

Models without Morals

Toward the Ethical Use of Business Models

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Dr Michael Lissack¹, Kurt Richardson

¹ ISCE

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INTRODUCTION

To educate a man in mind and not in morals is to educate a menace to society. — Theodore Roosevelt

We have always known that heedless self-interest was bad morals; we know now that it is also bad economics. — Franklin Delano Roosevelt

A people that values its privileges above its principles soon loses both. — Dwight D. Eisenhower

Given the recent revelations concerning illegal and, more importantly, unethical behavior in some of America's largest and most respected corporations, this would seem to be an appropriate time to reconsider ethics in business. This article represents not so much a completed piece of research, but the beginning of a renewed discussion of ethics in business practice. It begins with a brief presentation of the highly reported recent events indicating the absence of ethics in modern business, and discusses briefly the role that ethics plays— or does not play—in the education of many of our top business people by America's business schools. Rather than regarding ethics as simply the adherence to a set of universal moral values, this article is concerned with the ethical implications of model use in business and education.

We take a complex systems slant on the nature of models and the ethical process of boundary identification and representation, which is essential to the development of models and their use. Our assertion is that models have ethical implications that are often overlooked given the naïve realism that, despite much evidence to its ineffectiveness, persists in business thinking (particularly in North America). After this complex systems analysis of what models are, we offer some preliminary advice on how business schools might improve the moral education of our future business people. Assuming that business schools have an impact on business behavior, it is their ethical obligation to acknowledge and adapt to the perceived "ethical crisis" in American business.

The headlines of 2002 and 2003 told a sad story of corporate ethics, or their lack. WorldCom, Andersen, Merrill Lynch, Enron, Martha Stewart... the list goes on. American confidence in our largest corporations is said to be at an all-time low (*USA Today*, July 16, 2002). Media pundits speak of the lack of ethics of the corporate chieftains and the inability of those around them to judge right from wrong. What these media pundits fail to acknowledge is that this is the same MBA mindset that was extolled by the same media during the 1990s. What kind of standards does the MBA mindset imply? What kind of ethics? That money is the measure of success? That it is standard to focus on maximizing shareholder wealth? That present value matters more than anything long term, including responsibility? That you are "a team of one" so focus on self (and maximize those stock options)? That responsibility is the "market's" not ours—and, anyhow, no one "like us" ever goes to jail? That the ends justify the means?

During the opening years of this century, thousands of people were made unemployed and trust in leadership and confidence—the very engine of our economy—were seriously undermined. Despite the events of 2002/3 many of our business schools will teach and learn accounting, finance, and management principles as if none of the scandals ever happened except as examples of excess and of getting caught. The white-collar crimes perpetrated at Enron, Arthur Andersen, Global Crossing, Xerox, WorldCom and others are not new. Veblen (1904) wrote of manipulations that carry risk to the business enterprise, but not necessarily to the executives initiating them: "The manipulators have the advantage of being able, in great part, to foresee the nature, magnitude and incidence of the risks they create."

The current corporate crisis cannot be "blamed" on business schools. Selfish individuals acted in furtherance of greed; as the American essayist, poet, and philosopher Ralph Waldo Emerson (1803-82) once said, "No change of circumstance can repair a defect of character." If we were interested in allocating blame then we could just as easily blame nursery schools, college education, the media, even the parents of the perpetrators. However, if business schools have some effect on their students—which they surely must have given the substantial dollar investment in them—then the climate and mindset dealt with at

business schools need to be re-examined in light of the current state of corporate scandals. Business schools must accept their limited role in the current state of affairs, even if they were unwitting participants. Professors cannot be sure that just doing what they have always done is right. Before individuals and institutions can change their behavior, they've first got to acknowledge that they have a problem. "Denial is always the first stage of eventual recovery, growth and development" (Sikula, 1996: 110).

Our contention is that it is the MBA schools' responsibility—at a minimum—to ensure that they are not merely helping the ethically challenged acquire a sharper toolset with which potentially to take advantage of a trusting (and why shouldn't they be?) public. In 1989 it was shown that business schools actually encouraged moral underdevelopment. An article by Conry and Nelson (1989) concluded that:

The empirical findings of moral psychology suggest that the business major attracts the least morally mature students, trains them in ways that foster little or no growth, and thus produces persons who are morally underdeveloped for their level of education. While higher education in general is the principal growth-producing experience, its business component appears to be flawed.

In the Conry and Nelson study, despite four years of training in business, the graduates' ethics scores were even lower than they were when freshmen.

Our MBA programs have contributed to the common mindset behind the current corporate crisis. The dominance in our society of MBA-style thinking is not just to do with corporations and corporate officials stealing. There is no doubt that such acts occur, but they are not the subject of this exercise (and they will always occur regardless of how good business schools get at teaching ethics). The systemic problem is more subtle but far more pervasive. Our corporate officials are ill-equipped with an inappropriate set of incentives and an even more inappropriate mindset about right and wrong. To attempt to do the right thing is a common goal, but our understanding—and theirs—of what is the "right" thing has become clouded. Such moral discrepancies have some of their roots in business schools and their curriculums.

For 40 years or more, business schools have taught would-be executives a mindset of compartmentalization, models, and supposed rationality. Yet, we live in a world of interrelatedness, stories, and emotions. Business schools do a poor job of teaching the limitations of taking a naïve realist approach to the abstract models, labels, metaphors, and indexicals taught therein and omnipresent in the "practical" business literature. The major differentiations of context and situatedness are all too often ignored or brushed over in favor of blunt applications of abstract models endowed with "reality." (Indeed, how many business school professors, never mind students, know what naïve realism is?) Naïvety regarding the limitations of the currently used tools and models (in fact, of all models and metaphors in general) is a major source of tension in the modern business world, and is the main focus of this article.

MARKS OF THE CRISIS

Without the confidence and participation of mainstream America, our markets cannot resume their rightful and necessary place as the engine of American prosperity ... Company directors must do their part by creating a corporate culture based on a philosophy of high ethical standards and accountability. William Donaldson, SEC Chairman, May 8, 2003

This was a crisis that was screaming to be addressed. — Elliot Spitzer, New York Attorney General, May 7, 2003.

The daily drip of scandal is spreading to all parts of the corporate scene. — BusinessWeek, July 8, 2002

The media give us stories of corporate crises, but they also give us more than that. They provide us with stories of violence, betrayal, deceit, and greed. Our sense of community is compromised by the very stories that cause us to retreat into our walled cities or enclosed versions of the "group." American workers demand secure, and preferably meaningful, work and seek to use their skills in organizational settings that are humane and sensitive to their needs. Unfortunately, most are finding their world less secure. The employment rates of large companies are decreasing, and those with work find that their job is no longer for life and that it is missing the attendant security of pensions and healthcare. As a result, workers are less loyal and are rightly worried about the future. Without faith in institutions, with worries about corporate and government accountability, American workers are rightly concerned about who they can trust and who can provide them with the long-term security necessary to raise a family (Kramer, 1999; Lewicki *et al.*, 1998; Rousseau *et al.*, 1998; Wicks *et al.*, 1999). (Unfortunately, some corporations have chosen to exploit these insecurities in order to extract more from their workers, rather than seeing this as a moral dilemma that needs to be addressed.) No longer is the "company" a safe harbor. While it is slowly losing its place of honor, its leaders are increasingly coming under media attack for fraud, greed, and moral indifference.¹

When accusations of fraud and deceit are reported in the business world, it is very difficult to determine whether or not they are isolated cases or representative of the whole business system. The following reports would seem to suggest the latter, but we must always be aware of the dangers of drawing conclusions from limited evidence.

