At the University of Chicago Graduate School of Business, like all the University of Chicago, we pride ourselves on discovering and teaching the fundamentals. By “fundamentals” I do not mean the basic or rudimentary—the sort of material you might find in the first chapter of a textbook. No, the fundamentals are the underlying cause and effect linkages that make the world work. Finding out what these linkages are is the stuff of theory and research. But their understanding is also central to your work as business professionals, because effecting change—making things happen—requires a keen understanding of cause and effect. You need to know what levers to pull to make good things happen and what levers not to pull, indeed to lock down, to make sure bad things don’t happen.

At the heart of reasoning about causation is a process called counterfactual thinking. Counterfactual thinking may be an unfamiliar term but the process is day-to-day familiar. It involves looking at a set of circumstances, a set of facts, and imagining them to be different—at least in some aspects. We are engaged in counterfactual thinking when we experience regret—at those times that we think “if only,” as in: “If only something had been different, then it would have been okay.” It follows the car accident: “If only I had taken a different route home. . . .” The family squabble: “If only I had remembered just how tired we all were. . . .” The failed business venture: “If only the economy had held strong. . . .” You may be engaged in counterfactual thinking just now as you lament: “If only I had sat on the aisle, I could have slipped out during this speech. . . .”

The link between counterfactual thinking and causal judgment seems straightforward: the factor that we imagine to be different is the one that plays the role of cause, the factor that takes the blame, the one that we attempt to control. Despite this seemingly straightforward link between counterfactual thinking and causal assertions, however, psychologists have noted a difference between the factors we seem inclined to undo in our minds (our targets for seeing the world
counter to the facts) and a more scientific approach to causation.

For example, a scientist sees fires as being caused by a combination of factors all working together—a sparking agent, flammable material, and oxygen. No one of these factors is more the cause than the others. But for most of us, statements of causation involve selecting one of these components and giving it special status as the “real” cause, relegating the other factors to background conditions. Yes, we will concede if pressed, these factors need to be there but they just don’t seem quite as pertinent. A fire inspector would not last long by saying that an apartment fire was caused only by that pesky oxygen. A statement that the fire was due to a failed circuit breaker in the basement seems a more sensible choice.

But this example may not be a good one for illustrating an important element of counterfactual and causal reasoning. In this case, it seems sensible to point to the electrical problem as the cause and not to oxygen or even to the presence of—oh—too many newspapers piled in the basement. The electrical problem is more intrusive and more readily changed than the presence of oxygen or people’s basement storage habits. Here “undoing” in our minds, here reasoning counterfactually about the electrical problem, seems the right focus for our thoughts and, later, for our resources. It seems practical.

Study of people’s reasoning, however, suggests a less practical-minded approach to counterfactual reasoning. In looking over a state of affairs, our mind finds it comfortable, natural, “right” to undo some factors and uncomfortable, unnatural, and “wrong” to undo others. And the psychological rules for undoing and for leaving the same in our imagined other states of the world appear to be more a function of social and cultural beliefs than about our practical ability to change things. Social psychologists have been the first to study this type of reasoning. Their focus has been to learn how counterfactual thinking plays out in our beliefs about others. They are interested in our social beliefs.

For example, they have found that people look at circumstances and events and typically find it “natural” to undo the presence of women in their minds and to replace them with men—but not vice versa—and to change in their minds people of color into white people—but again not vice
versa. Reasons for this ease of imaging change in one direction and not another are just now being learned but appear traceable to expectations about what a normal state of the world should look like—more so than to any practical considerations. This finding raises important questions and challenges for managers as you allocate resources and attempt to make changes.

Determining what factors should be treated as changeable, first in our minds and ultimately in practice, and which ones should be treated as immutable norms will be for all of you day-to-day puzzles. And how you solve these puzzles will define your impact on the world and the essence of your managerial legacy.

Consider, for example, an employee in a manufacturing plant who is injured while operating a machine. Let’s say that the machine is known to be tricky to operate. It requires close attention. At the time of the injury, the employee was suffering from a head cold and probably not thinking all that well. Let’s now return to science versus psychology. Our scientist from our earlier fire example would probably point to a combination of factors as having produced the accident—the touchy machine and the groggy employee together. In practice, no one will debate that both factors were present. Nevertheless there will be lengthy, heated arguments about which of these factors is the “true” cause—the one that should take the blame, that should lose the lawsuit, that should take up resources to change. Should we buy new machines or develop different employee training and safety practices? And these arguments will swing on beliefs about what should be taken as given and what can be imagined to be different.

Coming down on one side or another in this debate has profound implications beyond just this one plant and its resource allocation and legal battles. The decision reflects deep values and will reinforce—or change—status and norms. On one side we can take as given that people are imperfect, that they get tired, headachy, sniffly, emotionally distracted, even hung over. Holding human frailty as given, we obligate ourselves to design machines to be safe for people when they are at both their best and not their best. Otherwise, dangerous machines sit in wait for the inevitable bad day as accidents about to happen.

