

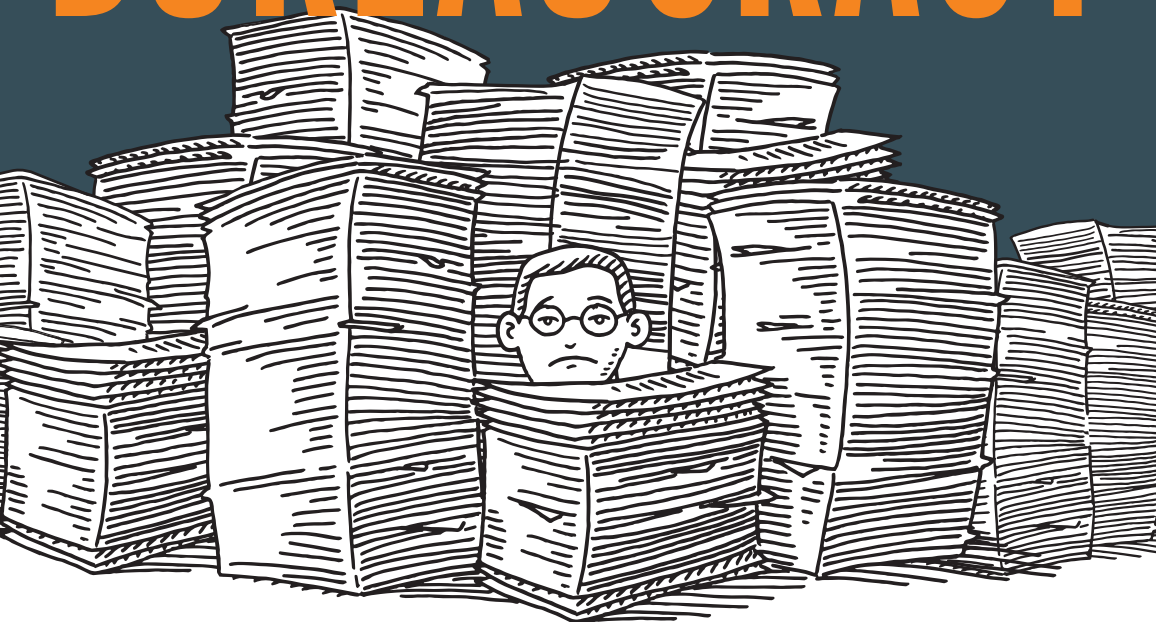
(Delicate)

"Bureaucracy has never been discussed in such an entertaining and educational way before."

—Adrian Cockcroft,

VP Cloud Architecture Strategy,
Amazon Web Services

THE ART OF BUREAUCRACY



Digital Transformation with the Monkey,
the Razor, and the Sumo Wrestler

MARK SCHWARTZ

author of *A Seat at the Table*

(Delicate)
✓
**THE ART OF
BUREAUCRACY**

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the Razor, and the Sumo Wrestler

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IT Revolution
Independent Publisher Since 2013
Portland, Oregon



25 NW 23rd Pl, Suite 6314

Portland, OR 97210

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First Edition

Printed in the United States of America

25 24 23 22 21 20

1 2 3 4 5 6 7 8 9 10

Cover and book design by Devon Smith

Library of Congress Catalog-in-Publication Data

Names: Schwartz, Mark, author.

Title: The (delicate) art of bureaucracy : digital transformation with the monkey, the razor, and the sumo wrestler / by Mark Schwartz.

Description: First edition. | Portland, OR : IT Revolution Press, LLC, [2020] | Includes bibliographical references.

Identifiers: LCCN 2020021721 (print) | LCCN 2020021722 (ebook) | ISBN 9781950508150 (Trade Paperback) | ISBN 9781950508174 (eBook) | ISBN 9781950508181 (Kindle)

Subjects: LCSH: Bureaucracy. | Organizational learning.

Classification: LCC HD38.4 .S48 2020 (print) | LCC HD38.4 (ebook) | DDC 658.4—dc23

LC record available at <https://lcn.loc.gov/2020021721>

LC ebook record available at <https://lcn.loc.gov/2020021722>

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THE (DELICATE) ART OF BUREAUCRACY

**To the bureaucratic trolls, tasked with the endless,
thankless work of keeping us chaos monkeys in line.**

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A NOTE FROM THE PUBLISHER

As you can imagine, we are exhausted here at Exothermic Press, having finally wrangled Mark Schwartz's new book into the space between two covers. If you know Mr. Schwartz's writing, you will not be surprised to hear that this book's ideas kept expanding along all nine known dimensions of the universe (I speak of those posited by string theory), so this task required hearty geometric exertions. We had to cut the chapter on "Bureaucracy and Ballet" and an unfinished one on "Quantum Bureaucracy," but perhaps they'll turn up in a later book.

You will notice something new in this book *comparari prioribus*: I have done my best to annotate some of Schwartz's more far-flung leaps of imagination to make sure they are accessible to those of us without philosophy degrees or who just want to get right to the meat of Schwartz's ideas on how to endure the torments of bureaucracy and thrive despite them. Without wishing to spoil the ending, I can tell you that the alliance of the Monkey, the Razor, and the Sumo Wrestler proves a potent one.

The annotations seemed necessary because, as I pointed out in my conversations with Mr. Schwartz, few readers have as much as noticed his favorite devices in earlier books; to wit, the "fortune cookie" self-referential (he calls it recursive) footnote on page xviii of *The Art of Business Value*, or the dozen or so references to obscure types of pasta he employed in *A Seat at the Table* to avoid the IT cliché of "spaghetti code." He responded as he usually does: with a giggle.

There are several things you should know before you enter the world of *The (Delicate) Art of Bureaucracy: Digital Transformation with the Monkey, the Razor, and the Sumo Wrestler*. The first is that you might be challenged to figure out what Mr. Schwartz really thinks of bureaucracy. We were when first we read the manuscript. At times, he seems almost to be arguing that bureaucracy is a good thing, which for a DevOps and Agile proponent seemed, frankly, mystifying. In other instances he speaks of its crushing soullessness, the burdens it placed

in his way as he tried to reform government IT, and the alienation and hopelessness it engenders. So, I asked him. Here's his response, verbatim:

You can't fight bureaucracy if you see it as an existential condition, a nightmare, an agent of dread and loathing. It's strange how viscerally people react to the mention of bureaucracy. The word is almost shorthand for evil, the way "Satan" might have been in the past. And no one thinks of themselves as a bureaucrat—it's always the person in the next cubicle over. Now bureaucracy *is*, of course, evil, hey, but let's laugh rather than tremble before it.

In other words, I still don't know whether Mr. Schwartz stands pro or con, or what he wishes us to think.

Another thing to keep in mind as you make your way through *The (Delicate) Art of Bureaucracy* is that in Mr. Schwartz's books, motifs tend to surface in odd ways. You will find that *Moby Dick* plays an important part in this volume. In Herman Melville's book, Captain Ahab monomaniacally pursues, with murderous intent, a tremendous albino sperm whale that once chewed off his leg. Every omen informs Ahab and his superstitious crew that they will not succeed. Moby Dick is the leviathan of the Bible, a tremendous, angry force of nature, far more powerful than his tiny human opponents who float helplessly in small, unstable boats in a churning, limitless ocean. Fighting Moby Dick is fighting nature, but Ahab tries anyway. His fight is an expression of his freedom.

Similarly, Mr. Schwartz says, bureaucracy is a powerful monster, a force of nature, much larger than us, and largely undefeatable. Cut off a tentacle and another grows in its place. Or as Kafka says, it merely restabilizes and becomes ever more malevolent. Just how powerful is the leviathan of bureaucracy? Mr. Schwartz's description of the bureaucratic *Physeter macrocephalus* MD-102 with its eighty-seven required documents and twenty-one oversight roles echoes Melville's description of a sperm whale:

Between eighty-five and ninety feet in length, and something less than forty feet in its fullest circumference, such a whale will weigh at least ninety tons; so that, reckoning thirteen men to a ton, he would considerably outweigh the combined population of a whole village of one thousand one hundred inhabitants.¹

Big whale, big stack of bureaucratic documents. Harpoon him and red tape spouts from his arteries. Accidentally slip into the area where his brain should be, as one of Ahab's harpooners does, and you can drown in his slippery, oily, shifting essence.