The corporate criminals among us, the swindlers and profiteers, are now described in language once saved for bin Laden's legions. Business professors are staggered by the suicidal audacity of top executives—did they really think they would not be caught?—and marvel at the damage done. “It's as if we have given the CEOs weapons of mass destruction—at least economically,” says accounting professor Brian Shapiro at the University of Minnesota. “The companies they run are bigger than ever. When something happens, thousands can lose their jobs—and more people than ever are invested in them. So a few can do a lot of damage.” (Time, July 22, 2002)

As long as American business executives and their professional advisors believe in their hearts that greed is good and that the appearance of satisfying shareholders is more important than actually satisfying them, more law will be a futile response. Business is not a machine. We can't simply “fix” it with a new law here or there. The U.S.'s free market economy is made up of real people, acting on the basis of real motivations that include, but are not limited to, the desire to obey the law. People's actions, in business as in all areas of life, are deeply affected by those they deal with every day. Nowhere is this more true than with securities laws. America's complex legal system requires people in business to rely on (and persuade) attorneys and accountants. The securities laws are clearly meant to check individual and corporate greed, limiting it and channeling it to socially useful ends. However, they do so through the persons of professional advisors and experts, and, to put it bluntly, those experts are not doing their job. Why? Because they don't know what their job really is or should be. Too many accountants and attorneys have come to see their job as helping businesses get around the clear purpose of the law. Moreover, “watchdog” lawyers, claiming to represent “the little guy” and serve as the conscience of the marketplace, continue to file suits against those companies that fail to sacrifice everything else to painting a picture of continually increasing short-term profits. Thus, accountants and attorneys today are undermining business ethics, rather than serving their traditional role—the one anticipated by securities laws—of supporting and encouraging ethics. The results are proving disastrous for the public's perception of business and for the economy as a whole. (USA Today, November 1, 2002)

I think it is fair to say that there was nobody in the business community who is not implicated in this in some way. Not the executives who were under the excruciating pressure of having to meet quarterly earnings targets, no matter what. Not the lawyers and the accountants and bankers who were forced to compete furiously to get and keep clients. Not the regulators who became so intimidated by all the exuberance in the air. Certainly not the underwriters or the analysts or the credit-rating agencies or you in the press. Even those of us at business schools are implicated. It's not like the educational establishment sounded any warning. We were cheerleaders, too. (Jeffrey Garten, dean of Yale University's School of Management)

A recent Aspen Institute study of about 2000 graduates of the top 13 business schools found that B-School education not only fails to improve the moral character of the students, it actually weakens it. The study examined student attitudes three times while they were working toward their MBAs: on entering, at the end of the first year, and on graduating. Those who believed that maximizing shareholder value was the prime responsibility of the corporation increased from 68% upon entrance to 82% by the end of the first year. (Washington Post, August 4, 2002)

Too many of us view ourselves simply as bystanders. What's happened around us in the last year provides us with good stories and great examples for use in our classes, but it doesn't seem to go much further than that. Critical commentary is easy in the safety of the classroom. Many of us seem to hold the assumption that we have little effect on our students' ethics—that their ethics are essentially incorrigible by the time they show up on our doorsteps in MBA programs. Let's face it, the call of the share price and shareholder return, as assessed by Wall Street, is very strong. So, the prime directive of corporations has been to demonstrate these kinds of returns. And if returns are not substantively there, then at least the appearance of returns has become a corollary imperative. That imperative has led people to lie, to cheat, to steal, to hide information, and to behave in patently unethical ways, not only for the benefit of the companies they work for, but also for themselves. The possibility of making one's company look good, not to mention the possibility of amassing great personal wealth is awfully seductive. Conceiving of these activities in criminal terms has not been part of the vocabulary of those subject to the temptations. Conceiving of these activities in terms of the harm caused to other people (employees, unsuspecting investors, etc.) has not been part of the picture. Undoubtedly, we are training and turning out a very skilled group of people from our programs. But, we shouldn't be surprised if some cynical observers conclude that we are also turning out some very skilled criminals—armed and dangerous criminals equipped with an array of powerful financial weapons, who leave a lot of gravely wounded innocents lying around because they are bereft of socially responsible values. (Dennis Gioia, addressing the Academy of Management, August, 2002)

This is absolute bullshit. There is no such thing as ethics in business. And business schools should not be teaching ethics and acting in the public interest. The very foundation of modern economics and finance is that individuals act in their own self-interest and ignore everything else. In finance I teach that if you think you can get away with it and make more money, then do it. The only ethic that matters is the ethic of the financial market. As you can see, the executives of many of these firms have paid dearly through the decline in the market value of their stock. The market has taken corrective actions on its own. There is no need for governmental regulations or interference, nor for any teaching of ethics in business schools. (Neal Stoughton, June 30, 2002)²

This last quotation is particularly worrisome. If capitalism really is about the exclusion of ethics from the process of doing business, then it is no surprise that certain business people display no qualms in breaking what most of us would regard as well-established moral codes. It would seem that, for Neal Stoughton at least, the ends more than justify the means.

IS ETHICS AN OPPORTUNITY COST?

Elements of the modern world of big business seem to have misinterpreted Adam Smith's ideas to mean that if we each looked after our own interests, some "invisible hand" would mysteriously arrange things so that everything worked out for the best for everyone. Modern business people have "mistakenly and unfortunately ... advocated that looking out for 'numero uno' assures that a community or country will also benefit" (Sikula, 1996: 6). But without the accompanying requirements of self-restraint and self-responsibility, such freedom becomes license and then mere selfishness. Adam Smith, who was a professor of moral philosophy not of economics, built his theories on the basis of a moral community. Before he wrote *A Theory of the Wealth of Nations* he had written his definitive work *A Theory of Moral Sentiments*, arguing that a stable society was based on "sympathy," a moral duty to have regard for one's fellow human beings. The market is a mechanism for sorting the efficient from the inefficient; it is not a substitute for responsibility. When relying on market forces to instill ethics, it is the ethics that are the opportunity cost.