But taking this side has a cost. We may find fewer accidents, but lost in this decision is the notion that people should be responsible for themselves, for looking out for dangers, and for
acting accordingly. Go too far with this view and our streets will be bordered with rubber bumpers. No one will ever be at fault for anything. So, we may come down on the other side and take as given that indeed the world has dangers. Some machines are trickier than others to operate. Holding the presence of dangers in the world as the immutable norm, therefore, pushes the obligation for action in another direction—to individuals. We oblige all individuals to pay attention and to look after themselves. On this side of the debate, we maintain respect for individual responsibility but we may be holding people to blame for simply being human.

These debates are not restricted to machines and employees. Americans debated the role of design versus individual responsibility at length after the last presidential election—should we blame the voting confusion on the hard-to-read ballots or on the voters who didn’t seem to try very hard to read them? Product liability commonly turns on similar arguments—again with none of the participants in the debates in disagreement about how the event came about.

I noticed a debate of this sort and a shift in values early in my business career. I graduated in 1979 from college with a degree in accounting. As I started work, I read a book that was popular at the time called *Games Mother Never Taught You*. Its main idea was that the business environment being entered by young women had cultural norms built around men. It was our job as young women, interlopers, to figure out how we should change to fit in. In this view, had I not done well the attribution would surely have been to my inability to adjust to the existing business culture.

By the time I was a young business professor in the late 1980s, talk had changed. Now people spoke of diversity and the need to accept everyone. My job was now to be just exactly who I was, and it was the job of the business culture to change to welcome me. Were I not to succeed the attribution might now be to how unwelcoming the business or academic world can be.

Such are the types of questions that you will face throughout your career. The uncertainty and passions that you will find will at first seem to be debates about cause and effect, but you will soon recognize them to be far from objective, scientific disagreements. And it is here that your ability to function globally will be most challenged. It will be an easy chore to gain agreement in
a scientific sense about the factors that come together to produce good things and bad things. What will be far harder will be to agree about which factors should be tampered with to reach for success or to prevent failure, because these decisions will hinge on values that differ across the diverse set of managers with whom you interact—ranging broadly in age, social class, ethnicity, culture, and sex.

I offer here no easy solution but only the advice to know that the debate at hand is probably not one of science but one of the sacred and the profane. I also have faith that you, the Class of 2002, will do it well because I have seen you do just this.

We speak of this Class of 2002—candidates for the Ph.D., M.B.A., and I.M.B.A., full time and part time—as running unusually deep with leaders. True enough, but what makes this class a storied class that leaves both an impressive legacy and a deep cultural shift is that you approached your time here as much as stewards as you did as leaders.

Leadership for all its force and value is incomplete. Its focus is on the leader and on the direction of change. It is about possibility. Stewardship is about a moment in time. It is about responsibility. It has at its heart letting go and handing something on. It measures its success by what was received, how it was handled, how it was bettered, how it was left. Stewardship was your chore here.

In part, circumstances asked it of you. The world shifted monumentally during your years at the GSB: in small local ways—a dean’s transition; and larger but ultimately familiar ways—a downturn in the economy; and in a profoundly tragic way—the attacks on September 11. These events defined your time here and changed your role.

But you also had it in you. The changes called from you a wisdom, the recognition that destruction only looks big. Tearing down can be done in an instant with little skill. Building up is done in small steps—quietly with slow, daily effort. And keeping something the same may sometimes be the hardest work of all. And so in your time you looked as leaders at the possibilities for change but with that steward’s eye to responsibility.
As leaders, you built community so well that I believe it is now a strength of the GSB. As stewards, you did so by preserving the GSB’s deepest cultural value of debate and questioning. We have community, yes, but not at the expense of the relentless pursuit of the truth.

As leaders, you called forth involvement from everyone. As stewards, you did so by retaining the GSB’s love of the individual contribution. We have a team, yes, but not at the expense of the dissenting view.

As leaders, you became the chief marketing officers for the GSB. As stewards, you did so by promoting the central truths of the GSB—of challenge and stimulation, of demanding the very best of each one of us, of questioning every last assumption. We have popularity of an institution, sure, but not at the expense of its standing for something.

And for that I am very proud and grateful. I am also deeply comforted because I know that when the GSB turns to its alumni for help, guidance, and support, we are turning to the likes of you. My hope for you is that you run your businesses just as you have acted here—with the possibility of leaders and the responsibility of stewards. My hope is that you imagine the world to be different with an eye to science but also to values. My hope is that you have the ability to know the difference between the mutable and the immutable and how those differ in practice—to work toward what can be changed while keeping in your mind what should be.

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