

Drive

THE SURPRISING TRUTH
ABOUT WHAT MOTIVATES US



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ALWAYS LEARNING

PEARSON

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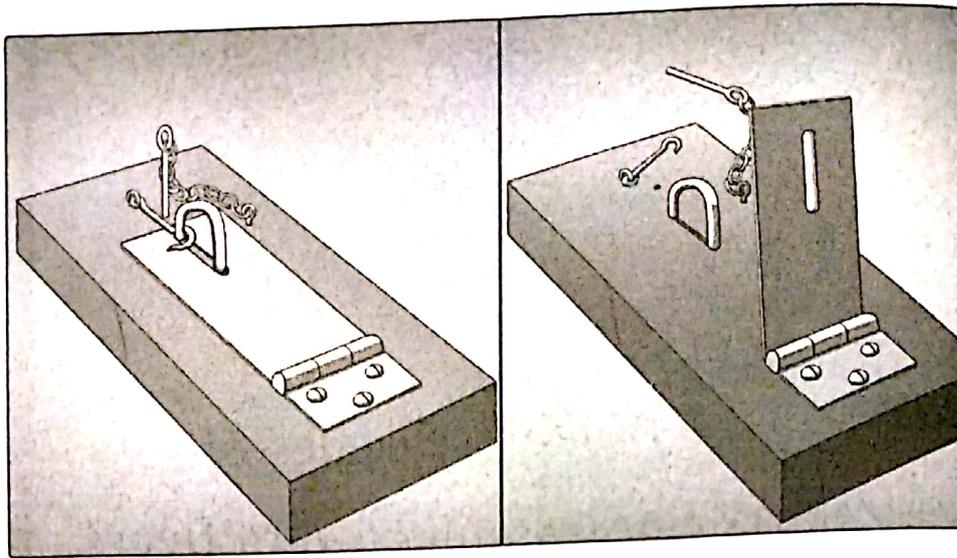
INTRODUCTION

The Puzzling Puzzles of Harry Harlow and Edward Deci

In the middle of the last century, two young scientists conducted experiments that should have changed the world—but did not.

Harry F. Harlow was a professor of psychology at the University of Wisconsin who, in the 1940s, established one of the world's first laboratories for studying primate behavior. One day in 1949, Harlow and two colleagues gathered eight rhesus monkeys for a two-week experiment on learning. The researchers devised a simple mechanical puzzle like the one pictured on the next page. Solving it required three steps: pull out the vertical pin, undo the hook, and lift the hinged cover. Pretty easy for you and me, far more challenging for a thirteen-pound lab monkey.

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Harlow's puzzle in the starting (left) and solved (right) positions.

The experimenters placed the puzzles in the monkeys' cages to observe how they reacted—and to prepare them for tests of their problem-solving prowess at the end of the two weeks. But almost immediately, something strange happened. Unbidden by any outside urging and unprompted by the experimenters, the monkeys began playing with the puzzles with focus, determination, and what looked like enjoyment. And in short order, they began figuring out how the contraptions worked. By the time Harlow tested the monkeys on days 13 and 14 of the experiment, the primates had become quite adept. They solved the puzzles frequently and quickly; two-thirds of the time they cracked the code in less than sixty seconds.

Now, this was a bit odd. Nobody had taught the monkeys how to remove the pin, slide the hook, and open the cover. Nobody had rewarded them with food, affection, or even quiet applause when they succeeded. And that ran counter to the accepted notions of how primates—including the bigger-brained, less hairy primates known as human beings—behaved.

Scientists then knew that two main drives powered behavior. The

first was the biological drive. Humans and other animals ate to sate their hunger, drank to quench their thirst, and copulated to satisfy their carnal urges. But that wasn't happening here. "Solution did not lead to food, water, or sex gratification," Harlow reported.¹

But the only other known drive also failed to explain the monkeys' peculiar behavior. If biological motivations came from within, this second drive came from without—the rewards and punishments the environment delivered for behaving in certain ways. This was certainly true for humans, who responded exquisitely to such external forces. If you promised to raise our pay, we'd work harder. If you held out the prospect of getting an A on the test, we'd study longer. If you threatened to dock us for showing up late or for incorrectly completing a form, we'd arrive on time and tick every box. But that didn't account for the monkeys' actions either. As Harlow wrote, and you can almost hear him scratching his head, "The behavior obtained in this investigation poses some interesting questions for motivation theory, since significant learning was attained and efficient performance maintained without resort to special or extrinsic incentives."

What else could it be?

To answer the question, Harlow offered a novel theory—what amounted to a *third* drive: "The performance of the task," he said, "provided intrinsic reward." The monkeys solved the puzzles simply because they found it gratifying to solve puzzles. They enjoyed it. The joy of the task was its own reward.

If this notion was radical, what happened next only deepened the confusion and controversy. Perhaps this newly discovered drive—Harlow eventually called it "intrinsic motivation"—was real. But surely it was subordinate to the other two drives. If the monkeys were rewarded—with raisins!—for solving the puzzles, they'd no doubt perform even better. Yet when Harlow tested that approach, the monkeys actually made *more* errors and solved the puzzles *less*

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frequently. "Introduction of food in the present experiment," Harlow wrote, "served to disrupt performance, a phenomenon not reported in the literature."