When teaching economics, the single concept that is most difficult to convey is that of *opportunity cost*. The opportunity cost of some action is the gain that we would realize by doing something else. If working on a legal brief at night instead of being with friends would have gotten us a \$500 bonus, then that \$500 bonus forgone is the opportunity cost of our decision to be with friends. What the concept of opportunity cost does is put a literal price on everything we do. We could always work a little harder or a little longer. The "cost" of not doing so might be promotion, partnership in the firm, or even keeping our job at all. When we think in terms of opportunity costs, the impetus is always there for us to keep working. Lurking in the back of our minds is the likelihood that if we don't, surely someone else will.³

The reason, we suspect, that economists have so much trouble teaching their students about opportunity costs is that the students don't naturally put a price on everything they do, and are inclined to resist the encouragement to do so. It reflects not a lack of understanding but a lack of agreement with the economists' way of looking at the world. Our way of seeing has become blinded by the almighty dollar. We accept expressions of the quality of our lives in terms of possessions, artifacts, and money; that is, what is easily countable. Once we start using the language of the market to describe our nonmarket, social activities, it becomes easier for us to trade off market, economic goods against nonmarket, social ones. When we ask ourselves whether we can "afford" to spend an evening with friends instead of finishing a legal brief or cultivating a new client, we are implicitly putting a price on our friendship, as well as the price of privileging work matters over nonwork matters. How else, after all, can we begin to answer the question? Economists generally don't see it this way, because they regard opportunity costs simply as makers of fact. If you could earn a bonus by working on a brief, then, as a matter of fact, your night with friends cost \$500. But, of course, facts are only facts within particular contexts. If we choose overly simplistic contexts within which to construct facts, it is no surprise that we end up with answers that seem rather at odds with our experience of real life.

However, opportunity costs are not makers of fact. While there is no doubt that a price can be put on everything, we believe that it is very much up for debate whether a price should be put on everything. Indeed, we believe that severe consequences attach to becoming accustomed to thinking about our lives in terms of opportunity costs and pricing all of our activities (particularly if we apply the concept in such a simplistic way as has been illustrated). The "opportunity cost" of thinking in terms of (linear) opportunity costs will be paid in the degradation of many forms of civilized, communal, social life. It will be paid in the degradation of all kinds of value except market value, the degradation of all kinds of goods except traditional market goods, the degradation of all kinds of games except market games. In a way, this is the same as suggesting that the opportunity costs of relying on linear, reductionistic thinking are considerable. This is true of society as a whole, but particularly true of MBAtype thinking and modern business models.

THE MBA MINDSET AND REDUCTIVE SIMPLICITY

Twenty-first-century humans have more choices about more things than ever before. The present era is marked by a surfeit of information and an excess of complexity.⁴ Faced with complexity, the traditional instinct of the practical manager has been to try to reduce it through rules of thumb, standard operating procedures, and so on. If this did not always succeed in eliminating

uncertainty, it helped to reduce anxiety, allowing life to go on at a lower level of neurosis than otherwise. Yet, reducing complexity is only an option if some measure of insight and understanding is present, and if, through the myriad stimuli that rain down on them at each instant, managers can discern some minimum structure that can help them make sense of their situation. Failing this, complexity can only be absorbed and endured. And while most people vary in their willingness and ability to deal with complexity, few other than mystics or simpletons can live with it for long when it operates at very high levels.

Business schools and management consultants deal with this surfeit of information, complexity, and anxiety by utilizing the notions of compartmentalization, analysis, and modeling. If we can model it we can manage it. For the model, which by definition is derived through compartmentalization and analysis, is manageable. Do what the model says and complexity will be reduced and anxiety lessened. This of course assumes that the models are correct; that they somehow capture all that is important for business decisions to be made. In other words, we can apparently reify these models without concern. If it were only that simple.

Models exist in the business world to make predictions. Models are judged as successful when they are predictive and predictable. Complexity reduction and anxiety lessening are tied to the ability to predict. But frequently we cannot predict. Despite evidence that such models often do not fulfill their predictive promises, it is surprising that their popularity and application persist. Instead of interpreting the evidence before us as proof that these models poorly reflect the truth of real-life business, it is often supposed instead that the application of the models is in error. In the blind application of supposedly rational representations, Jervis (1998: 311) suggests that:

Confronted with disasters that may have been caused partly by their own previous actions, modern bureaucrats and politicians are adept at using this as further evidence for the need for yet more “rational” intervention and control.

The failure of models and prediction was not on the minds of Gordon and Howell or Pierson, authors of two 1960s-era reports that changed the nature of American business schools. The reports stressed that in a “scientific” age rigor was now demanded of the business school curriculum. The goal of these reports was to put academics more firmly into the business school curriculum. That goal was reached, but the stress on academics meant a lessened emphasis on professionalism. No longer would it suffice to teach prospective managers from the narratives and stories of their predecessors. The notions of apprenticeship and learning from the masters were replaced by more formal analytical methods. Models, analysis, and statistical research—the tools of hard sciences such as physics (which traditionally deals with a quite different subject matter)—were espoused as the tools of business people.

Science uses such tools to reduce complexity in the objects of its study. There are many types of complexity, but science traditionally deals with those problems that are amenable to formal simplification. Not all problems can be so easily simplified, however. Many problems resist simplistic approaches. Academic business education makes the assumption that business problems are the sort of problems that can be dealt with in a reductionist manner. We think that this assumption is questionable, to say the least. In a way, we can say that the MBA mindset assumes that business can be reduced to physics using the same tools and rationale as the physicists. Of course, some business problems are very successfully analyzed with standard scientific methods; our point is simply that many of the more interesting and challenging problems of modern business cannot be properly analyzed in this way.⁵

It is not that there is a problem with making use of analysis and the metaphorically constructed models that form the heart of the MBA curriculum—it is that the method that MBA students are taught to make use of the analysis and models is far too often devoid of the context and situatedness from which the models were abstracted and into which they must be interpreted. Very few business situations match the abstract simplifications that inform even the best of these analytic methods and models. The world of potential actions is populated by actors, events, and contexts that have been “reduced” out of the models to make the problem of interest comprehensible. Ethics is involved in how the models and analytics are applied, but very few MBA students (or their proponents in the business media) have such an awareness.

THE WHOLLY TRINITY: MISSION, VISION, AND STRATEGY

The business school emphasis on complexity reduction and models, and the implication that this process is risk free, finds some of its deepest advocates in the popular press, with business journalists, and with the hundreds of business books written each year. Consider but one reductionist model, that of mission, vision, and strategy. Pick a mission, proclaim your vision, and articulate a strategy to get there: Success will surely follow. The popular media has elevated vision to the status of “sacred concept” and visionary managers to the status of “gods.” A vision statement is described by such noted journals as *Fast Company*, *Wired*, *Business 2.0*, *The Industry Standard*, *Upside*, and *E-Company* as future focused, and defining what you want to become in the next three to ten years. Organizations that pursue a vision have vision-based missions and mission-based visions. A mission statement is present focused and defines what you do to accomplish your vision. The mission keeps an organization focused on its key customers, products, and services, and helps when evaluating new business opportunities to make sure that they fit in with the scope of the company’s mission. Missions are cast in vision; first see a future that is virtually inevitable, and then adopt a mission to participate in that future. “I skate to where the puck is going to be,” as Wayne Gretsky

used to say (c.f. *Fast Company*, June 2000). Peter Drucker is often quoted as claiming that effective visions are a future that has already happened (1996). Strategy is the medium-term game plan for putting into place that effective future. Mission, vision, and strategy are the (w)hol(l)y trinity of an MBA religion where the “gods” are “the unit of one” and “change.”