Nevertheless, Schwartz illustrates how to fight the leviathan and tame it. He teaches us how to ride the whale to successful business outcomes, peel off its blubber, and even train it to do tricks. At the same time, he offers us an adventure story about fighting the bureaucratic whale, a surprising analysis of its physiology, and a guide that will prepare you to harpoon any blubberous bureaucracies that happen to get in your way.

For months now, we at Exothermic, in trying to tame this leviathan of a book, have been dragged along helplessly by it. Nevertheless, like Ahab, we try. Through the book you will find my harpoon-thrusts here and there, which perhaps will slow the monster down just enough so you can get a good look at it.

—Professor Ishmael C. Tollogous,
Visiting Professor of Sceniology,
University of Strozzapreti, Bologna;
Capo Di Tutti I Redattori, Exothermic Press

A NOTE FROM THE AUTHOR

To produce a mighty book, you must choose a mighty theme. No great and enduring volume can ever be written on the flea, though many there be who have tried it.

—Herman Melville, *Moby Dick*

As for the metaphysical thoughts, my dear sir, allow me to say that any brain is capable of producing them, it's just that we cannot always find the words.

—José Saramago, *All the Names*

Someone must have been telling lies about Mark S., because one day, without having done anything wrong, he woke in his bed to find himself suddenly transformed into a giant insect—a bureaucrat.* Crawling through government office buildings, his exoskeleton examined by puzzled security folks; burrowing through great piles of bureaucratic waste; propping himself upright in meeting-room chairs never designed for creatures with more than two legs; learning to tell his I-90s from his I-485s and his SF-86s from his TPS reports;† peeling off the paperwork that stuck to him like flypaper, he flapped his antennae helplessly—for the first few years at least—but with an insect's sniffing curiosity.

Over time, he realized that everyone else around him, private sector and public, while railing against bureaucracy—who doesn't?—was also beginning to grow antennae and take on the shape of bureaucrats without noticing it. Upon

* Mr. Schwartz is conflating the opening sentence of Kafka's *The Trial* with that of *The Metamorphosis*. -ed.

† TPS Reports are a recurring bureaucratic joke in the movie *Office Space*. -ed.

leaving the federal bureaucracy he found the insect apocalypse well underway: banks, insurance companies, educational institutions, and even those tech companies that are admired for their agility and speed had long since settled into that energetic languor that makes a bureaucracy busy on paper and sticky and gooey on execution.

Yes, I, Mark S., had become the CIO of US Citizenship and Immigration Services, a part of the Department of Homeland Security. By definition, a bureaucrat. By inclination, an iconoclastic, playful, get-things-done ex-software-developer who imagined he could sit down at a keyboard and change the world. By chronology, an incoming government employee at precisely the moment when it had finally become interested in agile ways of working and wanted to stop manufacturing huge, monolithic IT projects that went over budget, fell behind schedule, and were featured on the front page of the *Washington Post*. But the government couldn't help itself. *Agile* was a word, and the bureaucracy could not rest until it had redefined it and formalized it and surrounded it with rules and constraints—in other words, until it had drained Agile of its agility.

My colleagues and I spent some years trying to convince policymakers to accept the dictionary definition of agility. We looked for ways to nudge the bureaucracy in the direction of what we were all calling digital transformation. After we'd banged our little insect heads against the wall for several years, the wall slowly began to move. Where before we'd only been able to release IT capabilities once every eighteen months or so, we found we were delivering new software as often as three times a day. Our multibillion-dollar, five-plus-year projects shrank to a size where we could actually execute them. We became a case study in the IT buzzwords of today—DevOps, microservices, cloud, containers, kombucha. And we did it as bureaucrats.

Somehow, along the way, I thought I'd begun to understand bureaucracy. Don't get me wrong, I hate sluggish officialdom as much as the next *Homo sapiens*. But it turned out that the evil trolls of bureaucracy—the ones who lived in a cave somewhere and only popped out now and then to shout “No!” and hand the public more forms to fill out—well, they were human too, trying to do the right thing. And much of what we see as wasteful government bureaucracy, it turned out, had been put there deliberately to accomplish social or political goals that you and I supported. There was a frightening beauty to the way the bureaucracy worked once you cleared away the red tape and got a good look at it.

These days I meet with executives from about 120 companies a year and speak with enterprise leaders at conferences, at dinner roundtables, and while

waiting to use the restroom at industry events. And, amazingly, my stories of bureaucracy light them right up. They tell me about how their companies' bureaucracies are pinning them under mountains of red tape*—ironically, in many cases bureaucracies they've set up themselves. Sometimes they say they need "cultural change"—but what they mean is they need to break free of their companies' rigid rules and rigid authorities, the controls that control innovation and change by making sure they don't happen.

It's strange to be writing a book on bureaucracy. Who'd want to read such a thing? I'm inspired by a couple of books I've read over the last year. One was *Death*, by Shelly Kagan, a great philosopher and professor at Yale. For Khepri's[†] sake, who'd want to read a book on death? Well, I heartily recommend it. Kagan will make you think and rethink and puzzle and wonder why you've never read one before. The other book was *Gut: The Inside Story of Our Body's Most Under-rated Organ* by Giulia Enders. Who'd want to read such a thing? But she just seems so excited about digestion that the book is hard to put down. I'm hoping that my fascination for bureaucracy will similarly shine through, and that I'll be able to make bureaucracy as interesting as she makes human excrement. Or Kagan makes death.

I figured I'd drop a few stories throughout the book from my experience in the big bureaucracy. I left a few good ones out too. Like the time I was in a contentious government meeting and one of the participants suddenly leapt up and excused himself, saying, "I have to go move a supercomputer!" I wasn't sure if that was a sly way to say that he badly needed a bathroom break, a reference to some new government bloat, or just a "dog ate my homework" excuse for shutting down my ideas on bureaucracy-busting.[‡]

Anyway, I have reason to think that we all have a secret fascination with bureaucracy. Take the universal appeal of Kafka's writing. We know that Joseph K. is not going to be acquitted and we know that the Land Surveyor will never make it to the Castle. Yet we read of their adventures with some kind of compulsion to see how bureaucracy inevitably triumphs. We replay to ourselves the mechanism of *Catch-22* and want to scream at the officials of the Ministry

* A reference to the Monkey King, who reappears in Chapter 12. -ed.

[†] An Egyptian god who winds up playing a large role in this book. See Introduction. -ed.

[‡] See Giulia Enders, *Gut*, above. -au.

of Circumlocutions as they circumlocute.* We laugh as the good soldier Svejk makes his way through a military bureaucracy filled with buffoons and mortal danger.†

Bureaucracy moves us, mystifies us, and represents something deep about the human condition. It has something to do with the tension between freedom and constraint, order and chaos, accountability and authority, and how humans organize socially to accomplish common objectives. In writing this book, I wanted to peel away the blubber and find its heart.

Bureaucracy is also a critical player in enterprises' digital transformations, which, nominally, is my subject. I've written a series of books on leadership in the digital world: *The Art of Business Value*, *A Seat at the Table*, and *War and Peace and IT*. In them I've tried to help leaders of large enterprises "unstick" their organizations so that they can become digital. My books have described how new ways of delivering technology are also changing how leaders lead, and how digitally inspired techniques can be used to succeed in today's digital economy. But when my readers try to apply those ideas, they often find themselves stymied by the roles and rules and formalities they've set up to bring order and control to their enterprises.

So a book on bureaucracy seems as essential today as a book on human waste, and one that you can read while you're eating. I might ask you to think a little bit differently about bureaucracy. I will definitely ask you to join me and become a Chaos Monkey, a Knight of Occam, and a Lean Sumo Wrestler. Together we can wield bureaucracy as a superpower and bust through it at the same time.

Press 1 to bust a bureaucracy, 2 to forge a new bureaucracy, or hold the line if you wish to speak to a reader care associate. Ding dongle, the functionary's dead. Long live the functionary!