Now, this was *really* odd. In scientific terms, it was akin to rolling a steel ball down an inclined plane to measure its velocity—only to watch the ball float into the air instead. It suggested that our understanding of the gravitational pulls on our behavior was inadequate—that what we thought were fixed laws had plenty of loopholes. Harlow emphasized the "strength and persistence" of the monkeys' drive to complete the puzzles. Then he noted:

It would appear that this drive . . . may be as basic and strong as the [other] drives. Furthermore, there is some reason to believe that [it] can be as efficient in facilitating learning.²

At the time, however, the prevailing two drives held a tight grip on scientific thinking. So Harlow sounded the alarm. He urged scientists to "close down large sections of our theoretical junkyard" and offer fresher, more accurate accounts of human behavior.³ He warned that our explanation of why we did what we did was incomplete. He said that to truly understand the human condition, we had to take account of this third drive.

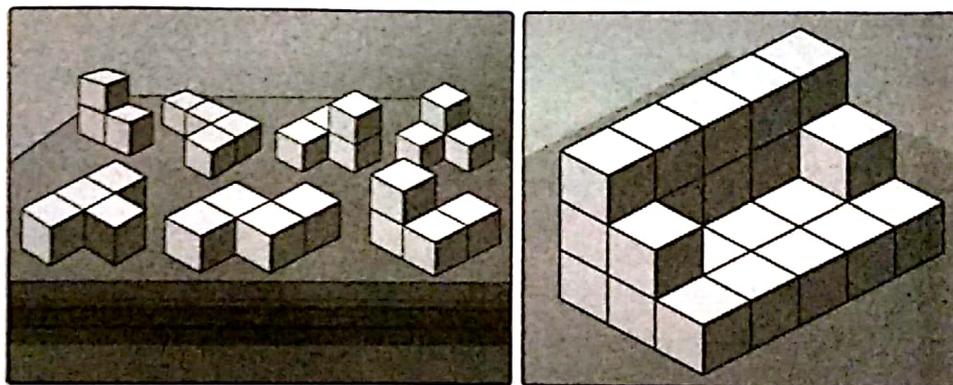
Then he pretty much dropped the whole idea.

Rather than battle the establishment and begin offering a more complete view of motivation, Harlow abandoned this contentious line of research and later became famous for studies on the science of affection.⁴ His notion of this third drive bounced around the psychological literature, but it remained on the periphery—of behavioral science and of our understanding of ourselves. It would be two decades before another scientist picked up the thread that Harlow had so provocatively left on that Wisconsin laboratory table.

The Puzzling Puzzles of Harry Harlow and Edward Deci

In the summer of 1969, Edward Deci was a Carnegie Mellon University psychology graduate student in search of a dissertation topic. Deci, who had already earned an MBA from Wharton, was intrigued by motivation but suspected that scholars and businesspeople had misunderstood it. So, tearing a page from the Harlow playbook, he set out to study the topic with the help of a puzzle.

Deci chose the Soma puzzle cube, a then popular Parker Brothers offering that, thanks to YouTube, retains something of a cult following today. The puzzle, shown below, consists of seven plastic pieces—six comprising four one-inch cubes, one comprising three one-inch cubes. Players can assemble the seven pieces into a few million possible combinations—from abstract shapes to recognizable objects.



The seven pieces of the Soma puzzle unassembled (left) and then fashioned into one of several million possible configurations.

For the study, Deci divided participants, male and female university students, into an experimental group (what I'll call Group A) and a control group (what I'll call Group B). Each participated in three one-hour sessions held on consecutive days.

Here's how the sessions worked: Each participant entered a room and sat at a table on top of which were the seven Soma puzzle pieces,

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drawings of three puzzle configurations, and copies of *Time*, *The New Yorker*, and *Playboy*. (Hey, it was 1969.) Deci sat on the opposite end of the table to explain the instructions and to time performance with a stopwatch.

In the first session, members of both groups had to assemble the Soma pieces to replicate the configurations before them. In the second session, they did the same thing with different drawings—only this time Deci told Group A that they'd be paid \$1 (the equivalent of nearly \$6 today) for every configuration they successfully reproduced. Group B, meanwhile, got new drawings but no pay. Finally, in the third session, both groups received new drawings and had to reproduce them for no compensation, just as in session one. (See the table below.)

HOW THE TWO GROUPS WERE TREATED

	Day 1	Day 2	Day 3
Group A	<i>No reward</i>	<i>Reward</i>	<i>No reward</i>
Group B	<i>No reward</i>	<i>No reward</i>	<i>No reward</i>

The twist came midway through each session. After a participant had assembled the Soma puzzle pieces to match two of the three drawings, Deci halted the proceedings. He said that he was going to give them a fourth drawing—but to choose the right one, he needed to feed their completion times into a computer. And—this being the late 1960s, when room-straddling mainframes were the norm and desktop PCs were still a decade away—that meant he had to leave for a little while.

On the way out, he said, "I shall be gone only a few minutes, you may do whatever you like while I'm gone." But Deci wasn't really

plugging numbers into an ancient teletype. Instead, he walked to an adjoining room connected to the experiment room by a one-way window. Then, for exactly eight minutes, he watched what people did when left alone. Did they continue fiddling with the puzzle, perhaps attempting to reproduce the third drawing? Or did they do something else—page through the magazines, check out the center-fold, stare into space, catch a quick nap?