Notice the absence of practical advice in the paragraph above. The omission is deliberate—most practical advice of the “how-to” variety has been shown to fail within a short time after it is printed. (*The In Search of Excellence* companies, for example, mostly became near failures, at least for a time. Enron was hailed as “genius” only months before its collapse.) In the absence of serious guidance about how to “make” a strategy, the practicing manager is left with popular advice, consulting firms, and the academic literature on visions. Together these sources seem to rely on five unspoken assumptions (often associated with linear/reductionist thinking):

- The world is stable enough that changes that may occur are foreseeable (we will label this “continuity”).
- Prediction is possible, although its problematic nature is often overlooked.
- Boundaries are clearly defined. The fuzziness that characterizes the network firm of today goes unrecognized. Employees know who they are, suppliers know who they are, customers know their place, and the bosses’ jurisdiction is self-evident.
- Identity is assumed and has no need for articulation.
- Outcomes are more important than processes—the ends justify the means. This assumption, which was at the heart of the management by objectives or management by results fads of the 1970s and 1980s, has played a big role in undermining ethical and moral business

practices. “Winning at any cost” supplants “how you play the game” as a mental rationalization of behavior.

The world of practicing managers does not succumb to these oversimplifications. Prediction, at best, is only possible in the very short term. Boundaries are always shifting. The composition of work teams, temporary organizations, the company, the industry, and the competitive environment is rarely predictable (in the long term at least). Identity is unclear. The tradeoff between outcome and processes does not favor one over the other. Situation and context have determinative roles. When outcomes are not dominant over processes, measurement of presumed causal factors loses meaning and may have negative feedback consequences. In the complex world of organization, continuity is but a fragile, temporary, and illusionary notion; the assumption of predictability does not hold.

The use of what passes as organizational, business, or management science is really a bet on serendipity. Exposure to various models, theories, and best practices is supposed to produce a “better-prepared manager” or “good business outcomes,” but how is not entirely clear. “The power of experts and managers over our lives may be real enough, but it rests on collective mystification as much as real expertise” (Jervis, 1998: 313). McIntyre (1997: 107) goes as far as to suggest that

all too often, when imputed organizational skill and power are deployed and the desired effect follows, all that we have witnessed is the same kind of sequence to be observed when a clergyman is fortunate enough to pray for rain just before the unpredicted end of a drought.

For example, the simplistic MBA trinity of mission, vision, and strategy analyzes next to nothing. Adding more touchy-feely concepts such as coevolution, co-opetition, and trust merely achieves second-order complexity. There is, indeed, more than one cause to most events—different dimensions of activity, motivation, and social interaction are involved in organizational activity. The traditional squaring of “machine bureaucracy” with an “organismic” dimension, however, complexifies the logic without nearing awareness of the multifaceted, coevolving, and dynamic nature of organization. Admitting that there is more than one dimension to organization and to social causality is much less of a “big thing” than some writers want to pretend. Coexisting, parallel underpinnings, coupled to bifurcating (qualitative) change, in a regime of social unpredictability, are in fact the norm.

This is not to say that the insights derived from single-perspective texts have no value. On the contrary, when applied in the appropriate (limited) situation(s)—that is, the right place at the right time—the approaches will indeed prove invaluable. However, making the connection between the situation of interest and theory is not a trivial undertaking.

If we consider the challenges to humankind throughout its evolutionary journey, we suppose that on many occasions prehistoric man came face to face with a sabre-toothed tiger or something less dangerous, a woolly mammoth for example. In the early days, prehistoric man was not equipped with a perspective that allowed him to distinguish between the mortally dangerous tiger and the mammoth. A number of painful lessons later, our simple hunter developed an appropriate model that improved his chances of walking away intact after an encounter with a tiger or a mammoth. Prehistoric man had developed an understanding

of the situation that allowed him to identify what it was important to consider in order to take an appropriate course of action.

A challenge to the modern-day manager (among many others) is to perform the same trick; that is, to recognize the pertinent features of a situation, develop or apply a theory explaining the relationships between the pertinent features, and then make a decision based on the predictions/understanding that the application of the theory provides. Because of the complexity inherent in many such situations, it is impossible to know beforehand what it is important to consider, and therefore what model to apply and what will happen; although having “good” models to hand often helps this process (as well as hinders it, if we start to take them for granted). To complicate matters further, similar situations do not necessarily result in similar outcomes—the chaos effect. We need to wait and see what happens before we know what happens. This is not a very satisfactory result as far as managers are concerned; in fact, it’s the end of life as we know it, particularly for the prehistoric man culled by the sabretoothed tiger. Of course, experience will provide a powerful (and sometimes overwhelming) input to the decision process. But as we all know, experience is not always appropriate for new situations; otherwise our failure rate would be much lower than it is.

Traditional management practices and teachings focus on models, with success to be measured against some predefined objective. By definition, models/metaphors/labels are mere caricatures of the reality they claim to represent—some are good representations, some are less so. In a mechanistic world, we could easily get away with assuming that these representations are faithful images of reality and thus commit totally to any decisions informed by their use. In a complex world, these representations are an imperfect glimpse of one facet of reality, not a complete description. The assumption that models correspond exactly to reality, the position known in philosophical circles as naïve realism, is the curse of much modern management theory and practice. Models can usefully guide our thinking processes, but they should never be used as a replacement for (critical) reasoning.

COMPARTMENTALIZATION, MODELS, AND RATIONALITY

The reliance on models, metaphors, and “indexicals” in current MBA teaching is obvious from a cursory look at the literature used as management texts. Such a look would reveal an interesting list, including balanced scorecard, benchmarking, best practice, co-opetition, core capabilities, core competence, corporate culture, cost-benefit analysis, creative destruction, critical path analysis, customer relationship management, empowerment, experience curves, five forces analysis, flat organizations, growth/share matrix, intrapreneurship, just in time, knowledge management, management by objectives, matrix organizations, mission statements, open book, operations research, outsourcing, pay for performance, portfolio balancing, quality circles, real options, reengineering, scenario planning, six sigma, strategic business units, strategic planning, supply chain, synergy, systems dynamics, total quality management, visions, and zero-based budgeting. The list goes on and on. Each of these models has a deep academic literature base and advocates who will proclaim the scientific validity of their favored approach.