Mark S.
Boston, 2020

*That's from Charles Dickens's *Little Dorrit*. -ed.

† A bureaucratic romp through the Czech military by Jaroslav Hašek, often compared to Heller's *Catch-22*. -ed.

I own thy speechless, placeless power;
but to the last gasp of my earthquake life
will dispute its unconditional, unintegral mastery in me.
In the midst of the personified impersonal,
a personality stands here.

—Herman Melville, *Moby Dick*

INTRODUCTION: WE'RE BUREAUCRATS ALL

To catch hold of fleeting appearance he must shackle it with rules, tear into its fair body with concepts, and preserve its living spirit in a meagre frame of words.

—Friedrich Schiller, *On the Aesthetic Education of Man*

He tasks me; he heaps me; I see in him outrageous strength, with an inscrutable malice sinewing it. That inscrutable thing is chiefly what I hate; and be the white whale agent, or be the white whale principal, I will wreak that hate upon him.

—Herman Melville, *Moby Dick*

Bureaucracy Is Us

Homo bureaucraticus: humankind is truly the bureaucratic animal. Psychologists have watched children spend more time arguing over the rules of a game than actually playing it.¹ Children learn rule-making, of course, from their parents, those power-crazy authorities who invent and enforce arbitrary decrees about bedtimes and TV watching. We all begin structuring the world bureaucratically long before we learn to develop interactive voice response systems (“Your call is important to us. Please listen distractedly as our options have never changed.”), join congressional subcommittees, or set acceptable use policies for IT systems. Someday, archaeologists will sniff out today’s humans by following our trail of bureaucracy through the zeros and ones of our big data streams.

Perhaps it’s no wonder, stamped as we are in the image of celestial beings, or vice versa. The Jade Emperor, after all, has always presided over a “celestial

hierarchy” of Chinese gods that looks suspiciously like a Chinese political bureaucracy. When the Monkey King* of legend is not invited to the Jade Empress’s party, he wants to know who was. “It’s all according to rule, you know . . . the Venerable Immortals of the Ten Continents and Three Islands, the Mystic Divinity of the North Pole . . . the Star Lords of the Five Constellations, the Three Pure Ones, the Four Emperors and the Heavenly Immortal of the Great Nomad from the Eight High Caves . . . [sorry, not done yet] . . . the Immortal of the Nine Mounds, the Gods of the Seas and Mountains . . .” Oh yes, and also the terrestrial deities.²

Christian angelology, formalized in the Early Middle Ages, was already quite familiar with the principle of division of labor. It organized the angels into nine “choirs”: Seraphim, Cherubim, Thrones, Dominions, Virtues, Powers, Principalities, Archangels, and Angels.³ Virtues are responsible (accountable?) for miracles, Thrones for presenting the prayers of humans, and Cherubim for guarding the tree of life.

Judaism has its rabbinic law, the 613 commandments of the Torah, the pseudo-legal document it calls the covenant, and the many pages of Exodus describing exactly how to build an Ark of the Covenant and who may use it. All in the service of implementing rules and regulations laid down by the supreme parental authority—rules we *must* live by (laws of nature) and rules we *should* live by (laws of morality).

The gods of the ancient Aegean, though not big on following rules themselves, nevertheless had functional specialties, like employees in a factory: Eros for arrows, Momus for mockery, Alastor for family feuds, Chaos for Information Technology, and Morpheus, presumably, for bureaucracy.[†] If you wanted wind, you had to get a sign-off from Aeolus; if you wanted a hangover, from Dionysus.

Aeolus—Homer-certified wind deity tasked with air moving, reporting directly to Zeus, the chief executive deity—was surely hired into his position for his wind skills, although he generally delegated to one of his four Anemoi, depending on the wind’s required compass direction. It takes just a small imaginative leap to think of Aeolus as rather busy and needing to prioritize his

* See Chapter 12, “The Way of the Monkey.” -ed.

† I’m lying. But the ones I didn’t make up are here: <https://greekgodsandgoddesses.net/gods/>. And by the way, it’s Atlas who carries the world on his back, not a succession of turtles. -au.

workload, doesn't it? Sure, if you have a wind need you can go ahead and pray, but if you really want service, it's best to file a ticket and get onto his queue.

I mean no disrespect to religions or dead Greeks, because when I label something a bureaucracy, I make no value judgment. We've come to view bureaucracy as an evil—maybe even as evil itself since the philosopher Hannah Arendt used the memorable phrase “the banality of evil” to describe the highly bureaucratized Nazi genocide.

But in this book I suggest we step back and consider bureaucracy for what it really is: a way to impose a structure on the world so that we can link general principles to actions. I don't want to mire you now in the precise definition of *bureaucracy**—we'll get to that in a few chapters—but for now, let's just say that a *bureaucracy* is a form of social organization with formal, rigid rules and formal, rigid hierarchies of authority. That's not too far from the definition sociologists use.

Digital Transformation

In today's digital economy—one of rapid change, uncertainty, and complexity—bureaucracy is an impediment. It's the sticky stuff that prevents companies from dancing nimbly to the music of change. It's the no-saying choir of a shrouded and inscrutable sub-sub-sub-department, the vampire forms in triplicate that drain employees of motivation, the rules that lock in yesterday's worst practices, and the impersonal languages of corporatese, legalese, political doublespeak, and—I'm not sure why—the speech of airplane flight attendants (“This is your last and final boarding call for flight 666 with service to Inferno International.”).

As enterprises accept information technologies into the hearts of their corporate personalities, they find today's tools for rapid change slowed by rules that seem arbitrary, their high-tech Teslas stuck on muddy, potholed rural roads. They need fast 0–60 capability and nimble cornering, but instead they get meetings, sign-offs, and email nastygrams from the guardians of expense-reporting policies. Bureaucracy is a mature company's symptom of aging, a deteriorating condition that will inevitably lead it to aimless wandering,

* Don't you hate books that start out by quoting Wikipedia or dictionary definitions of their terms? -au.

fits and starts, fear of new technologies, intervention by concerned shareholders, and finally assisted demise at the hands of a Dr. Icahn.*

In IT today we want *fast flow*. We want to deliver. And what gets in our way? Mysterious corporate rules that can't be questioned. Signatures we need from people we've never heard of. Pleading requests we have to make for tools we need. Time we spend occupying a seat in meetings. Policies that suddenly land on our desks and demand our attention just when we're on the verge of delivering business value for the company that auto-deposits our paychecks.

At the same time, IT leaders must confront their own bureaucratic instincts. We speak of IT *governance*—the word just drips with bureaucratic goo, doesn't it?—and IT *standards*. We work and breathe within the constricted space allowed us by compliance acronyms—GDPR, SOX, HIPAA, PCI-DSS. Our security engineers, overwhelmed by constant taunting from nation-states and professional hackers, slam rules on the enterprise to protect it. IT organizations balance centralization with decentralization; standards with evolving architectures; rulebooks, runbooks, and standard operating procedures with ad hoc attempts to be useful. They promote agility but only within a framework of backlogs, stand-ups and burn-downs, and sprint reviews—artifacts and ceremonies redolent of red tape.

Like the Venerable Immortals of the Ten Continents and Three Islands, we find ourselves a part of a hierarchy we didn't invent or choose, yet we cope with it by electing to manufacture yet more bureaucracy. It comes naturally to us *Homo bureaucraticuses*—we have our Midas touch that turns even smiley faces into standardized icons and protocols regulating when they should and shouldn't be used.

Modernity Is Bureaucracy

Bureaucracy has long been seen as a cornerstone of advanced industrial societies, and even as constitutive of modernity itself.⁴ It sounds strange, but bureaucracy has been called the “primary institutional characteristic of highly complex and differentiated societies, epitomizing ‘the modern era.’”⁵

For the pioneering sociologist Max Weber, whom we'll be encountering throughout this book, bureaucracy was just the application of reason to orga-

* Famed corporate raider. -ed.

nizational design, a way of setting up rules and accountabilities to promote efficiency.⁶ To John Stuart Mill, the nineteenth century British philosopher, it was a form of administration that “accumulates experience, acquires well-trying and well-considered maxims, and makes provision for appropriate practical knowledge in those who have the actual conduct of affairs.”⁷ In our modern age, where we’ve seen science and engineering triumph, where we like to base decisions on hard data, bureaucracy is the application of those types of rational thought patterns to structuring and running a social organization.

