Fieldbook*. And he revised it while working with us on an article on strateg leadership that appeared in the winter 2007 issue of *s+b*. We have had a number of conversation among us about the nature of leadership in times of change and its importance to the organization the future, and we see the evolution of Art's thinking, and the continued impact of his journalism an research, in this second edition.

To Art Kleiner, a heretic is someone who sees a truth that contradicts the conventional wisdom o the organization and remains loyal to both that truth and the organization he or she works for. In ou lexicon, that definition of *heretic* could just as easily apply to leadership in general. As advisers t large mainstream companies and large government agencies on effective strategies for huma development, from the executive suite on down, we are keenly aware of the value of unconvention wisdom. Organizations get stuck in counterproductive ways of doing things, and it often takes heretical point of view to get past the deadlock and move forward.

Heretics matter because leadership matters. In case after case, in organizations and in society large, when the single individual at the top is replaced, everything else changes—for the better or th worse. But more than is generally realized, the effectiveness of leaders depends on the context aroun them. The best leaders pay a great deal of attention to the design of elements around them: the articulate a lucid sense of purpose, create effective leadership teams, prioritize and sequence the initiatives carefully, redesign organizational structures to make good execution easier, and, mo important, integrate all of these tactics into one coherent strategy.

They do this because they know that the success of their enterprise will depend on it. They have th knowledge because the heretics in large mainstream corporations have made that understanding cle over the past fifty years.

Some of the stories in this book were familiar to us, and no doubt will be familiar to you: those

W. Edwards Deming, Kurt Lewin, Saul Alinsky, General Electric's Work-Out program, and Amory Lovins. ~~Some of them are little-known aspects of eminent careers. How many people know~~, fo instance, that Paul Hawken got his start managing a macrobiotic foods business, or that the pioneers scenario planning traced some of their intellectual heritage back to the Sufi mystic G. I. Gurdjieff And some of the people in this book are forgotten, but they made immense contributions at the time represented (like John Mulder at Kodak) impulses toward decent and high-quality management th rise again and again from within corporations. There are also links between the heretical ideas of th past and the most prominent issues of our time: scenarios and the end of apartheid in South Africa, organizational development and the need for diversity in the modern global corporation.

These fascinating stories describe success and failure in riveting ways. But underneath them is deeper question: What is known, and yet to be known, about the quality of effective leadership an practice in the large mainstream organization? It's not enough to manage by the numbers anymor that has been clear for at least a decade. But how then do you run a large company or a larg government agency? And how can you make strategic changes while running a company (or part one), as every leader seeking sustainable competitive advantage is forced to do these days?

The stakes couldn't be higher, because the world runs through its corporations and government improve those, and you improve not just the economy but the social and political prospects f everyone. And if we care about the dream of human fulfillment, we need to pay attention. Not only h the world become a world of organizations, but more and more human time, effort, and emotion a invested in them. Great organizations and great leaders give more than a good living: they contribu to a good life.

If you agree, then you will find in this book an invitation—not just to appreciate the stories but consider becoming a heretic yourself. And you will find, both implicit and explicit, the guidanc needed to take on that challenge (and survive) and have some impact.

Finally, we think you will discover in these pages, as we have, an argument that manageme knowledge does advance (albeit fitfully, and not always smoothly for the people involved). The worl is getting wiser, and we who pay attention to that wisdom are more capable as a result.

Here is some of that story.

Steven Wheeler, Senior Vice President, Booz & Company Walter McFarland, Vice President, Booz Allen Hamilton

TO THE READER

THIS BOOK, while it is fact-checked and historically accurate to the best of my ability, makes n attempt to be comprehensive. Many people who deserve coverage are omitted from these stories, on for the sake of coherent narrative. Personally I don’t subscribe to the “great person” theory of histor but focusing on a few people makes it much easier to tell the story.

My model is not typical business journalism, but the mythic literature of destiny and integrit Myth holds its characters to a higher ethical standard than they can possibly fulfill and yet shows u how to love them when they slip—or at least it forces us to recognize that slippage is inevitable. All the characters in this book are real people, with lives outside these pages. If any of them have bee misinterpreted here, that responsibility is mine.