The “science” in management science lies in writing about the chosen model in a manner that indicates its usefulness for prediction and control. But unlike hard science, control experiments are few and far between, studies to “disprove” hypotheses are discouraged, and “truth” and “causality” are often proclaimed whenever correlation coefficients exceed 25 percent. Some might suggest that these shortcomings (in the eyes of hard scientists) demonstrate how poorly developed management science is. However, we argue that the primary reason for these shortcomings is that organizations are simply not entirely amenable to traditional scientific analysis—it’s not that business scientists have applied their scientific tools badly, the tools are simply not suited to the subject matter.

What allows management academics to refer to their field as scientific is the reliance on models, on analysis, and on the compartmentalization of problems into smaller discrete units for study; the exact same tools and methods used traditionally in the natural sciences.⁶ This is the type of “rigor” that Gordon, Howell, and Pierson called for (in the Carnegie and Ford reports on business schools) and that gives management scholars status. Much of the “management science” point of view of what management is all about has its analogy in the hard sciences as traditionally viewed by naïve realists. This is known as the mechanistic, reductionist, or Newtonian viewpoint⁷ (these terms are often used interchangeably). This viewpoint considers the world at large to be linear and ultimately predictable, and therefore controllable. This desire for control has attracted management scientists to the mechanistic view because of its promise of such complete control—as long as one’s system of interest functions like a machine.

AN IRREDUCIBLE WORLD

Reductionism is, for many intents and purposes, totally adequate for the systems (machines) that we design to behave predictably. Unfortunately, organizations are not machines (our failures in trying to describe them as such should have made this obvious a long time ago), and as managers we have severe limitations in our ability to control the design process. Human beings are not (thank god) totally predictable. We can summarize the principal “law” of reductionist science as “the whole is equal to the sum of its parts.” Reductionist thinking focuses our attention on the characteristics of the parts (which are assumed to be easily recognizable as *such*), by neglecting the relationships between the parts and ignoring the relationships between parts or the whole (which can be just as difficult to recognize as *such*, given that “wholes” are simply the “parts” of another level of description) and the environment in which it functions.

This viewpoint completely omits the possibility of self-organization and emergent behavior, which are a source of much unpredictability in the “real world.”⁸ Life does not always go to plan—events that may appear to have no link with organization may be responsible for catastrophic events further downstream (such is the complexity of causality in the real world); and reorganization at all scales—that is, teams, group, sector, and so on—might occur as a direct result of the changing nature of the relationships between the parts, for example people and technology, that make up the organization. These features of real organizations are not, and cannot, be accounted for with the adoption of a reductionist viewpoint.

The problem with the reductionist view, as with all views in fact, is that the problem of interest must be considered in terms of the “rules” of the view. For linear systems (or, to be more accurate, systems that can be usefully described as linear) this is not as important—a slightly different representation will lead to a slightly different understanding of how the system performs. The representation will not model reality completely but will prove to be a very useful and stable approximation—for *linear systems* (again, we should really say linearly “modelable” systems). For complex systems (which in this context we define as systems whose reduction to simplified models is problematic), we find that a slightly different representation *might* lead to a completely different, and possibly contradictory, understanding of how the system performs. Unfortunately for managers, organizations are complex systems, and therefore this sensitivity to viewpoint becomes critical. Shaping the problem to fit the viewpoint is fine when considering linear systems, but is likely to prove inadequate for complex systems.

Because organizing is so complex, there has been a standard prejudice in the literature to reduce it to hierarchical rational (and linear) procedures. Management has been presented as a top-down rational process where actions are derived from more general principles and overall coordination is determined by a first cause (the vision, CEO, whatever). We refer to this as *business foundationalism*. Consider if you will Henry Mintzberg’s classic comment:

If you ask managers what they do, they will most likely tell you that they plan, organize, co-ordinate and control. Then watch what they do. Don’t be surprised if you can’t relate what you see to those four words.

If organizing is an emergent social process of discussion (as Mintzberg has recorded), then its point of departure is its interactive processes and not any first principle or basic managerial thesis of action. What one should do, see, understand, or communicate is not governed by absolutes but by the demands of the local situation rooted in an understanding of that situation’s innate complexity.

It is in this demand for situatedness that the MBA lessons about models, metaphors, and analytical practices break down. In an earlier article (Lissack & Richardson, 2002) we wrote about Robert Rosen’s definition of a model and what he called the modeling relation. What is currently important about that discussion is the idea that in Rosen’s view a true model only exists when there is both a means of encoding the perceived “real” world into a formal model and a means of decoding the results of observations, simulations, manipulations, and calculations in the model back into actions in that real world. Others may refer to this as constructing a model and deconstructing the model back to the world of actions. The method(s) of reductionism so stressed by the majority of academics who teach MBAs has its strength in the encoding (construction and naming) part and its weakness in the decoding (deconstructing or interpreting). Instead of actively discussing the multiple approaches that may all be interpretations, enactments, decodings, or embodiments of a model, MBAs are often taught as if there is but one or perhaps two decodings. These “privileged” interpretations are given status as names, labels, or symbols—and the labels are then used as guides for action. The very situatedness and context that determined the deconstructions in the first place are lost, as is the interpretive circle that allows the underlying model to afford validity. All that is left is an abstract label overused as an indexical. In such an oversimplification lies the problem with MBA models.

In the world of management and management consultancy many different problems are addressed with one approach, which necessarily results in shaping the problem to fit the viewpoint, or the current management fad. Rather than addressing and managing the inescapable complexity inherent within organizations (which arises through the interrelations between entities), traditional approaches reduce the complexity in a prescriptive manner. This effectively forces managers to forgo options that might have been available to them through the adoption of a number of complementary perspectives.

By making assumptions (and in so doing restricting ourselves to a particular or one method of decoding), we predetermine what might be learnt, which will limit the options that appear to be open to us as managers. This is because by adopting a particular perspective, and therefore making particular assumptions, we limit what we can “see.” The perspective acts as a lens that only allows particular features to come into focus—all other features are lost, or assumed not to be relevant to the problem at hand.

Furthermore, in communicating with others by making use of a particular viewpoint, we limit their ability to “see” what is relevant. If we take this process further and consider language, we find that the language we use to describe our surroundings predetermines what we “see.” This limitation is captured, for example, in the following quote from Robert Shaw: “You don’t see something until you have the right metaphor [model] to let you perceive it.”

We have to make assumptions; it is unavoidable. Nonetheless, it is important to appreciate the significance of doing so. When MBAs are taught to rely on models and rationality (simplistic encoding methods and singular decodings), they are also taught to discount stories and emotions (which are not so easily described in term of rationality and linearity). When MBAs are taught that the world is best dealt with through compartmentalization (reductionism), they are also taught that it is OK to deny the reality of interrelationships (or of the multiplicity of interpretations that exist whenever situatedness is acknowledged). When MBAs are taught that abstract quantitative models contain “truth,” they are taught that truth does not include a notion of personal responsibility. They are taught these lessons not only over the one- or two-year period when they are in school, but continually in the “managerial environment” surrounding them when they are working.

In simplistic formal models MBAs can find solace, protection from unpredictability, an excuse not to think.