In the first session, not surprisingly, there wasn't much difference between what the Group A and Group B participants did during that secretly watched eight-minute free-choice period. Both continued playing with the puzzle, on average, for between three and a half and four minutes, suggesting they found it at least somewhat interesting.

On the second day, during which Group A participants were paid for each successful configuration and Group B participants were not, the unpaid group behaved mostly as they had during the first free-choice period. But the paid group suddenly got *really* interested in Soma puzzles. On average, the people in Group A spent more than five minutes messing with the puzzle, perhaps getting a head start on that third challenge or gearing up for the chance to earn some beer money when Deci returned. This makes intuitive sense, right? It's consistent with what we believe about motivation: Reward me and I'll work harder.

Yet what happened on the third day confirmed Deci's own suspicions about the peculiar workings of motivation—and gently called into question a guiding premise of modern life. This time, Deci told the participants in Group A that there was only enough money to pay them for one day and that this third session would therefore be unpaid. Then things unfolded just as before—two puzzles, followed by Deci's interruption.

During the ensuing eight-minute free-choice period, the subjects in the never-been-paid Group B actually played with the puzzle

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for a little longer than they had in previous sessions. Maybe they were becoming ever more engaged; maybe it was just a statistical quirk. But the subjects in Group A, who previously had been paid, responded differently. They now spent significantly *less* time playing with the puzzle—not only about two minutes less than during their paid session, but about a full minute less than in the first session when they initially encountered, and obviously enjoyed, the puzzles.

In an echo of what Harlow discovered two decades earlier, Deci revealed that human motivation seemed to operate by laws that ran counter to what most scientists and citizens believed. From the office to the playing field, we knew what got people going. Rewards—especially cold, hard cash—intensified interest and enhanced performance. What Deci found, and then confirmed in two additional studies he conducted shortly thereafter, was almost the opposite. “When money is used as an external reward for some activity, the subjects lose intrinsic interest for the activity,” he wrote.⁵ Rewards can deliver a short-term boost—just as a jolt of caffeine can keep you cranking for a few more hours. But the effect wears off—and, worse, can reduce a person’s longer-term motivation to continue the project.

Human beings, Deci said, have an “inherent tendency to seek out novelty and challenges, to extend and exercise their capacities, to explore, and to learn.” But this third drive was more fragile than the other two; it needed the right environment to survive. “One who is interested in developing and enhancing intrinsic motivation in children, employees, students, etc., should not concentrate on external-control systems such as monetary rewards,” he wrote in a follow-up paper.⁶ Thus began what for Deci became a lifelong quest to rethink why we do what we do—a pursuit that sometimes put him at odds with fellow psychologists, got him fired from a business

school, and challenged the operating assumptions of organizations everywhere.

"It was controversial," Deci told me one spring morning forty years after the Soma experiments. "Nobody was expecting rewards would have a negative effect."

THIS IS A BOOK about motivation. I will show that much of what we believe about the subject just isn't so—and that the insights that Harlow and Deci began uncovering a few decades ago come much closer to the truth. The problem is that most businesses haven't caught up to this new understanding of what motivates us. Too many organizations—not just companies, but governments and nonprofits as well—still operate from assumptions about human potential and individual performance that are outdated, unexamined, and rooted more in folklore than in science. They continue to pursue practices such as short-term incentive plans and pay-for-performance schemes in the face of mounting evidence that such measures usually don't work and often do harm. Worse, these practices have infiltrated our schools, where we ply our future workforce with iPods, cash, and pizza coupons to "incentivize" them to learn. Something has gone wrong.

The good news is that the solution stands before us—in the work of a band of behavioral scientists who have carried on the pioneering efforts of Harlow and Deci and whose quiet work over the last half-century offers us a more dynamic view of human motivation. For too long, there's been a mismatch between what science knows and what business does. The goal of this book is to repair that breach.

Drive has three parts. Part One will look at the flaws in our reward-and-punishment system and propose a new way to think about motivation. Chapter 1 will examine how the prevailing view

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of motivation is becoming incompatible with many aspects of contemporary business and life. Chapter 2 will reveal the seven reasons why carrot-and-stick extrinsic motivators often produce the opposite of what they set out to achieve. (Following that is a short addendum, Chapter 2a, that shows the special circumstances when carrots and sticks actually can be effective.) Chapter 3 will introduce what I call "Type I" behavior, a way of thinking and an approach to business grounded in the real science of human motivation and powered by our third drive—our innate need to direct our own lives, to learn and create new things, and to do better by ourselves and our world.

Part Two will examine the three elements of Type I behavior and show how individuals and organizations are using them to improve performance and deepen satisfaction. Chapter 4 will explore autonomy, our desire to be self-directed. Chapter 5 will look at mastery, our urge to make progress and get better at what we do. Chapter 6 will explore purpose, our yearning to contribute and to be part of something larger than ourselves.

Part Three, the Type I Toolkit, is a comprehensive set of resources to help you create settings in which Type I behavior can flourish. Here you'll find everything from dozens of exercises to awaken motivation in yourself and others, to discussion questions for your book club, to a supershort summary of *Drive* that will help you fake your way through a cocktail party. And while this book is mostly about business, in this section I'll offer some thoughts about how to apply these concepts to education and to our lives outside of work.