Modern bureaucracy developed during the nineteenth century, as science rose and the privileged aristocracy declined, and as business enterprises became larger and clashed in global markets. It so dominated organizations that management historians could say that “almost all the benefits we take for granted in today’s society—modern medicine, modern science, modern industry—rest on a bureaucratic foundation.”⁸ To see the connection between bureaucracy and modernity, it helps to think about what it replaced: in the public sphere, the arbitrariness, capriciousness, and nepotism of monarchies or the chaos of revolutionary governments; in the business world, a lack of formal discipline and management strategies that sounded a lot like “let’s make friends with the king and hope he gives us a charter to exploit a new colony.”

There’s no more dramatic illustration of bureaucracy’s deep impact on modern society than its use by terrorist networks.

From the mid-1990s through late 2001, al-Qa’ida made every effort to become a fully bureaucratized organization, complete with employment contracts specifying vacation policies, explicitly documented roles and responsibilities for different jobs including detailed descriptions of the experiences required for senior leadership roles, security memos written by a specialized security committee, and standardized questionnaires for those arriving at training camps.⁹

The three-page application to join al-Qa’ida asks applicants to list their hobbies and pastimes, and asks “What objectives would you like to accomplish on your jihad path?”¹⁰ Terrorist operatives complain about the burdensome rules they face, particularly the requirements that they get targets approved centrally before striking them.¹¹ There are even stories of would-be suicide bombers being asked to fill out forms in triplicate before being allowed to take exams to assess their suitability.¹²

History of Bureaucracy (Part One): Pharaoh to Sade

Despite its deep connection to modernity, bureaucracy is hardly new. In ancient Egypt the pharaohs set up a sizable hierarchy to deal with irrigation, mining, and pyramid building, with scribes as their chief bureaucrats.¹³ Supervisors were assigned a span of control of precisely ten subordinates, and a grand vizier (Joseph in the Bible being the most famous¹⁴) presided over the hierarchy. By planning carefully, dividing work among departments, and employing professional full-time administrators, the ancient Egyptians became experts at forecasting the rise of the Nile and coping with its consequences.¹⁵

China too developed a bureaucracy as early as 1000 BCE, introduced the division of labor as early as CE 1, and, influenced by Confucian principles, began using merit exams to fill positions sometime during the Han Dynasty (206 BCE–CE 220).¹⁶

Diocletian bureaucratized the Roman Empire; the heavy taxes he then needed to support the administration became one of the reasons for the empire's fall.¹⁷ The Middle Ages saw Roman bureaucracy replaced by the feudal system, which (according to the economist and historian Ludwig Von Mises) was an attempt at governing *without* a centralized bureaucracy—an effort that failed miserably. “The modern state,” he says, “is built upon the ruins of feudalism. It substituted bureaucratic management of public affairs for the supremacy of a multitude of petty princes and counts.”¹⁸

At the same time, the church was evolving its own formal structure. By the third century CE it had organized into a hierarchy of bishops, presbyters, deacons, subdeacons, and acolytes, later adding a pope at the Council of Nicaea.¹⁹

Happily for our English language we were able to borrow the useful term *byzantine* to honor the intricacies of its namesake empire's administration. And it was the Holy Roman Emperor Charles V of Spain who, in modernizing the administration of his empire—yes, modernizing—gave us another useful term when he bound important documents with *red tape* instead of plain white string.²⁰

The intellectual history of bureaucracy goes way back as well. Plato's *Republic* is an argument for government by an elite bureaucracy of philosophers.²¹ Aristotle's description in *Politics* of the attributes of a good organization is surprisingly similar to the bureaucracy we know today: (1) specialization of labor, (2) departmentation, (3) centralization, decentralization, and delegation, (4) synergy, and (5) leadership.²²

As long as there have been bureaucracies there have been people complaining about them. Well, almost as long, since the ranks of Egyptian and Roman bureaucracies were largely filled with slaves. When Diocletian expanded the Roman bureaucracy, Lactantius (c. 250–325 CE), a Christian apologist and advisor to Emperor Constantine, raged about the burden it imposed on the people:

There were also many stewards of different degrees, and deputies of presidents. Very few civil causes came before them: but there were condemnations daily, and forfeitures frequently inflicted; taxes on numberless commoditie. . . . While Diocletian, that author of ill, and deviser of misery, was ruining all things, he could not withhold his insults, not even against God.²³

The term *bureaucracy* itself—“rule by offices” or “rule by desks”—was meant to be sarcastic when the French gave it to us in the mid-eighteenth century.²⁴ No one willingly describes themselves as a bureaucrat; the sociologist Robert Merton uses the colorful German word *Schimpfwort*—that is, an invective or epithet²⁵—to describe the term.

Speaking of bureaucracy and words the French gave us, there’s also the useful word *sadism*. In an article in *Lapham’s Quarterly*, the critic Lucy Ives tells us that the Marquis de Sade’s works, particularly *The 120 Days of Sodom* (written in 1785), are best read as narratives about bureaucracy, tales of cold, formal, and even boring implementations of rules around outrageous sexual practices. Four friends bring together a group of people and occupy an abandoned chateau to practice acts of “dispassionate intensity.” Their debauched activities are constrained by a set of laws they agree to before they enter the chateau. Roles are carefully delineated: “The four friends form an executive committee, which is overseen by the four procuresses, four duennas, and four storytellers, who operate like a toothless board of directors.”²⁶ Bureaucracy and sadism: products of Enlightenment France.

Ludwig Von Mises has the last word on the exquisite pain of bureaucracy:

There cannot be any doubt that this bureaucratic system is essentially antiliberal, undemocratic, and un-American, that it is contrary to the spirit and to the letter of the Constitution, and that it is a replica of the totalitarian methods of Stalin and Hitler.²⁷

Well, then.

The Keynote Story

I'll use the following story, one that I've also related in my previous books, to illustrate the subtleties of bureaucracy.

I was working with a team of software developers as a product owner, charged with representing the business's needs to the technologists. We were building a software system to help employees process applications submitted by our customers. As is typical in Agile software delivery, we divided the work into two-week iterations and held a retrospective after each to explore ways to improve our process. In one of those retrospectives the team asked me to prepare a certain requirements document—a “state transition” diagram showing all of the states a customer application could pass through as it was processed. That was a bit unusual for us; we typically preferred to flesh out requirements iteratively and face-to-face during each two-week period. But since this was a complex area of the system, they'd need to coordinate their work carefully, and having more formal documentation would make sure that all the pieces fit together well.

It seemed reasonable, but I wanted to avoid the risk of having different copies of this document floating around while we were still refining the requirements. So we agreed that I would sketch the state transition flow and pin it to the corkboard in the team room. That way we'd all be looking at the same diagram and we could easily change it when we needed to.

Two weeks later we were back for another retrospective. The diagram had been a great success, the team members agreed. But one of them complained that when she'd looked for it on the corkboard it wasn't there. It turned out that another team member had taken it and used it at his desk for a few days, forgetting to return it.

The process improvement parts of our brains locked onto the problem. One team member suggested we pin a sign-out sheet to the corkboard next to the diagram. Whenever someone took the sketch off the board they could write their name on the sign-out sheet, the date and time they took it, and which desk they were sitting at, in case someone else needed to find it. I saw where this was going and made a counter-suggestion. “How about,” I asked, “if whoever takes the diagram remembers to return it quickly?”

Do you see where I'm going with this? The team's solution was good—it would solve the problem. It was also bureaucratic. Yes, it would mitigate the risk that someone wouldn't have access to the diagram when they needed it. At the same time, it would impose a cost (the effort of signing out the docu-

ment) on everyone, regardless of whether they were the kind of person who would remember to return the document promptly. Later, after the incident was forgotten, team members would view the sign-out process as pointless bureaucracy. It was a solution, all right—effective, but not lean. Remembering to return the document would be leaner, as would simply writing one’s initials on the sign-out sheet and nothing else.