INTERRELATEDNESS, STORIES, AND EMOTIONS

Models, compartmentalization, and rationality are not the only available truths. There is an alternative view, where organizations can be viewed as systems of interpretation and *constructions of reality* (Berger & Luckmann, 1967). In order to survive, organizations must find ways to interpret events so as to stabilize their environments and try to make them more predictable; organizations must also find ways to interpret events so as to be one with the environment, an environment that they play a role in shaping. A central concern of organization science is understanding how people construct meaning and reality, and exploring how that enacted reality provides a context for action. When managers “enact” the environment, as Weick (1995) put it they

construct, rearrange, single out, and demolish many “objective” features of their surroundings ... they unrandomise variables, insert vestiges of orderliness, and literally create their own constraints.

Through this process of sensemaking and reality construction, people in an organization give meaning to the events and actions of the organization. Sensemaking and reality construction take place via stories and emotions rather than via models and rationalizations, although of course models (albeit less formal than the grand business models) still play an important part in the development and expression of these stories and emotions.

This alternative to the more simplistic and formal reductionist models grants more status to stories and narratives. Unlike formal models and abbreviated metaphors (especially quantitative models), stories and narratives allow for considerations of complexity, of interrelationships, and of emotions. A story narrates a past, present, or future event. All three contain truths and fictions, thoughts and emotions, and all three overlap. Memories are stories, stories consist of memories, and both are often expressed through metaphors. The fusion of memory, metaphor, and story enables the creation of meaning around, or seeing personal relevance in, a specific affordance or set of affordances. When we are exposed to metaphors, stories, and memories, we don’t passively absorb such messages. Instead, we create our own meaning by mixing information from the context with our own memories, other stimuli present at the moment, and the metaphors that come to mind as we think about the attended-to affordance (Zaltman, 2003). As William Mitchell put it,

Metaphors do not exist as words in memory, but as networks of abstract understandings that constitute part of our mental imagery. (Mitchell, 1992)

Stories are among the more natural (natural to humans) tools that we have for making sense of our environment and getting comfortable with both what has already occurred and what is yet to come. Storytelling is how we make sense. We tell stories to ourselves and to each other. Without them we can only exchange mere words as symbols or icons. If we all had precisely the same set of experiences, the mere sharing of words and icons would be enough. One word would have but one exact meaning. But we all have divergent experiences, and for each of us those experiences are woven together in a multitude of ways. We need stories to make sense of it all.

As Hartman (1999) notes,

A story is a narrative told around the formalism of the model. It is neither a deductive consequence of the model nor of the underlying theory. It is, however, inspired by the underlying theory (if there is one). This is because the story takes advantage of the vocabulary of the theory (such as “gluon”) and refers to some of its features (such as its complicated vacuum structure). Using more general terms, the story fits the model in a larger framework (a “world picture”) in a non-deductive way. A story

is, therefore, an integral part of a model; it complements the formalism. To put it in a slogan: a model is an (interpreted) formalism plus a story.

Stories are not a set of labels. If they were, then as the labels were triggered a predefined set of images would be unfolded by the listener. Every listener would hear and construct the same story. Children learn that this is not true when they play “telephone or operator.” Corporate managers, however, tend to forget this childhood lesson. The children’s game illustrates the new things that can emerge as stories are told and retold. The corporate chieftains tend to expect the same meaning to be evoked by their story as they retell it from audience to audience. The chieftains miss what the children gained. In telling and retelling the same war stories they often fail to ask their listeners about the images the story evoked. What matters about a story is what the listeners do with it, not the smile it brings to the face of the teller in its hundredth reincarnation. Listeners use the images evoked to create meaning—meaning that goes on to inform actions.

Intuition enables us to size up a situation quickly. Mental simulation lets us imagine how a course of action might be carried out. Metaphor draws on experience by suggesting parallels between the current situation and something else we have come across. Storytelling helps us consolidate our experiences to make them available in the future, either to ourselves or to others. The power of a story is that it allows listeners to recreate an experience in their mind. Too many details, too fine a point on things, removes the potency of the listener’s imagination. The power of a good story is in the experience it evokes in its listener. Most stories are set into a context by their tellers. That context reinforces images of place and time. By activating the listener’s mental model for a time and place, many details need not be told and room is created for the listener’s imagination to roam. In effect, the storyteller has carved out a canyon and the listener supplies the river of meaning to run through it.

The context set out by the storyteller will conjure up a new set of “related ideas” in the minds of each listener. Meaning emerges from the combination of what the storyteller supplies and what the listener’s mind now adds. Stories suggest new images, combinations of old and new ideas, and allow listeners to place themselves in a simulacrum of related action. Meaningful stories are not made up of isolated words. They too must evoke deeply held values and images. To offer up isolated words is to evoke a shallow stream of water in a hot desert. Whatever value there is dries up quickly.

Narrative can be, and often is, an instrument that provokes active thinking and helps us work through problems. Our need for narrative form is perhaps so strong that we don’t really believe something is true unless we can see it as a story. Bringing a collection of events into narrative coherence can be described as a way of normalizing or naturalizing those events. It renders them plausible, allowing one to see how they all “belong.” This is a constant theme in the work of historian Hayden White (1980):

The very distinction between real and imaginary events that is basic to modern discussions of both history and fiction presupposes a notion of reality in which “the true” is identified with “the real” only insofar as it can be shown to possess the character of narrativity.

FORMALISMS VERSUS STORIES

The richer and more obviously grounded descriptions that one can obtain about the experience of being in business, or working within an organization, combined with a growing cynicism regarding formal representations, have triggered a kind of narrative turn in management science—a turn still struggling to grow roots in the North American business literature, while displaying impressive growth in Europe particularly. Such descriptions of business come from the inside-out rather than the outside-in view of formal scientific models. In some circles it is suggested that narrative approaches should be privileged over more (traditional) scientific approaches, but, as has already been noted, narratives still depend on models. Just because these hidden, though implied, models are less formal and come from within the organization, from the workers themselves, doesn’t necessarily make them better models (although they are certainly different sorts of models—and they often are presented in a form that we naturally find easier to grasp).

Supporters of the narrative approach who also deride the more formal scientific approaches should recognize that many of the business models taught at business schools result from the standardization, through abstraction, of collections of organizational stories. Of course, significant detail is lost in the abstraction process, but the models that underlie our narratives do not exist separately from the more formal models that result from the application of formal reductive methods.

If business people were scientists, the interpretive acts that accompany the application and enactment of models would be recognized and surfaced. Such is the business of science. But business people are not trained scientists and the communicative shortcuts used by scientists— formal models—are treated with an undeserved naïve realism. The value of narratives and stories lies in their appeal to the innate talents of those involved in management and in managerial communication. We need (as always) to recognize that a little knowledge can be a dangerous thing and thus to act to offset some of the dangers.