But before we get down to all that, let's begin with a thought experiment, one that requires going back in time—to the days when John Major was Britain's prime minister, Barack Obama was a skinny young law professor, Internet connections were dial-up, and a blackberry was still just a fruit.

Part One



A New Operating System

CHAPTER 1

The Rise and Fall of Motivation 2.0

Imagine it's 1996. You sit down with an economist—an accomplished business school professor with a Ph.D. in economics. You say to her: "I've got a crystal ball here that can peer fifteen years into the future. I'd like to test your forecasting powers."

She's skeptical, but she decides to humor you.

"I'm going to describe two new encyclopedias—one just out, the other to be launched in a few years. You have to predict which will be more successful in 2011."

"Bring it," she says.

"The first encyclopedia comes from Microsoft. As you know, Microsoft is already a large and profitable company. And with last year's introduction of Windows 95, it is becoming an era-defining colossus. Microsoft will fund this encyclopedia. It will pay professional writers

and editors to craft articles on thousands of topics. Well-compensated managers will oversee the project to ensure it's completed on budget and on time. Then Microsoft will sell the encyclopedia on CD-ROMs and later online.

"The second encyclopedia won't come from a company. It will be created by tens of thousands of people who write and edit articles for fun. These hobbyists won't need any special qualifications to participate. And nobody will be paid a dollar or a euro or a yen to write or edit articles. Participants will have to contribute their labor—sometimes twenty and thirty hours per week—for free. The encyclopedia itself, which will exist online, will also be free—no charge for anyone who wants to use it.

"Now," you say to the economist, "think forward fifteen years. According to my crystal ball, in 2011, one of these encyclopedias will be the largest and most popular in the world and the other will be defunct. Which is which?"

In 1996, I doubt you could have found a single sober economist anywhere on planet Earth who would not have picked that first model as the success. Any other conclusion would have been laughable—contrary to nearly every business principle she taught her students. It would have been like asking a zoologist who would win a 200-meter footrace between a cheetah and your brother-in-law. Not even close.

Sure, that ragtag band of volunteers might produce something. But there was no way its product could compete with an offering from a powerful profit-driven company. The incentives were all wrong. Microsoft stood to gain from the success of its product; everyone involved in the other project knew from the outset that success would earn them nothing. Most important, Microsoft's writers, editors, and managers were paid. The other project's contributors were

not. In fact, it probably *cost* them money each time they performed free work instead of remunerative labor. The question was such a no-brainer that our economist wouldn't even have considered putting it on an exam for her MBA class. It was too easy.

But you know how things turned out.

On October 31, 2009, Microsoft pulled the plug on *MSN Encarta*, its disc and online encyclopedia, which had been on the market for sixteen years. Meanwhile, Wikipedia—that second model—ended up becoming the largest and most popular encyclopedia in the world. Just nine years after its inception, Wikipedia had more than 17 million articles in some 270 languages, including 3.5 million in English alone.¹

What happened? The conventional view of human motivation has a very hard time explaining this result.

THE TRIUMPH OF CARROTS AND STICKS

Computers—whether the giant mainframes in Deci's experiments, the iMac on which I'm writing this sentence, or the mobile phone chirping in your pocket—all have operating systems. Beneath the surface of the hardware you touch and the programs you manipulate is a complex layer of software that contains the instructions, protocols, and suppositions that enable everything to function smoothly. Most of us don't think much about operating systems. We notice them only when they start failing—when the hardware and software they're supposed to manage grow too large and complicated for the current operating system to handle. Then our computer starts crashing. We complain. And smart software developers, who've always

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been tinkering with pieces of the program, sit down to write a fundamentally better one—an upgrade.

Societies also have operating systems. The laws, social customs, and economic arrangements that we encounter each day sit atop a layer of instructions, protocols, and suppositions about how the world works. And much of our societal operating system consists of a set of assumptions about human behavior.

In our very early days—I mean *very* early days, say, fifty thousand years ago—the underlying assumption about human behavior was simple and true. We were trying to survive. From roaming the savannah to gather food to scrambling for the bushes when a saber-toothed tiger approached, that drive guided most of our behavior. Call this early operating system Motivation 1.0. It wasn't especially elegant, nor was it much different from those of rhesus monkeys, giant apes, or many other animals. But it served us nicely. It worked well. Until it didn't.

As humans formed more complex societies, bumping up against strangers and needing to cooperate in order to get things done, an operating system based purely on the biological drive was inadequate. In fact, sometimes we needed ways to *restrain* this drive—to prevent me from swiping your dinner and you from stealing my spouse. And so in a feat of remarkable cultural engineering, we slowly replaced the existing version with one more compatible with how we'd now begun working and living.

At the core of this new and improved operating system was a revised and more accurate assumption: Humans are more than the sum of our biological urges. That first drive still mattered—no doubt about that—but it didn't fully account for who we are. We also had a second drive—to seek reward and avoid punishment more broadly. And it was from this insight that a new operating system—call it Motivation 2.0—arose. (Of course, other animals also respond

The Rise and fall of Motivation 2.0

to rewards and punishments, but only humans have proved able to channel this drive to develop everything from contract law to convenience stores.)