Process improvement had led unthinkingly to bureaucracy. This is common. The cycle of formalizing, optimizing, documenting, and then applying a process uniformly is the essence of the bureaucratic art. It institutionalizes “the surest way we’ve found to do this particular task.” Software developers are particularly adept at formalizing and optimizing processes—after all, that is what programming a computer is all about.

When something goes wrong, employees meet in a “postmortem” or “root cause analysis.” Someone asks, “How will we make sure this doesn’t happen again?” Brainstorming ensues. They usually decide to set up a process that adds more controls. Of course they do—their boss would be horrified if they decided not to take any corrective action. Errors require correction, and correction, when designed to *avoid* an occurrence, almost always adds constraints. But, I say, in many cases doing nothing is precisely the right solution, because the cost of new controls may be higher than the risk-adjusted cost of the error happening again.

It is the layers and layers of these rules and accountabilities, created to “improve” business processes, that make the Frankenstein’s monster we think of as bureaucracy.

A Different View

Bureaucracy, in another sense, is simply form—it’s the structure of our corporate environment, the architectural elements *within* which we are free to innovate and gratify our customers.²⁸ In our everyday lives, we consider ourselves free. But we’re not free from the law of gravity. We’re not free to violate moral laws (we *can*, but we may be punished). We can’t tickle a sperm whale to death or eat strozzapreti while winning the Boston Marathon. We exercise our freedom within boundaries that have been set without our involvement or consent. “On one level, all this is obvious,” says David Graeber, the author of *The Utopia of Rules*. “We are just talking about the emergence of form. Freedom has to be in tension with something, or it’s just randomness.”²⁹

When I write a book, I start by preparing an outline. Then I begin to fill in sections. I invariably wind up changing the outline later, but in the meantime the outline gives form to the book. Although it constrains the content I will create, “create” is still the right word—the outline also provides a structure that allows me to play with silly whale analogies and obscure types of pasta. As long as I “comply” with it, the pieces of the book will assemble themselves into a coherent whole, or in this case perhaps a combatant whale.

Form is constraining, yes, but it also keeps us safe and lets us make decisions based on a knowledge of probable outcomes. Contrast that with the ancient world, where humans were just playthings of the gods. One day you go to the woods for a little walk to clear your head, accidentally stumble onto the goddess Diana taking a bath, get turned into a stag, and wind up being torn apart by dogs. This is not what you expect when you go for a walk.*

Bureaucracy is the inverse of science: while the latter seeks to find rules for *understanding* the world, the former creates rules for how we are to *operate* in the world. Both bring order to chaos. Because bureaucracy is concerned with how we *should* act, it is a form of ethics.

Bureaucracy memorializes best practices. As long as the concept of “better” exists, bureaucracy must exist, which is why it’s a distinctive competence of *Homo bureaucraticus*. It’s about structure and creativity, governance, transparency, fairness, morality, standards and exceptions, coolness under pressure, institutionalization of shared knowledge, religion, superstition, planning and foresight, retrospection and evidence, and stability in flux. It is subtle and delicate.

Bureaucracy, a wonderful thing, a gift of the gods to humanity! A string that leads you through a labyrinth;^{†‡§} the cumulative knowledge of a long tradition of sages. In this book you’ll learn to command it as Zeus commands lightning. We wax bureaucratic when the muses allow.

*The story of Actaeon in Ovid’s *Metamorphoses*. -ed.

† The Athenian hero Theseus finds his way in and out of the Minotaur’s labyrinth with the help of thread provided to him by Ariadne. Mr. Schwartz no doubt means to suggest the difficulty of moving through a bureaucracy’s labyrinthian rules. -ed.

‡ You know, I keep feeling like I’m being followed by an auditor—sorry, editor—who insists on dropping footnotes into my text. -au.

§ Cute. -ed.

Executive Summary, TL;DR

My argument in this book will go something like this:

1. We have a bizarre aversion to bureaucracy, a visceral reaction that prevents us from coping effectively with it. Bureaucracy isn't just frustrating to us, it's frustration itself, to such an extent that we call anything that frustrates us bureaucracy. We, and Kafka, have nightmares about it. I suggest that we stop this right now.
2. In fact, we're natural bureaucrats. We make bureaucracy to be able to act socially in the world despite its complexity. We generalize to simplify the world, and then make rules for action based on those generalizations. In particular, we bureaucratize as a way to turn our problem-solving successes into problem-solved routines.
3. Bureaucracy is a way to structure organizational interactions. That's all. Not a nightmare, not a prank by minions of Satan. Sometimes it's even useful (when dealing with compliance and audits, for example).
4. Nevertheless, the bureaucracies we encounter every day are, in fact, frustrating, Satanic, soul-destroying, and Kafkaesque. That's because they aren't *lean*, *learning*, and *enabling*, the three characteristics of good, not evil, bureaucracy.
5. We can overcome bureaucracy by blasting holes in it, by shrinking it, and by forcing it to turn upon itself and become *lean*, *learning*, and *enabling*. We have all the devices of mythology and science available to us. We do so by employing the arts of the Monkey, the Razor, and the Sumo Wrestler. I'll show you how.

Read This Book

This book is for leaders who want their companies to succeed in the digital age. It's an exploration of the gooey stuff that holds us back and a tactical manual for yanking our boots out of it. I'll show that it's not bureaucracy *per se* that drives us crazy, but rather certain qualities that bureaucracy tends to take on, and which can be reversed.

It's good news that we can manipulate bureaucracy in this way, because we need it. If nothing else, those acronyms we must comply with—our FISMA's and

KYCs, LOLs, and R2D2s*—demand bureaucracy, since they require structural controls and formal accountabilities. Bureaucracy also provides a framework for our activities where it makes sense to have one; it's the guardrails and constraints within which we practice our digital arts.

This is a book about information technology, because technology makes vivid the tension in our corporate lives today between speed and freedom on the digits of one hand, and sludge and constraint on the digits of the other. It also happens to be my field. But though I'll use examples from the technology world, I'm really talking about how any group of people works together. I'll do my best to explain the technology examples so everyone can follow them.

Because my emphasis will be on information technology and digital transformation, I'll be devoting a lot of attention to a particular kind of bureaucracy: the kind that oversees, or governs, projects and investments. This is bureaucracy that affects mostly white-collar workers, and it's enforced not only by officials in high-power positions, but also by administrators who have the power to say no and demand paperwork, and frequently use that power. I refer to them, tongue-in-cheek, as "bureaucratic trolls in caves." In doing so, I don't intend anything personal against them; in my imagination, trolls are those cute plastic dolls with big smiles on their faces. I too have moments of troll-like behavior, and I'll suggest throughout this book that you probably do as well.

I'll also draw a lot of my examples from the government. Not because it's only government that faces bureaucratic challenges in its digital transformations, but because government is extreme, so its examples tend to be clearer and more dramatic. It also happens to be where I spent some time and, with the help of some motivated, brilliant bureaucrats, pulled off a surprising digital transformation. There are important differences between government and corporate bureaucracies (see James Q. Wilson's book *Bureaucracy*), but the similarities are also striking.

Warnings on Terminology

Traditionally one speaks of *managers* as the bureaucrats, who apply their bureaucracy coercively to *workers*. Career, or civil service, government functionaries (as opposed to politicians) are also called bureaucrats. But as bureaucracy has changed, the terminology has become problematic. The bureaucrats in a

* Probably needless to say, but the last is not a compliance acronym, but rather a *Star Wars* reference. -ed.

large enterprise are often not managers but line employees who enforce policies—the trolls in caves that periodically appear and stop productive work until forms are filled out. And line employees who work with customers also act as bureaucrats when they enforce rules and demand paperwork.