I welcome comment from readers. I can be reached either through strategy+business, kleiner_art@strategy-business.com. or at www.ageofheretics.com.

Art Kleiner
April 2008

1 MONASTICS

CORPORATE CULTURE AND ITS DISCONTENTS, 1945 TO TODAY

Heresy: Business is always personal.

The historian John P. Davis tells us that the great-great-grandfathers of today's large, mainstream corporations were the monasteries of the early Christian Church.[1] Organized during the dissolution of the Roman Empire, they were built as isolated communities, cut off from worldly villages and barbarian raids. Monks shared every aspect of their lives together. On a trip to town, they wore the community's best robes and returned them to the community's closet, exchanging them for everyday muslin. Rituals governed every moment of the monks' days. Uncertainties of the outside world, from the preparation of meals to their sense of life's purpose, were serenely controlled within. They learned to control their impulses for the sake of the monastery's greater goal, and their membership gave them an elite status that few other people enjoyed. For their time, their culture and position were not unlike the culture and position of many corporate managers today.

Some monasteries evolved into great European ecclesiastical universities, such as the University of Paris and Oxford University, places of learning chartered by kings. These in turn became the models for great mercantile stock companies. Expeditions across the Atlantic or around the Cape of Good Hope were too expensive for sea captains to finance themselves. If a ship failed to return, the owner might go to debtors' prison. Thus, European kings and queens chartered corporations—creatures of legal sovereignty, named after *corpus*, the Latin word for "body." The stock company had no human body, but it was corporeal in every other sense. It was an engine for creating material. It could own property, outlive its human members, and borrow or lend money (a neat maneuver around the Christian law against usury). The monarchs had designed these new institutions to carry out the policies that they found too risky to undertake themselves. To each successful corporate applicant, the Crown said, as Isabella might have said to Columbus: *Go now. I judge you responsible to return with gold and spices. You are free to take a risk in our name; you are free to fail.*

Corporations evolved further in 1783 when the new American republic won its independence from England, and the states took over the royal role of granting charters. In that era of budding industry, thousands of would-be railroad magnates and factory builders beleaguered the legislatures with applications to start companies. In 1811 the New York State legislature changed the rules of the game. Instead of tediously sorting through individual requests, they established a blanket corporate charter: anyone who met the legal criteria was automatically granted the powers of a company: to own property, to outlive human members, and not to burden any individuals with their debts or liabilities. Nascent entrepreneurs flocked to New York, and then to other states such as Delaware and New Jersey, that strove to outdo the leniency of the others' laws.

Through the rest of the 1800s, the form of the corporation took shape. Gilded Age entrepreneurs known as robber barons (both unscrupulous extortionists and merely ruthless empire builders) tested the limits of public sentiment, defrauding shareholders and squeezing out competitors. These abuses led to new regulations, which sent businessmen scurrying for new ways to get around them. Meanwhile, new types of technological webs—railroads, steamships, electric power, telegraph and telephone lines—broadened corporate reach. They also required larger and larger companies to run them.

By 1945, the mainstream corporation had come to dominate the culture of the world. Like patrons of immense crystal gardens, industrial leaders had built up great latticeworks of thrumming wires and churning highways. They had cultivated, with indifference to any value but the growth of their own enterprises, the banking empires needed to finance those infrastructures. They had put forth new packaging and refrigeration methods that had freed the hungry from the tyranny of seasons—and then, to move that food around the world, they had created a distribution and transport system that would have boggled the imagination of a Renaissance-era trader. Through broadcasting, they had made real the age-old fantasy of seeing distant events reflected through magic mirrors; through advertising, they had created a new kind of creative sales vehicle that affected the habits of millions; through the aircraft industry, they had brought into reality the miracle of flying. All of these boons, and many more, were commonplace by the 1960s, to the point where no one praised them; it would have meant voicing a self-evident cliché.

The large mainstream firms of the twentieth century also redefined popular images of success and achievement, of human worth and value. Decision makers at desks overlooking cityscapes plotted elaborate diagrams of authority and signed off on allocating money, while secretaries brought coffee and the afternoon mail. Men measured themselves by the size of their paychecks and option plans or by the number of tiles in the ceilings of their offices. Women judged their worth by the cumulative growth of their husbands' and fathers' careers.