Harnessing this second drive has been essential to economic progress around the world, especially during the last two centuries. Consider the Industrial Revolution. Technological developments—steam engines, railroads, widespread electricity—played a crucial role in fostering the growth of industry. But so did less tangible innovations—in particular, the work of an American engineer named Frederick Winslow Taylor. In the early 1900s, Taylor, who believed businesses were being run in an inefficient, haphazard way, developed what he called “scientific management.” His invention was a form of “software” expertly crafted to run atop the Motivation 2.0 platform. And it was widely and quickly adopted.

Workers, this approach held, were like parts in a complicated machine. If they did the right work in the right way at the right time, the machine would function smoothly. And to ensure that happened, you simply rewarded the behavior you sought and punished the behavior you discouraged. People would respond rationally to these external forces—these extrinsic motivators—and both they and the system itself would flourish. We tend to think that coal and oil have powered economic development. But in some sense, the engine of commerce has been fueled equally by carrots and sticks.

The Motivation 2.0 operating system has endured for a very long time. Indeed, it is so deeply embedded in our lives that most of us scarcely recognize that it exists. For as long as any of us can remember, we’ve configured our organizations and constructed our lives around its bedrock assumption: The way to improve performance, increase productivity, and encourage excellence is to reward the good and punish the bad.

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Despite its greater sophistication and higher aspirations, Motivation 2.0 still wasn't exactly ennobling. It suggested that, in the end, human beings aren't much different from livestock—that the way to get us moving in the right direction is by dangling a crunchier carrot or wielding a sharper stick. But what this operating system lacked in enlightenment, it made up for in effectiveness. It worked well—extremely well. Until it didn't.

As the twentieth century progressed, as economies grew still more complex, and as the people in them had to deploy new, more sophisticated skills, the Motivation 2.0 approach encountered some resistance. In the 1950s, Abraham Maslow, a former student of Harry Harlow's at the University of Wisconsin, developed the field of humanistic psychology, which questioned the belief that human behavior was purely the ratlike seeking of positive stimuli and avoidance of negative stimuli. In 1960, MIT management professor Douglas McGregor imported some of Maslow's ideas to the business world. McGregor challenged the presumption that humans are fundamentally inert—that absent external rewards and punishments, we wouldn't do much. People have other, higher drives, he said. And these drives could benefit businesses if managers and business leaders respected them.

In the same era, and in a similar spirit, Frederick Herzberg, a psychologist-turned-management professor, proposed that two key factors determined how people fared on the job. The first were "hygiene" factors—extrinsic rewards such as pay, working conditions, and job security. Their absence created dissatisfaction, but their presence didn't lead to job satisfaction. The second were "motivators"—things like enjoyment of the work itself, genuine achievement, and personal growth. These internal desires were what really boosted both satisfaction and performance and were where managers ought to focus their attention. Meanwhile, W. Edwards

Deming, whose work was embraced in Japan with the same ferocity with which it was ignored in the U.S., argued that the route to quality and continual improvement was intrinsic motivation rather than extrinsic motivators like bonuses, incentive plans, and forced rankings. Thanks in part to McGregor, Herzberg, and Deming, companies evolved a bit. Dress codes relaxed, schedules became more flexible. Many organizations looked for ways to grant employees greater autonomy and to help them grow. These refinements repaired some weaknesses, but they amounted to a modest improvement rather than a thorough upgrade—Motivation 2.1.

And so this general approach remained intact—because it was, after all, easy to understand, simple to monitor, and straightforward to enforce. But in the first ten years of this century—a period of truly staggering underachievement in business, technology, and social progress—we've discovered that this sturdy, old operating system doesn't work nearly as well. It crashes—often and unpredictably. It forces people to devise workarounds to bypass its flaws. Most of all, it is proving incompatible with many aspects of contemporary business. And if we examine those incompatibility problems closely, we'll realize that modest updates—a patch here or there—will not solve the problem. What we need is a full-scale upgrade.

THREE INCOMPATIBILITY PROBLEMS

Motivation 2.0 still serves some purposes well. It's just deeply unreliable. Sometimes it works; many times it doesn't. And understanding its defects will help determine which parts to keep and which to discard as we fashion an upgrade. The glitches fall into

three broad categories. Our current operating system has become far less compatible with, and at times downright antagonistic to: how we *organize* what we do; how we *think about* what we do; and how we *do* what we do.

How We Organize What We Do

Go back to that encyclopedic showdown between Microsoft and Wikipedia. The assumptions at the heart of Motivation 2.0 suggest that such a result shouldn't even be possible. Wikipedia's triumph seems to defy the laws of behavioral physics.

Now, if this all-volunteer, all-amateur encyclopedia were the only instance of its kind, we might dismiss it as an aberration, an exception that proves the rule. But it's not. Instead, Wikipedia represents the most powerful new business model of the twenty-first century: open source.

Fire up your home computer, for example. When you visit the Web to check the weather forecast or order some sneakers, you might be using Firefox, a free open-source Web browser created almost exclusively by volunteers around the world. Unpaid laborers who give away their product? That couldn't be sustainable. The incentives are all wrong. Yet Firefox now has more than 350 million users.