Also, an apology: I'm going to use the term *digital transformation*, which we all know is a trendy buzzword that's quickly being emptied of all meaning. I'll do so because I don't have a better word for this important trend in enterprises today: the movement from slow-moving, don't-change-too-often management to fast-moving, change-is-normal management. Technology is important in this transformation because it not only makes it possible but also makes it necessary—competitors have access to the same enabling technology, and customers and employees have come to demand it. I use the term while holding my nose.

Structure of the Book

In Part I of this book I'll tease out the true meaning of bureaucracy from its emotional baggage. I'll examine how it works, why we hate it, and what we may even be able to borrow from it.

In Part II I'll draw on contemporary organizational theory to propose a new model for bureaucracy, one that retains its fundamental nature—controls and structure—but is lean, learning, and enabling rather than bloated, stale, and coercive. I know this sounds crazy or pointless, but as you'll see in Part III it's both possible and purposeful.

With that new model in mind, in Part III I'll provide a playbook. I'll show how we can break through bureaucratic obstructions using the skills of the Monkey, the Razor, and the Sumo Wrestler. And then—get ready for it—I'll show you how to become a master bureaucrat yourself, so you can wield bureaucracy for the good of society and your organization.

You Know Who You Are

This is a guide for IT practitioners and corporate leaders who (I'd never refer to them as bureaucrats) wish to impose structure and controls (I'd never call them bureaucracy) . . . um, without driving others crazy. Actually, I *will* call them by those names.

If you're leading an IT transformation, you're frustrated by bureaucracy. Without realizing it, you're probably also manufacturing it. This book is for you. Do you impose standards? Security controls? Does your exception process

involve lots of forms and approval signatures? Do you insist that everyone who wants to talk to you fill out a service ticket first? See my point? You, puny human, *Homo bureaucraticus*, are (ouch) a bureaucrat.

If you're an enterprise leader, a CEO, say, or a CFO, COO, board director, legal counsel, or some other chief something, you're frustrated that your company—IT in particular—doesn't move fast enough; your folks seem enthusiastic but quickly bog down in execution; your enterprise is not innovative enough. The problem just might be the bureaucracy you're secretly manufacturing while no one is looking. We're on to you. This book is for you.

If you're a technologist, trying to enjoy your work and deliver value to your company, your frustrations are endless, and bureaucracy is chief among them. You need a playbook for dealing with it so you can do your job. Read on.

If you're an alien from a planet that is bureaucracy-free and you never negotiated the rules of your games as a child, have never been frustrated by your cable company's customer service, and have never filled out a form with little boxes that are too small, don't bother with this book. I can recommend plenty of *good* authors to read, like Franz Kafka and Herman Melville.

Benediction: A Ball of Dung

Let's call on the ancient Egyptian deity most closely associated with transformation. His name is Khepri, and he's the god who moves the sun along so that each day can start fresh—an apt metaphor for transformation. His symbol is the dung beetle, which is also the Egyptian hieroglyphic for *transformation*. Apparently the Egyptians equated his way of nudging the sun from one day to the next with the way a beetle pushes along his little ball of dung.

Khepri is also a qualified bureaucrat: the *Egyptian Book of the Dead*, envisioning the entrance to the afterlife as a bureaucracy where the newly dead must answer a series of questions precisely and formulaically, suggests burying a dung beetle image with a body to whisper into its ear the required answers.

As if this wasn't enough to make Khepri our patron deity for bureaucratic transformation, Franz Kafka, the writer most associated with the terrors of bureaucracy, had the protagonist of "The Metamorphosis" metamorphose (transform) into—you guessed it—a dung beetle.*

*You might have thought he was transformed into a cockroach. The cockroach/dung beetle controversy is a longstanding debate in academia, but the Dungists appear to

Oh, Khepri! We ask you to bless our efforts at bureaucratic transformation! Please assist us in rolling this ball of odorous bureaucracy toward the abyss, that we may successfully enter the realm of the digital afterlife! Amen!

be winning; in the story, the maid does specifically call Gregor a dung beetle, whereas cockroaches are never mentioned. -au.

PART I

DIGITAL TRANSFORMATION AND BUREAUCRACY



OVERTURE: TRY IT YOURSELF

He gains consciousness from sensuous slumber, sees that he is a man, looks around and finds himself to be living in a state. Force of need cast him there before he was capable of freely choosing this condition.

—Friedrich Schiller, *On the Aesthetic Education of Man*

Everything is simpler than we can imagine, at the same time more complex and intertwined than can be comprehended.

—Goethe

A Revelatory Puzzle

Imagine that you're going to create a large organization from scratch to produce a product or accomplish a mission. Or perhaps you've been asked to take over management of a big group of people who are standing around waiting for you to tell them what to do. Organizations grow and evolve, but let's just shortcut all of that and say that you suddenly have, oh, 100,000 people or so sitting in your corporate cafeteria and twiddling their thumbs impatiently. Incidentally, this is in some ways the situation DHS found itself in when it was founded in 2003 after the 9/11 attacks—it was created by bringing together people from twenty-two existing agencies to somehow keep the country safe.^{1*}

Now how will you set up your organization? More precisely, how will you coordinate those 100,000 people to work toward a common goal—your goal?

* Fun fact: speaking of bureaucracy, over 108 congressional subcommittees oversee DHSR.² Surprised that it's hard to get anything done? -au.

You'll probably need someone to be in charge, right? We'll call that person the CEO. And unless you want to have 100,000 people reporting to the CEO, you'll probably need some sort of a hierarchy to keep the thing organized. Perhaps you'll have one part of the company focus on sales, another part on marketing, and another on producing the product. That's particularly sensible because people tend to be skilled or at least educated in one thing or the other, and with that kind of structure you can use their skills efficiently.

For each part of the hierarchy, you'll probably need to tell them what their job description is—what they're responsible for. Perhaps their goals will involve some quantifiable metrics. You also know that since they'll all be spending money, there's a danger that they'll spend too much. In fact—it's virtually guaranteed that they will, other things being equal, because spending more will always allow them to do more of whatever you're holding them responsible for. So perhaps you'll assign each group a maximum they can spend and set up some processes to keep track of the cash they toss around so you can do your tax returns at the end of the year.

You can't just *create* these hierarchies—you also need ways for people in them to interact to get the job done. And because the organization is large, you can't count on informal communications. So, you work with them to set up some formal interaction patterns. For example, Marketing will generate and capture leads, and then pass them on to Sales. Salespeople might learn from their customers what product attributes are valuable, so you'll make sure they have a way to communicate that information to the product design team.

The financial market regulators and the government want to make sure you're transparent and have controls in place, for example, to protect investors. So, you make someone a CFO and charge them with reporting on what everyone else is doing and with establishing controls that will satisfy auditors.

Let's see what you've done. You've set up a hierarchy based on a division of labor, a separation of responsibilities. You've instituted a merit system where the good marketers are placed into Marketing, the good operators into Operations, and the Royal Fools* into disciplinary proceedings. You've structured their interactions to best achieve the company's goals and established formal ceremonies to facilitate those interactions. And you've thrown in some rules-based, auditor-friendly controls as guardrails to satisfy authorities.

Congratulations. You've created a bureaucracy.

Don't feel bad about yourself, *Homo bureaucraticus*. You're not the first.

* See next chapter for more on Royal Fools. -ed.

1

WHAT ARE WE TALKING ABOUT?

I mistrust all systematizers and I avoid them. The will to a system is a lack of integrity.

—Nietzsche, *Twilight of the Idols*

And what thing soever besides cometh within the chaos of this monster's mouth, be it beast, boat, or stone, down it goes all incontinently that foul great swallow of his, and perisheth in the bottomless gulf of his paunch.

—Plutarch, *Moralia*

Authorities and Royal Fools

Let's take any social organization, by which I mean a group of people working together toward common goals. It could be, perhaps, a government, or a business corporation, or a nonprofit. By what authority do leaders lead in this organization, and how can they set up their organization to make sure it accomplishes their goals?

There are three ways. The first is through *tradition*—leaders become leaders because . . . well, tradition says they should be. For example, kings and queens are generally kings and queens and not acrobats and newscasters because they're born into the right families. Pharaohs commanded their people to build pyramids because pharaohs commanded people to build pyramids—there were no skate parks back then. The role of *monarch* is defined pretty loosely*—search

*Of course, there has been a tendency toward constitutional monarchies in the modern era and even during medieval times in Britain. -au.

online for “king” and you’ll find jobs in King County and at Burger King, but no job description for “ruler.”