One thing is certain: A preoccupation with stories and narratives will not necessarily lead to ethical behavior. By giving up

scientific models and chasing stories, America's corporations will not all of a sudden be more ethical. The models that underlie our daily expressions of organization and business still make distinctions, they still imply boundaries that include some elements and exclude others—there is still an implicit judgment about what is important to talk about and what isn't. It is the process by which these boundaries are determined, how they are regarded, and whether the boundary issues and situations are actively discussed that is central to business ethics, *not* whether or not formal models are used. It is our belief that ethical behavior comes from reflection on situation and circumstance prior to action. Developing an understanding of the strengths and weaknesses of different models and their role in the business process is a beginning, learning to consider multiple interpretations is a middle, and reflection before, during, and after taking action is a lesson learned.

ETHICS: MODEL OR PROCESS

According to Sikula (1996: 126):

Ethics universally means a body of moral principles or core values concerned with distinguishing between good or bad, right or wrong, and proper or improper conduct and behavior.

Since the postmodern turn such a notion of universal ethics has come under scrutiny. Who is to decide what is right and what is wrong? Whatever moral principles are offered, it is always a relatively trivial matter of finding a context for which the application of a particular moral principle is seemingly at odds with prevailing (local) values. Because of the obvious shortcomings of espousing a universal set of moral principles, some philosophers have recoiled from universalism to relativism in which morals and ethics are in the eye of the beholder; that is, what is right and wrong is determined locally rather than universally. Relativistic ethics is totally driven by context, whereas universal ethics is acontextual. Applied irresponsibly, relativistic ethics leads to a kind of “anything goes” attitude—my model of the world is correct and so what I judge as being right and wrong is the correct judgment. Relativism can lead to a different kind of universalism that is equally unsatisfactory, in which we each regard our own personal ethics as universally applicable. This is no better, and possibly a lot worse, than each of us absolutely following a universal set of moral principles. Dewey (1916: 89) expressed a more pragmatic middle ground (toward which the present authors lean):

A moral principle, then, is not a command to act or forbear acting in a given way: it is a tool for analyzing a special situation, the right or wrong being determined by the situation in its entirety, and not by the rule as such.

It would seem that whatever school of ethics one is interested in, an underlying model with which to make any judgment about ethical actions is needed. So is the solution to the current ethical crisis simply to teach our future business people a range of models of ethics in addition to the more focused business models? This may well be a good start, but it is not the kind of ethics we are concerned with. All models—whether they are models of ethics or models of business or models of society—have an ethical dimension to them.

The first step in the development of any model, or story, is to decide what is to be included. Of course, at the same time, what is not to be included is also implied. It is the process of making these distinctions—that is, the process of boundary drawing—that has a strong ethical dimension. Ethics are relevant here because the process of boundary drawing is a process of marginalization that is driven by the modeler's value system. So even though very few business models make explicit reference to ethics and values, they do contain many ethical judgments in the fact that they have chosen to state implicitly “this stuff is important and this other stuff isn't.”

For example, if you were responsible for closing down a factory in a particularly needy area whose prospects were intimately tied to the future of that factory, then there are many different ways of bounding this decision. You might simply draw the boundaries around the company itself and base the decision purely on local (to the organization) bottomline thinking. You might decide to include the employee community and the potential impact on that community. From simplistic bottom-line thinking you might conclude that employee suffering is not important as it has no impact on bottom-line performance. Alternatively, you might include within your model the potentially negative media coverage that such a closure might attract, which may affect your customer perceptions, which may affect your local bottom-line performance in a negative way that outweighs the potential savings of closing the factory. Of course, we could continue this line of boundary development forever—this would open up many options for us, but would also lead to utter confusion if we went too far with it.

All models contain within them implicit ethical judgments about what is important to a decision and what is not. It is our position that the possibility of ethical behavior starts with an awareness of the biases of the models that we use to inform our decisions. Another way of saying this is that we need to be aware and critical of the underlying assumptions on which all our models/stories/beliefs/opinions are built. All too often business perspectives are applied uncritically.

Of course, if the business world functioned like a machine then eventually, through critical reflection, we could simply whittle our number of models down to the ones that reflected reality the best. In a mechanistic world this would be a straightforward enough

exercise because real boundaries (as opposed to our modeling boundaries) would be easily recognizable. They would also be stable, which would mean that once we had a good model we could be confident that it would always be a good model. Furthermore, as different parts of the system could be treated as if in isolation from the whole, we could build up a portfolio of models based on how individual parts operated. Critical thinking would be important initially, but would soon lose its value once the best set of models had been identified.

We have argued that if business is complex then boundaries are not so easily recognized as such and not so well behaved. Concerning the status of boundaries from a complex systems perspective, Richardson (2002) says:

[T]here are no real boundaries in any absolute sense... At one end of the stability spectrum there are boundaries/structures that are so persistent and stable that for most intents and purposes it can safely be assumed that they are in fact real and absolute... At the other end of the stability spectrum we have essentially "noise" in which the lifetime of apparent boundaries might be so fleeting as to render them unrecognizable as such and therefore unanalyzable.

All boundaries are emergent and temporary; that is, the boundaries that appear to us today may not be there tomorrow (in fact, even their perception today does not necessarily mean that they are actually there). This raises at least two challenges for any decision maker. First, the business landscape is always changing; this ongoing change may be qualitative or quantitative in nature (quantitative change often being much easier to predict and adapt to because we do not need to change models); as such we need to change our models in line with a changing world. Secondly, given that within the complex systems view every "thing" (where the identification of what is considered a "thing" is problematic) is connected to every "thing" else, if clear boundaries are apparent it is difficult to decide which ones need to be included in any model. Whereas critical analysis of our models, as mentioned above, supports us in making considered judgments as to how our models relate to reality, pluralism (in its broadest sense) is proposed as a way to help explore how the same problem might be framed in many different ways, leading to quite different, possibly contradictory yet equally valid, solutions. In Rosen's (1985) terms, this is the active discussion of multiple encodings and decodings. In other terms, it is a stress on the active consideration of situatedness.

Ethical behavior thus begins with a commitment to critical thinking and (theoretical as well as methodological) pluralism. It demands active reflection, as Dewey asserts above. Business ethics means that in being unable to know it all, however hard we might try, we must accept the inevitability of choices that cannot be backed up scientifically or objectively (Cilliers, 2000). Given that inevitability, we must take responsibility for the choices we make and consider them in light of the full situation in which they are embodied.

This means that a judgment must be made that accepts that the "best" decision possible has been arrived at (given current capabilities), but it is not perfect, as a decision can only be based on the insight developed through limited (bounded) effort. We must accept that our decisions are based on incomplete analysis, and that potentially adverse outcomes might occur as a result of our inability to "see" everything. The analysis must be judged to be "good" by judging how it went about addressing the problem situation and how it critically appraised the boundaries that were determined by it. An analysis does not remove the responsibility from the decision-maker (one can't blame the plan if all goes wrong); the decisionmaker has the responsibility to ensure that the best possible exploration was performed. The decision-maker must fully appreciate that the validity of the understanding derived depends wholly on the assumptions (both tacit and explicit) that were made (which may or may not be appropriate given the problematic situation despite considerable effort), and that it is provisional in that it is based upon current beliefs and perceptions. An awareness of both the contingency and provisionality of the analysis is far better than a false sense of security, the latter being a very risky state of affairs indeed. It is clear though that there are ethical implications for all boundary judgments. (Richardson et al., 2003)

This conception of ethics does not replace other conceptions of ethics, but it does precede them. Even ethical models cannot be applied ethically if they are employed uncritically. In the above conception of ethics, even the dogmatic use of a universal ethical framework is seen as unethical. The teaching of ethics thus is broadened to include concerns with an overt awareness of the limitations of all models and an ongoing resistance to the reification of any particular model.