Or walk into the IT department of a large company anywhere in the world and ask for a tour. That company's corporate computer servers could well run on Linux, software devised by an army of unpaid programmers and available for free. Linux now powers one in four corporate servers. Then ask an employee to explain how the company's website works. Humming beneath the site is probably Apache, free open-source Web server software created and maintained by a

far-flung global group of volunteers. Apache's share of the corporate Web server market: 52 percent. In other words, companies that typically rely on external rewards to manage their employees run some of their most important systems with products created by nonemployees who don't seem to need such rewards.

And it's not just the tens of thousands of software projects across the globe. Today you can find: open-source cookbooks; open-source textbooks; open-source car design; open-source medical research; open-source legal briefs; open-source stock photography; open-source prosthetics; open-source credit unions; open-source cola; and for those for whom soft drinks won't suffice, open-source beer.

This new way of organizing what we do doesn't banish extrinsic rewards. People in the open-source movement haven't taken vows of poverty. For many, participation in these projects can burnish their reputations and sharpen their skills, which can enhance their earning power. Entrepreneurs have launched new, and sometimes lucrative, companies to help organizations implement and maintain open-source software applications.

But ultimately, open source depends on intrinsic motivation with the same ferocity that older business models rely on extrinsic motivation, as several scholars have shown. MIT management professor Karim Lakhani and Boston Consulting Group consultant Bob Wolf surveyed 684 open-source developers, mostly in North America and Europe, about why they participated in these projects. Lakhani and Wolf uncovered a range of motives, but they found "that enjoyment-based intrinsic motivation, namely how creative a person feels when working on the project, is the strongest and most pervasive driver."² A large majority of programmers, the researchers discovered, reported that they frequently reached the state of optimal challenge called "flow." Likewise, three German economists who studied open-source projects around the world found that what

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drives participants is “a set of predominantly intrinsic motives”—in particular, “the fun . . . of mastering the challenge of a given software problem” and the “desire to give a gift to the programmer community.”³ Motivation 2.0 has little room for these sorts of impulses.

What's more, open source is only one way people are restructuring what they do along new organizational lines and atop different motivational ground. Let's move from software code to the legal code. The laws in most developed countries permit essentially two types of business organizations—profit and nonprofit. One makes money, the other does good. And the most prominent member of that first category is the publicly held corporation—owned by shareholders and run by managers who are overseen by a board of directors. The managers and directors bear one overriding responsibility: to maximize shareholder gain. Other types of business organizations steer by the same rules of the road. In the United States, for instance, partnerships, S corporations, C corporations, limited liability companies, and other business configurations all aim toward a common end. The objective of those who run them—practically, legally, in some ways morally—is to maximize profit.

Let me give a rousing, heartfelt, and grateful cheer for these business forms and the farsighted countries that enable their citizens to create them. Without them, our lives would be infinitely less prosperous, less healthy, and less happy. But in the last few years, several people around the world have been changing the recipe and cooking up new varieties of business organizations.

For example, in April 2008, Vermont became the first U.S. state to allow a new type of business called the “low-profit limited liability company.” Dubbed an L3C, this entity is a corporation—but not as we typically think of it. As one report explained, an L3C “operate[s] like a for-profit business generating at least modest

profits, but its primary aim [is] to offer significant social benefits.” Three other U.S. states have followed Vermont’s lead.⁴ An L3C in North Carolina, for instance, is buying abandoned furniture factories in the state, updating them with green technology, and leasing them back to beleaguered furniture manufacturers at a low rate. The venture hopes to make money, but its real purpose is to help revitalize a struggling region.

Meanwhile, Nobel Peace Prize winner Muhammad Yunus has begun creating what he calls “social businesses.” These are companies that raise capital, develop products, and sell them in an open market but do so in the service of a larger social mission—or as he puts it, “with the profit-maximization principle replaced by the social-benefit principle.” The Fourth Sector Network in the United States and Denmark is promoting “the for-benefit organization”—a hybrid that it says represents a new category of organization that is both economically self-sustaining and animated by a public purpose. One example: Mozilla, the entity that gave us Firefox, is organized as a “for-benefit” organization. And three U.S. entrepreneurs have invented the “B Corporation,” a designation that requires companies to amend their bylaws so that the incentives favor long-term value and social impact instead of short-term economic gain.⁵

Neither open-source production nor previously unimagined “not only for profit” businesses are yet the norm, of course. And they won’t consign the public corporation to the trash heap. But their emergence tells us something important about where we’re heading. “There’s a big movement out there that is not yet recognized as a movement,” a lawyer who specializes in for-benefit organizations told *The New York Times*.⁶ One reason could be that traditional businesses are profit maximizers, which square perfectly with Motivation 2.0. These new entities are *purpose maximizers*—which are unsuited to this older operating system because they flout its very principles.

How We Think About What We Do

When I took my first economics course back in the early 1980s, our professor—a brilliant lecturer with a Patton-like stage presence—offered an important clarification before she'd chalked her first indifference curve on the blackboard. Economics, she explained, wasn't the study of money. It was the study of behavior. In the course of a day, each of us was constantly figuring the cost and benefits of our actions and then deciding how to act. Economists studied what people did, rather than what we said, because we did what was best for us. We were rational calculators of our economic self-interest.

When I studied law a few years later, a similar idea reappeared. The newly ascendant field of "law and economics" held that precisely because we were such awesome self-interest calculators, laws and regulations often impeded, rather than permitted, sensible and just outcomes. I survived law school in no small part because I discovered the talismanic phrase and offered it on exams: "In a world of perfect information and low transaction costs, the parties will bargain to a wealth-maximizing result."