A cool thing about monarchs is that they’re necessarily right about everything—because they say so. To the political philosopher Thomas Hobbes, writing in *Leviathan*,* that’s exactly the point. People are born naturally into a “brutish” state—if they don’t cede power to a sovereign and accept the sovereign’s judgement as binding, they’ll spend their time killing each other rather than making cat videos. Melville, compiling references to whales for his introduction to *Moby Dick*, gleefully quotes the opening line of Hobbes’s *Leviathan*: “By art is created that great *Leviathan*, called a Commonwealth or State—(in Latin, *Civitas*) which is but an artificial man.”¹ I do the same here, just as gleefully.[†]

In traditional organizations, officials act in traditional roles. The *Cup-Bearer* bears cups. A *Royal Fool* acts foolishly. A *Gentleman of the Bedchamber* oversees a king’s “physicians and entertainments.” A *Bearded One*, in Byzantine times, was responsible for not being a eunuch, while a *Nipsistiaros* was beardless and held the water basin. And, yes, the *Groom of the King’s Stool* did precisely what it sounds like.[‡] Let’s just say that a traditional hierarchy is not always organized logically for the most efficient management of the realm.

A second type of authority is that of the charismatic leader, such as, say, Hitler, Napoleon, Joan of Arc, Mother Teresa, the Pied Piper, or—I have to assume—the first lemming in a suicide parade. Here it’s the leader’s personal magnetism that inspires their followers and powers their administration. A problem for organizations of this type is continuity—charismatic leaders tend to hold power only briefly. Consider the lemming.

These two types of authority—*traditional* and *charismatic*—can be referred to as *leadership by notables* or *patrimonial leadership*. Notables exercise leadership in their own names—their interests are the state’s or business’s interests. They may profit personally from their administration, and they

* Note Schwartz’s indirect reference to *Moby Dick* and whales here. *Leviathan* is the huge monster of the sea cited in the Bible, and the term is often used to refer to whales. -ed.

† That is, happily drawing the connection between whales and state bureaucracies. -ed.

‡ No lie. For details you can refer to Giulia Enders’s *Gut: The Inside Story on Our Body’s Most Underrated Organ*. -au.

may grant the authority to profit to the officials who act in their names—for example by allowing tax collectors or grooms of the stool to collect a little extra for themselves.

Is it possible that a notable is sometimes also acting in the best interests of the business or state? To ask that question, I think, is to misunderstand the idea of leadership by notables. In the famous words of Louis XIV (which he probably never uttered), “*L’état, c’est moi*” (“the state—that’s me!”).² The kingdom was the ruler’s, personally; there was no separation between the role and the person who filled it—at least until the rise of constitutional monarchies, when the power of monarchs became restricted to waving at the public and perpetrating sex scandals.

The third possible source of authority is *rational-legal* authority, where roles are defined according to some agreed-upon logic and then occupied by individuals who thereby gain the power and accountabilities assigned to the role. *Occupying* the role is the crucial concept—the person is no longer acting as an individual but in an official capacity. They are not authorized to seek personal profit, nor to bring their prejudices, personal vendettas, or family relationships into their jobs. Roles and the relationships between them are specified in rules that have been chosen to promote the success of the organization.

Such authority is *rational* in the sense that reason is used to design the best set of roles and practices for achieving the desired outcomes. It is *legal* in the sense that rules determine behavior rather than whim, caprice, or personal interests. Rational-legal authority allows for continuity because different people may fill the roles over time. Each role is occupied by the person best able to fill it, someone who can demonstrate the necessary skills. Once in the role they’re backed by legal authority (as opposed to the power of their army or charismatic manipulation), but their authority is carefully limited to what’s necessary to accomplish the organization’s goals.³

If this model sounds familiar, that’s because most of the institutions we know today are organized on the basis of rational-legal authority. It’s a defining characteristic of our modern age. It’s the structuring principle of business organizations and government agencies. It’s known as bureaucracy.

Max Weber Arrives

The distinction I’ve laid out between traditional, charismatic, and rational-legal authority is more or less that of Max Weber (1864–1920), one of the

pioneers of sociology, writing in the early twentieth century.* His is the canonical analysis of bureaucracy, the citation that appears in every scholarly work on the subject. He emphasized the sociological aspects of bureaucracy, mostly how authority is obtained and exercised, rather than its political-economic or public administration aspects. But his thinking is so clear that his writings are the starting point for almost everything written on the subject.

For Weber, the modern age has been defined by a movement from “magical” ways of looking at the world to more “scientific” or rational ways. Rationalization, to Weber, meant the use of rules and instrumental systems to understand and manage the world, and bureaucracy was simply one aspect of a broader trend⁴ toward rationality epitomized by science and engineering. Frolicking gods and angelic intervention would no longer determine business success or national policy now that the world had become “dis-encharnted” (that is, no longer understood as based on enchantment). Instead, the mind would impose order and efficiency on a world that was becoming increasingly complex.

Weber described the archetype or “ideal” form of bureaucracy[†] as a system with these characteristics: (1) division of labor (specialization), (2) hierarchical organization, (3) rules, (4) technical competence, (5) impersonality, (6) formal, documented communications.[‡]

To make it easier to work with, I like to think of Weber’s framework in groupings like this:

* Though his canonical work, *Economy and Society*, wasn’t translated into English until 1947. -au.

† Note that many people writing on bureaucracy appear to be confused by Weber’s use of the word “ideal” and think he was saying that *bureaucracy* is an ideal way to manage an organization. In fact, Weber is using the term “ideal” in the sense of archetype, or essential characteristics, as in the Platonic ideal of bureaucracy. -au.

‡ Everyone seems to have their favorite way of summarizing Weber’s points in a bulleted list; some have five characteristics, some six, some seven. In *Economy and Society*, 956–958, Weber’s actual list seems to be: (1) jurisdictional areas, (2) office hierarchy, (3) written documents (“the files”), (4) office management (technical specialization), (5) full-time working capacity of the official, and (6) general rules. But in Weber’s text he restates these in many ways. My list is pretty typical. Other characteristics are sometimes listed as “career orientation,” “achievement-focused advancement,” “efficient organization,” “up-focused or in-focused,” and “administrative class.” -au.

- **Roles:** A bureaucracy has a formal delineation of accountabilities, organized into a hierarchy and filled with people who have the expertise to accomplish the tasks of their roles.
- **Rules:** The activities of a bureaucracy are determined by rules, which are applied universally and impersonally. A “paper trail” makes the rules self-proving; in other words, one output of a bureaucratic process is a paper flow that proves that the process was followed.

Even more simply: formal, rigid *roles* and formal, rigid *rules*.

Robert Merton, the sociologist best known for introducing the terms “role model” and “self-fulfilling prophecy,” emphasized this *formal* aspect of bureaucracy, explaining that in it, “rituals” of communication minimize friction by restricting the interactions between roles to those that are officially sanctioned. With formalized patterns of interaction, officials can work together regardless of their attitudes toward one another, which might even be hostile. Formalities also allow for *calculability* in the sense that each person knows more or less how the other will act in a given interaction.⁵

Impersonality

Impersonality, item five on Weber’s list, is worth a deeper look. It implies that the rules of the bureaucracy are applied equally to everyone. Weber used the Latin phrase *sine ira et studio*, “without anger or bias,” sometimes translated as “without hatred or passion” or “without affection or enthusiasm.” What it really means is everyone is subject to formal equality of treatment.⁶

Impersonality is crucial to the bureaucratic mindset for the following reasons:

- It *separates the official’s person from their role*. Officials apply the rules uniformly, and therefore not on the basis of their prejudice, mood, profit, blood sugar level, or whim.
- It promotes *fairness*. Everyone is treated equally. No special exceptions are made for friends, movie stars, Kardashians, or dangerous-looking maniacs with Kalashnikovs.
- It breeds *efficiency*, in that the rules encapsulate the best known practices, and are applied in all cases. Exceptions, which would reduce efficiency, are not permitted.