Corporate culture was a vast wave, comforting to those whose natures fit with it, splashing across all competing desires for power and fulfillment, carrying progress and industry to every other culture. It struck with such immense, captivating grandeur that there seemed to be no escape.[2]

But the greater the wave, the stronger the undertow.

THIS BOOK IS THE STORY OF THAT UNDERTOW. It started small; it built up greater and greate influence, until now, the heretical ideas of the corporate past are the business mainstream of th present and (especially) the near future. We live in an age of heretics: an age where unconvention ideas become conventional wisdom rapidly. And that's a good thing, because the future of industri society depends on our ability to transcend the destructive management of the past and build a bett kind of business.

That doesn't mean embracing every unconventional idea. Nor does heresy mean flouting authorit A heretic is someone who sees a truth that contradicts the conventional wisdom of the institution which he or she belongs and remains loyal to both entities—the institution and the new truth. Hereti are not apostates; they do not leave the "church." Instead they try to influence the larger institution change for its own sake, because they think that its survival, and their own role within it, depends meeting truth halfway.

Heretics tend to pay a price. In medieval times, they often paid the ultimate price. Today's hereti are not burned at the stake, but they may be relegated to backwaters or pressured to resign. They s their point of view ignored or their efforts undermined. They see others get credit for their ideas a work. Worst of all, they see the organization decline as they predicted it would; they may see t leaders of that organization exploit or perhaps sell it, and profit accordingly, while the truth that t heretic fought to bring to the surface, the truth that might have led to a robust, sustainable compan remains unarticulated and lost.

In the meantime, the skills all of us are going to need, as citizens and private individuals, have to with learning to be responsible for large-scale endeavors without being in control of them. Corpora heretics have pioneered the use and understanding of these skills.

Like all other heretical movements, the movement to reform corporations from the inside came in being because the prevailing institutions left a need unfilled. Despite the power of corporate practic something desperately desirable had been lost in everyday corporate life, and without it, corporatio could not truly perform. This lost quality, unnoticed and yet desperately needed, was the vernacul spirit of everyday life.

Or so we might call it. As the writer Ivan Illich pointed out, there is no better word than *vernacul* for the quality of relationships and culture that dominated community life before the advent of t industrial age, when most work was unpaid and the workplace was indistinguishable from the hear and commons. The word originally came from the Latin word for "homespun" or "home-grown"- anything rooted in village culture, where goods were made not to be sold but to be consumed by t maker.[3] Vernacular life was the way of life that still exists in the villages of our dreams (a television programs and in a few preserves where indigenous cultures are maintained). In a vernacul culture, the best things in life *are* free, economic and personal life are mixed together, children a always underfoot in the workplace, and every exchange of goods is not just an economic transacti but an expression of the community's spirit. A barn raising is a vernacular event because the ne building exists as an expression of the community's needs. It has not been paid for with money. Thu it has not been distilled through the universality of the marketplace—which, after all, doesn't ca where a building might be most needed but reflects only the expectation of profits and returns.

In the preindustrial world, before the advent of the giant corporation, mainstream business had be a vernacular affair. To be sure, it was global, and currency was involved; indeed, every merchant w part of a web of commerce that extended throughout Europe and the Near East, interlaced wi markets, fairs, shopping districts, and sailing routes. But commerce was also intensely personal, i way that lasted through the centuries. There was no alternative, because the pace of global commer was so slow. A sixteenth-century trader would borrow the money to finance an import-export tr between, say, Portugal and Java; that trip might take eleven years or more, with stops along the way lend and borrow more money and exchange goods en route.[4] Even if all went well and the trad returned to port a wealthy man, the books on the trip would be closed only a half-generation after th were opened.

With that kind of rate of return, trust had to be based on something, and the most reliab foundation was the merchant's family. A family name was the individual's bond. The family also too care of all the merchant's domestic concerns; it educated his children and cared for his elders. Wo and family could not be separated. No one would have thought of separating them.[5] If you were t scion of a merchant family, you could not choose your mate or your career, because the family's lin of succession, and all the people supported by its business, depended on your playing your part.