Then, about a decade later, came a curious turn of events that made me question much of what I'd worked hard, and taken on enormous debt, to learn. In 2002, the Nobel Foundation awarded its prize in economics to a guy who wasn't even an economist. And they gave him the field's highest honor largely for revealing that we *weren't* always rational calculators of our economic self-interest and that the parties often *didn't* bargain to a wealth-maximizing result. Daniel Kahneman, an American psychologist who won the Nobel Prize in economics that year for work he'd done with Israeli Amos Tversky, helped force a change in how we think about what we do. And one of the implications of this new way of

thinking is that it calls into question many of the assumptions of Motivation 2.0.

Kahneman and others in the field of behavioral economics agreed with my professor that economics was the study of human economic behavior. They just believed that we'd placed too much emphasis on the *economic* and not enough on the *human*. That hyperrational calculator-brained person wasn't real. He was a convenient fiction.

Play a game with me and I'll try to illustrate the point. Suppose somebody gives me ten dollars and tells me to share it—some, all, or none—with you. If you accept my offer, we both get to keep the money. If you reject it, neither of us gets anything. If I offered you six dollars (keeping four for myself), would you take it? Almost certainly. If I offered you five, you'd probably take that, too. But what if I offered you two dollars? Would you take it? In an experiment replicated around the world, most people rejected offers of two dollars and below.⁷ That makes no sense in terms of wealth maximization. If you take my offer of two dollars, you're two dollars richer. If you reject it, you get nothing. Your cognitive calculator knows two is greater than zero—but because you're a human being, your notions of fair play or your desire for revenge or your simple irritation overrides it.

In real life our behavior is far more complex than the textbook allows and often confounds the idea that we're purely rational. We don't save enough for retirement even though it's to our clear economic advantage to do so. We hang on to bad investments longer than we should, because we feel far sharper pain from losing money than we do from gaining the exact same amount. Give us a choice of two television sets, we'll pick one; toss in an irrelevant third choice, and we'll pick the other. In short, we are irrational—and predictably so, says economist Dan Ariely, author of *Predictably Irrational*, a book that offers an entertaining and engaging overview of behavioral economics.

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The trouble for our purposes is that Motivation 2.0 assumes we're the same robotic wealth-maximizers I was taught we were a couple of decades ago. Indeed, the very premise of extrinsic incentives is that we'll always respond rationally to them. But even most economists don't believe that anymore. Sometimes these motivators work. Often they don't. And many times, they inflict collateral damage. In short, the new way economists think about what we do is hard to reconcile with Motivation 2.0.

What's more, if people do things for lunk-headed, backward-looking reasons, why wouldn't we also do things for significance-seeking, self-actualizing reasons? If we're predictably irrational—and we clearly are—why couldn't we also be predictably transcendent?

If that seems far-fetched, consider some of our other bizarre behaviors. We leave lucrative jobs to take low-paying ones that provide a clearer sense of purpose. We work to master the clarinet on weekends although we have little hope of making a dime (Motivation 2.0) or acquiring a mate (Motivation 1.0) from doing so. We play with puzzles even when we don't get a few raisins or dollars for solving them.

Some scholars are already widening the reach of behavioral economics to encompass these ideas. The most prominent is Bruno Frey, an economist at the University of Zurich. Like the behavioral economists, he has argued that we need to move beyond the idea of *Homo Oeconomicus* (Economic Man, that fictional wealth-maximizing android). But his extension goes in a slightly different direction—to what he calls *Homo Oeconomicus Maturus* (or Mature Economic Man). This figure, he says, “is more ‘mature’ in the sense that he is endowed with a more refined motivational structure.” In other words, to fully understand human economic behavior, we have to come to terms with an idea at odds with Motivation 2.0. As Frey writes, “Intrinsic

motivation is of *great importance* for all economic activities. It is inconceivable that people are motivated solely or even mainly by external incentives.”⁸

How We Do What We Do

If you manage other people, take a quick glance over your shoulder. There’s a ghost hovering there. His name is Frederick Winslow Taylor—remember him from earlier in the chapter?—and he’s whispering in your ear. “Work,” Taylor is murmuring, “consists mainly of simple, not particularly interesting, tasks. The only way to get people to do them is to incentivize them properly and monitor them carefully.” In the early 1900s, Taylor had a point. Today, in much of the world, that’s less true. Yes, for some people work remains routine, unchallenging, and directed by others. But for a surprisingly large number of people, jobs have become more complex, more interesting, and more self-directed. And that type of work presents a direct challenge to the assumptions of Motivation 2.0.

Begin with complexity. Behavioral scientists often divide what we do on the job or learn in school into two categories: “algorithmic” and “heuristic.” An algorithmic task is one in which you follow a set of established instructions down a single pathway to one conclusion. That is, there’s an algorithm for solving it. A heuristic task is the opposite. Precisely because no algorithm exists for it, you have to experiment with possibilities and devise a novel solution. Working as a grocery checkout clerk is mostly algorithmic. You do pretty much the same thing over and over in a certain way. Creating an ad campaign is mostly heuristic. You have to come up with something new.