DIFFERENT TYPES OF KNOWLEDGE

Habermas, one of today's best-known critical theorists, proposed three different forms of knowledge: technical, practical, and emancipatory. Technical (or instrumental) knowledge is associated with the natural sciences; that is, a preoccupation with empirical and analytical methods. The teaching of technical knowledge is what business schools have done very well for a number of decades. Such knowledge is often regarded as objective knowledge; it is knowledge attained from the outside looking in—it is scientific knowledge derived from scientific, often quantitative, models. In terms of Wilber's (2000) Four Quadrants, scientific knowledge is exterior knowledge of "it" and "its." To some extent business schools have also respected the need for pluralism, as they have taught students about the many different scientific models that can be used to understand and

make decisions in the real world of business. Of course, this has been a very limited version of pluralism as it has a tendency to assume that only scientific-type knowledge is valid.

Practical knowledge (or understanding) is associated with the hermeneutic or interpretive sciences: the sciences of narrative and story and the generation of subjective meaning that were discussed earlier. More often than not an appreciation of this sort of knowledge comes through experience. Traditionally, because of a misguided preference for scientific-type knowledge, business schools have not taken such knowledge seriously. This is slowly changing as a result of the narrative turn in academic business studies, but much more is needed. Again in terms of Wilbur's Four Quadrant model, practical knowledge is interior knowledge of "I" and "we."

Emancipatory (or reflective) knowledge is the kind of knowledge that we have discussed already concerning the limitations and marginalization of all forms of knowledge; some might prefer to call this wisdom rather than knowledge. Ethical behavior, in our opinion, requires a commitment to the ongoing development of both technical and practical knowledge, as well as a firm commitment to developing emancipatory knowledge through critical thinking (resulting in an evolutionary notion of ethics). Although practical knowledge in business schools could be significantly improved, it is the development of critical thinking skills and a sophisticated approach to model development and use that we feel should be pushed to the top of business schools' agenda. If we were to choose a concise aphorism to capture our proposed ethics, we might choose the title of a recent book by Cohen and Medley (2000), *Stop Working and Start Thinking*.

CONSEQUENCES FOR BUSINESS SCHOOL TEACHING

This article stresses the notion that MBA students are being shortchanged by how business schools approach and teach ethics. We argue that an emphasis on models and metaphors—and, more importantly, on the encodings involved in creating, using, and analyzing models and metaphors—has deprived the typical MBA student of a necessary tool: respect for pluralist thought and the need to look actively at the multiple meanings inherent in situations. MBA teachings have begun to reflect the lessons of complex systems thinking, but such thinking has not yet pervaded the place it is needed most: in examining ethics and the ethics of actions. When Gordon, Howell, and Pierson embarked on the Carnegie and Ford journeys to remake business school education, little did they know the consequences of emphasizing academics and formalisms over professional practice and storytelling.

It would be foolhardy to blame the current lack of ethics displayed by many corporations and their executives on the MBA curriculum. But it would be blindness to suggest that the mindset created by an overemphasis on models and metaphors has not made some contribution to the problem. In a complex world, tools for complexity reduction are helpful for analysis, but they are insufficient for confronting and living in the world so analyzed. Teaching MBAs to tell and discuss stories, to examine alternate interpretations of models and how they might find application, and to embrace the perplexities offered by situatedness would go a long way toward correcting the imbalance in the curriculum—and thus perhaps its more noxious side effects.

NOTES

1. It is difficult to know if this increase in reporting is a result of more fraudulent and deceitful activity, or because investigative reporters have simply gotten better at uncovering such activities.
2. From a web discussion of business schools and ethics: <http://www.isce.edu/wwwboard/wwwboard.html>.
3. What is regarded as “opportunity cost” is of course context specific. The example given is overly simplistic and short-sighted (although it is a common way of calculating opportunity costs). What if one were to consider the impact of not having a developed social life on our long-term mental wellbeing? We might actually conclude that a healthy social life is important for our long-term health and therefore for our ability to perform long-term work. In this particular interpretation we might conclude that the opportunity cost lost through not spending time with our friends outweighs considerably the extra \$10,000 per year, or whatever it might be, that we might gain from giving up our social life and committing totally to work activities. In this example we see that it is not necessarily the idea of putting a cost on everything we do that is misguided, but the linear application of the concept.
4. “Excessive” in that we do not have effective and reliable ways of managing and acting on all this information. Too much information increases uncertainty, not reduces it.
5. The situation is not that different from what is going on in the hard sciences. Even within physics it has been acknowledged that the traditional methods of physics contribute little understanding to many problems that are often called complex, or nonlinear, or systemic. Physicists have acknowledged this and have been developing a whole portfolio of new techniques to help understand these “new” contexts. Some authors have suggested that this is a revolution in the natural sciences, but expanding the toolset to look at different sorts of problems has always been at the heart of the natural sciences. It is a lesson that the management sciences are also slowly learning.

6. To clarify further, we are not suggesting that management science is not a science, but that the lens of science (as traditionally viewed) is not the best way, or even the only way, to develop knowledge of such entities as human organizations. By “science (as traditionally viewed)” we are referring specifically to “reductionist science,” which is not the only way to do science.
7. It is interesting to note that Newton was not a Newtonian and so we will not use this term again. Reductionist science is often referred to as Newtonian even though Newton’s work on mechanics represents a very small proportion of his writings—the vast majority of his written works are actually concerned with the “science” of alchemy! We take time to point this out because Newton himself is often criticized in relation to his modern association with reductionism; such an association is misguided. From another perspective we think that this is an important point to make. All too often simplistic ideas and labels are used as indexicals, or models, for much more complex ideas and phenomena—in the labeling process a great deal of potential understanding is lost. For example, terms like “linear,” “reductionist,” and “mechanical” are often used to describe the ontology and epistemology of the “hard” sciences. When using these terms we need to bear in mind that they are caricatures of science, not how science is really performed; they are Platonic representations of science, if you like. Anyone who has actually performed scientific investigations would probably take issue with the simplistic descriptions of how science is often portrayed in management texts and (not-so-)critical analyses of the methods of science. Anyone who uses these labels as their only access to science may find Bruno Latour’s *Science in Action* an eye-opener. In this article we are concerned specifically with reductionist science (which, as we have said above, is not the only version of science). Ironically, reductionist science dominates management