Then the world sped up.[6] By the 1800s, thanks in part to the telegraph and the railroad engine, t feedback loop of commerce had been dramatically accelerated.[7] Now, if you borrowed money for long-distance enterprise, you could return it within perhaps a quarter of a year. You did not need t buttress your credit with your personal relationship with a trader's family or guild. Individu capitalists could now set out on their own without being held back by their families. The bo entrepreneurs of the robber baron era could build larger, more comprehensive enterprises than ha ever existed before, and on an international scale. They believed that the sheer size of their expand enterprises would insulate them from the whims and vagaries of their customers and suppliers. T corporations they built became living monuments to their intent to control the uncontrollab marketplace.

The new form of the corporation evolved quickly. By 1940 the age of the great monopolists like P. Morgan was over. The modern corporation was a hive of well-trained people (gradually label "managers") with overlapping responsibilities and channels of command (called "functions" a "divisions"), who all sat in judgment on each other (through a form of mutual persecution called "performance appraisal"), acting together to comprise a single sentient entity, with powers a capabilities that the same number of trained people acting as individuals could never have equaled.

To outsiders, corporate leaders might have seemed like supremely powerful individuals, projecti their personalities on the global canvases of their companies. But with very few exceptions, chi executives tended to be unremarkable men. Most of them, as the economist John Kenneth Galbrai noted, tended to retire into "Stygian darkness." Their power stemmed from the power of the compan not the other way around.[8] As with the medieval monasteries whose culture still subtly influenc theirs, the power came from something innate to the enterprise, some understanding that was availab only to people within the walls. It was as if every company were a living being, giant and invisibl offering great material rewards in exchange for fealty, seeking a kind of impersonal love and devotio that was all the more compelling because no one ever talked about it in public.

If no one controlled it—no entrepreneur, no robber baron, no banker, no investor, no legislator, and n king—then where had the power of the corporation come from? It came, in a very real sense, fro magic. Magic, as the medievalist Jeffrey Burton Russell suggests, is a system of practice, uncanny those who don't understand it, that attempts to manage, instead of simply accepting, the forces th shape human life.[9] Magic is a craft of rituals, often based on some scientifically provable truth, b expanded into assumptions that could never be tested.

Consider, for instance, the priests of the Nile in ancient Egypt, who lived in a temple far upstrea near the junction of its tributaries. Every spring they would check the color of the water. If the wat ran ~~clear, the Nile would flood mildly that summer, and the crops would be meager. If it ran brow~~ there would be overflooding, and the country would be impoverished. But if it ran blue, there would l ample water to irrigate the fields; there would be prosperity, and the pharaoh could raise taxes and g to war. The priests may or may not have known the reasons that the rituals worked each year; the may or may not have known that a different tributary, the Blue Nile or the White Nile or the brow Atbara River, controlled the river's flow each year.[10] It didn't matter. All that mattered was the ritua and the lives of the priests depended on the fact that their predictions continued to work, season aft season. Meanwhile, they guarded the secrets of the temple as closely as they could.

In corporations, the secrets of the temple were, simply enough, the magic of the numbers. Th everyday rituals of financial analysis and operations control were so effective at managing life on large scale, and so impenetrable to outsiders, that in any other age, the wielders of these metho would have been known as sorcerers or priests.

The practices of this "magic" had emerged through years of trial and error. In the salad days of th industrial age, every company was a laboratory for new methods of counting and measuring wor From the New England textile firms of the early 1800s came the formulas of "cost per pound": a wa to compare the speed and skill of every worker who spun cloth rather than simply depending o observation. From the early railroads came elaborate analyses of the costs per mile of track—a wa for the first time in history, to meaningfully compare one manager's overall performance wi another.[11] From the great mail-order store Sears, Roebuck came a method for scheduling the paths goods at a distribution center, as if they were railway cars in a freight yard. And from Henry For came an adaptation of the same inventive scheduling to the automobile assembly line.[12]

From DuPont and Procter & Gamble came the innovation of diversification; when they produced variety of products, managers were insulated from the inevitable ebbs and flows in the demand for ar single item.[13] And from the gangsters of the 1930s, particularly Dutch Schultz's legendary financi handler, Otto Berman (whose nickname "Abbadabba" was derived from "abracadabra"), came recognition of exactly how the numbers could be manipulated; Abbadabba used quadratic equation and probability formulas to rig his boss's illegal gambling rackets, increasing gross profits by mo than 50 percent .[14]

One pivotal moment for the numbers came in the 1880s when the famous industrial engine Frederick Taylor, studying the movements of immigrants loading pig iron at a steel mill, began t calculate ways of pacing human labor, so that manual work could be handled more effectivel Eventually these calculations were standardized down to the hundredth of a minute, covering the tin it took to climb a ladder, walk to a desk, or read a gauge. A delusion took hold that "scientifi management," the name given to this rigorous, formulaic oversight of human activity in th workplace, would yield boundless miracles of performance.