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During the twentieth century, most work was algorithmic—and not just jobs where you turned the same screw the same way all day long. Even when we traded blue collars for white, the tasks we carried out were often routine. That is, we could reduce much of what we did—in accounting, law, computer programming, and other fields—to a script, a spec sheet, a formula, or a series of steps that produced a right answer. But today, in much of North America, Western Europe, Japan, South Korea, and Australia, routine white-collar work is disappearing. It's racing offshore to wherever it can be done the cheapest. In India, Bulgaria, the Philippines, and other countries, lower-paid workers essentially run the algorithm, figure out the correct answer, and deliver it instantaneously from their computer to someone six thousand miles away.

But offshoring is just one pressure on rule-based, left-brain work. Just as oxen and then forklifts replaced simple physical labor, computers are replacing simple intellectual labor. So while outsourcing is just beginning to pick up speed, software can already perform many rule-based, professional functions better, more quickly, and more cheaply than we can. That means that your cousin the CPA, if he's doing mostly routine work, faces competition not just from five-hundred-dollar-a-month accountants in Manila, but from tax preparation programs anyone can download for thirty dollars. The consulting firm McKinsey & Co. estimates that in the United States, only 30 percent of job growth now comes from algorithmic work, while 70 percent comes from heuristic work.⁹ A key reason: Routine work can be outsourced or automated; artistic, empathic, nonroutine work generally cannot.¹⁰

The implications for motivation are vast. Researchers such as Harvard Business School's Teresa Amabile have found that external rewards and punishments—both carrots and sticks—can work nicely

for algorithmic tasks. But they can be devastating for heuristic ones. Those sorts of challenges—solving novel problems or creating something the world didn't know it was missing—depend heavily on Harlow's third drive. Amabile calls it the intrinsic motivation principle of creativity, which holds, in part: "Intrinsic motivation is conducive to creativity; controlling extrinsic motivation is detrimental to creativity."¹¹ In other words, the central tenets of Motivation 2.0 may actually *impair* performance of the heuristic, right-brain work on which modern economies depend.

Partly because work has become more creative and less routine, it has also become more enjoyable. That, too, scrambles Motivation 2.0's assumptions. This operating system rests on the belief that work is *not* inherently enjoyable—which is precisely why we must coax people with external rewards and threaten them with outside punishment. One unexpected finding of the psychologist Mihaly Csikszentmihalyi, whom we'll encounter in Chapter 5, is that people are much more likely to report having "optimal experiences" on the job than during leisure. But if work is inherently enjoyable for more and more people, then the external inducements at the heart of Motivation 2.0 become less necessary. Worse, as Deci began discovering forty years ago, adding certain kinds of extrinsic rewards on top of inherently interesting tasks can often dampen motivation and diminish performance.

Once again, certain bedrock notions suddenly seem less sturdy. Take the curious example of Vocation Vacations. This is a business in which people pay their hard-earned money . . . to work at another job. They use their vacation time to test-drive being a chef, running a bike shop, or operating an animal shelter. The emergence of this and similar ventures suggests that work, which economists have always considered a "disutility" (something we'd avoid unless we received a

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payment in return), can often be a "utility" (something we'd pursue even in the absence of a tangible return).

Finally, because work is supposed to be dreary, Motivation 2.0 holds that people need to be carefully monitored so they don't shirk. This idea, too, is becoming less relevant and, in many ways, less possible. Consider, for instance, that America alone now has more than 18 million of what the U.S. Census Bureau calls "non-employer businesses"—businesses without any paid employees. Since people in these businesses don't have any underlings, they don't have anybody to manage or motivate. But since they don't have bosses themselves, there's nobody to manage or motivate them. They have to be self-directed.

So do people who aren't technically working for themselves. In the United States, 33.7 million people telecommute at least one day a month, and 14.7 million do so every day—placing a substantial portion of the workforce beyond the gaze of a manager, forcing them to direct their own work.¹² And even if many organizations haven't opted for measures like these, they're generally becoming leaner and less hierarchical. In an effort to reduce costs, they trim the fatty middle. That means managers oversee larger numbers of people and therefore scrutinize each one less closely.

As organizations flatten, companies need people who are self-motivated. That forces many organizations to become more like open source projects. Nobody "manages" the open source contributors. Nobody sits around trying to figure out how to "motivate" them. That's why Linux and Wikipedia and Firefox work. Routine, not-so-interesting jobs require direction; nonroutine, more interesting work depends on self-direction. One business leader, who didn't want to be identified, said it plainly. When he conducts job interviews, he tells prospective employees: "If you need me to motivate you, I probably don't want to hire you."

The Rise and Fall of Motivation 2.0

TO RECAP, Motivation 2.0 suffers from three compatibility problems. It doesn't mesh with the way many new business models are organizing what we do—because we're intrinsically motivated purpose maximizers, not only extrinsically motivated profit maximizers. It doesn't comport with the way that twenty-first-century economics thinks about what we do—because economists are finally realizing that we're full-fledged human beings, not single-minded economic robots. And perhaps most important, it's hard to reconcile with much of what we actually do at work—because for growing numbers of people, work is often creative, interesting, and self-directed rather than unrelentingly routine, boring, and other-directed. Taken together, these compatibility problems warn us that something's gone awry in our motivational operating system.

But in order to figure out exactly what, and as an essential step in fashioning a new one, we need to take a look at the bugs themselves.