An even more influential (but less known) application of numbers was the invention of "return o investment." In the 1920s, a self-effacing Delaware farm boy turned management genius named Donaldson Brown moved up in the ranks at the DuPont Corporation, which was still family-owned ar managed, despite the fact that his family had been feuding with the DuPonts for generations. H secretly married a DuPont daughter, and when the marriage was finally exposed, Brown was shunte off to a new Detroit company where DuPont executives had an interest—a collection of former independent automotive firms, now combined under the name General Motors. Both DuPont ar

General Motors were diversified businesses with a variety of product lines, and Brown put in practice at both companies a method for comparing divisions (or any business action) based on th money invested, the costs incurred, and the gap between expected and actual returns. Later, workin closely with GM's brilliantly practical CEO, Alfred Sloan, Brown developed a way to compare th relative value of short-term and long-term investment with equally dispassionate clarity. Thes formulas allowed managers of vast enterprises like GM to think of all their far-flung divisio (Chevrolet, Cadillac, Buick) as components of a single system instead of as rivals within the firm.[15]

By the mid-1950s, nearly every large company had emulated Brown's formulas, Sloan's structure Taylor's strictures, and most of the other management systems of the industrial era. At Gener Electric, AT&T, Procter & Gamble, and General Foods, encyclopedic manuals (sometimes calle "blue books") dictated every aspect of workplace practice, from the layout of stamping machines the format of quarterly reports to the placement of pencils on a secretary's desk. Formulas like thes may have seemed rigorous and deadening to outsiders, but philosophically they represented nothin less than a breakthrough in human capability. Like incantations, the numbers gave names to elemen of the world that had previously been vague, abstract entities; the value of human effort and the wa that value might change over time could now be translated into "break-even points," "mark sensitivities," "net present values," and the all-purpose measuring tool of "earnings per share."[16] manager, through the numbers, could keep track of hundreds of people spending millions of dollars o dozens of thoroughly different projects. The marketer, through the numbers, could set a product distribution and advertising patterns with the determination and strategic overview of a gener plotting a war.[17] The financier, through the numbers, could build an explicit model of the forces of th future, forces that people from more traditional cultures could comprehend only through concepts lik "karma," "hubris," and "destiny."

Profit itself, in this context, did not represent the company's gains extracted from its worker labor, but the firm's capacity to generate more projects, more investments—more magic. With th type of power inherent in it, the magic of corporate finance overwhelmed all other considerations. no longer mattered that General Motors made cars or General Electric made applianc except as means to the end of maintaining desirable numbers.

And the benefits of vernacular culture seemed to diminish by comparison as modernity came i Few people mourned at first. Vernacular culture was unrelentingly local and parochial; it was slo and inefficient; it stultified ambitious people, and it condemned "worldliness." Moreover, the builde of industrial culture didn't have to reject vernacular culture; they merely ignored it or destroyed it passing, while the power of finance and operations, the power of the numbers culture, undermined th relationships that vernacular culture depended on.[18]

In a preindustrial town, if you had been a grain miller, you would not have conceived of selling yo grain overseas for a better price than you could get at home—not while people in the village we hungry. But once you knew the numbers, you gave up your loyalty to the village for loyalty to a impersonal exchange that, you knew in the abstract, would better serve everyone in the long run- even if it seemed disloyal now.[19] (The same logic would later enable managers to shut down plants rust belt communities, where families had depended on their employment for decades.)

Even as businesspeople were attracted to the numbers culture because of the enormous ne capabilities it brought them, they also found it psychologically compelling. Managers, with the engineering and finance backgrounds, knew how treacherous words and emotions could be. (Th