- It leads to *calculability*. One knows what outcome will result from a request, whereas petitioning a pharaoh or Charles Manson, or the possibility that your competitor is doing so, can lead to surprises.

Bureaucratic Efficiency

Weber and Merton—and many other writers on bureaucracy—emphasize its efficiency, which sounds strange to those of us brought up on stories of bureaucratic waste and ineptitude, and who have likely witnessed it ourselves. In Weber’s words, bureaucracy

is, from a purely technical point of view, capable of attaining the highest degree of efficiency and is in this sense formally the most rational known means of exercising authority over human beings. It is superior to any other form in precision, in stability, in the stringency of its discipline, and in its reliability. . . . The choice is only that between bureaucracy and dilettantism in the field of administration.⁷

Weber saw the modern era as one where specialized technical skills were increasingly necessary. Gone was the time when “dilettantes” could manage business functions. Instead, experts would be accountable for areas in which they were experts, and formalized interactions would be used to coordinate their efforts. Efficiency would result and would be amplified by removing emotional concerns like personal relationships, hostility, anxiety, and the like, leaving only rational considerations.⁸

For both Weber and Merton, *efficiency* was not a single characteristic, but a complex set of attributes. “The chief merit of bureaucracy is its technical efficiency, with a premium placed on precision, speed, expert control, continuity, discretion, and optimal returns on input,” says Merton.⁹ Or, in Weber’s words:

Precision, speed, unambiguousness, knowledge of the files, continuity, discretion, unity, strict subordination, reduction of friction and of material and personal costs—these are raised to the optimum point in the strictly bureaucratic administration.¹⁰

So, let me pause and ask, reader, what’s your problem with bureaucracy? Why buy a book about how to bust through it? It’s hard to see anything objec-

tionable in Weber's definition. Sure, I've got a few reservations: in the IT world we've been finding that generalists ("dilettantes") actually are quite valuable, "discipline" is a heavy-handed word, and I'm not sure efficiency is the right goal (*leanness* is more like it). But Weber is just talking about organizing logically to get good results.

In recent years our view of bureaucracy has diverged a wee bit from Weber's idealized picture.

The term "bureaucracy" is popularly associated with impersonal hierarchy, rigid rules, predictable procedures, and a pace of decision-making and change that would embarrass a glacier. Emphasizing the disadvantages of bureaucracy in a fast-paced world, theorists have consistently contrasted inflexible mechanistic systems with fluid organic systems, and plodding segmentalist cultures with innovative integrative cultures.¹¹

Glaciers are not easily embarrassed.

Over time, Weber's broad understanding of efficiency yielded to a narrower idea of process optimization.¹² Bureaucracies petrified and grew tentacles of red tape that seemed to defy rationality rather than exemplify it.

Business and Government

Modern democratic governments are necessarily bureaucracies. They're based on the rule of law and administered by a civil service chosen by merit, separately from the election of political officials.

But businesses too have been designed as bureaucracies. Mass production demanded strict repeatability and statistical quality control. Global competition demanded cost efficiencies. And the increasing size and scale of business organizations demanded some sort of centralized control over decentralized organizations. In Weber's words, "the very large modern capitalist enterprises are themselves unequalled models of strict bureaucratic organization."¹³ "All complex organizations," Wilson says, "display bureaucratic problems of confusion, red tape, and the avoidance of responsibility."¹⁴ It's no wonder that large companies and government agencies looking to digitally transform face similar bureaucratic impediments.

One of the most compelling uses of bureaucracy in today's economy is to support a company's branding. A brand must be consistent; it must deliver a

unified, coherent, recognizable experience to customers. And that consistency is a specialty of bureaucracy. McDonald's, for example, has standardized, in minute detail, the operation of its stores and the activities of its employees in an operations manual that is six hundred pages long and weighs four pounds.¹⁵

Branding guidelines specify how a company's logo should be used, what typefaces are acceptable, the positioning of elements on a page, and the voice and style to be used for communications. Guardrails and reviews ensure that those branding guidelines are followed. Because brands can have tremendous business value—Coca Cola's is said to be worth \$59.2 billion and Disney's \$52.2 billion¹⁶—it's no exaggeration to say that a company's bureaucracy can be a critical component of its value.

Just as the government must answer to a diverse citizenry, businesses—at least publicly traded ones—must answer to a diverse base of shareholders. To ensure that employees are doing what those stakeholders want, companies devise governance structures and controls. The larger and more complex an organization is, the more it will see bureaucracy as the solution for aligning its employees with its stakeholders.

The convergence of government and business bureaucracies is noted by Graeber in *The Utopia of Rules*. On one hand, he says, "The rise of the modern corporation, in the late nineteenth century, was largely seen at the time as a matter of applying modern, bureaucratic techniques to the private sector."¹⁷ On the other hand, the bureaucratic techniques of government, Graeber says, originally came from the private sector and then seeped into all aspects of life:

Americans often seem embarrassed by the fact that, on the whole, we're really quite good at bureaucracy. It doesn't fit our American self-image. . . . If Americans are able to overlook their awkward preeminence in this field, it is probably because most of our bureaucratic habits and sensibilities—the clothing, the language, the design of forms and offices—emerged from the private sector.¹⁸

In the ultimate twist, private sector bureaucracy actually forces the government to be bureaucratic. Weber draws this connection: "Today, it is primarily the capitalist market economy which demands that the official business of public administration be discharged precisely, unambiguously, continuously, and with as much speed as possible."¹⁹ One reason that businesses demand bureau-

crazy from the government is the predictability (calculability) it offers. Free markets require transparency and predictability:

The peculiarity of modern culture, and specifically of its technical and economic basis, demands this very “calculating” of results. . . . Bureaucracy develops the more perfectly, the more it is “dehumanized,” the more completely it succeeds in eliminating from official business love, hatred, and all purely personal, irrational, and emotional elements which escape calculation. This is appraised its special virtue by capitalism.²⁰

While bureaucracy may seem mechanical and “faceless,” the same is true of the “invisible hand of the market.” Business decisions today are ultimately out of executives’ control—they are made by consumers. The market is relentless, merciless, and foils your best plans. Its decisions cannot be appealed. That is to say, it has many of the characteristics of a bureaucracy.

Customer-Facing Bureaucracy

Bureaucracy goes beyond the organization of work *within* a business; even businesses with a market incentive to provide good customer service can take on the characteristics of bureaucratic impersonality and rigidity in their public personas. Medical insurance companies in the US continue to innovate ways to frustrate their customers with obscure billing codes, arbitrary-seeming rules, surprise requirements for “pre-authorizations,” and endless telephone wait times. Graeber relates his experience with a bank when trying to access his account information from overseas, a process that required “speaking to four different representatives, two referrals to nonexistent numbers, three long explanations of complicated and apparently arbitrary rules, and two failed attempts to change outdated address and phone number information lodged on various computer systems.”²¹

This bureaucratization of service may partly be explained by a need for formal rules to ensure equal treatment of customers, pressure to standardize processes to control costs, and—in Graeber’s situation—the need to ensure security and privacy. But it wouldn’t survive without our increasing acceptance, as customers and employees, of this formality and rigidity in customer service. As someone who travels a lot, I’m constantly struck by the scolding, condescending, and mechanical tone airlines use with me.

But a deeper connection between internal and external bureaucracy may be derived as a variation on Conway's Law.²² Melvin Conway, a computer programmer, observed in 1967 that the structure of an organization's software tends to mirror the organization's communication patterns. In effect, the architecture of its software systems looks a lot like the structure of its organizational chart.

In my bureaucratic variation on Conway's Law, the face that a company presents to its customers is also influenced by its internal structure. When you telephone a company, you're transferred from one customer service agent to another based on their different positions in the organizational chart. You're shifted from phone line to phone line as you cross organizational boundaries. They'll have to look you up in four different IT systems because hierarchical bureaucracies don't put much value on information sharing between silos. Your experience, in other words, mirrors their bureaucracy. Bureaucratic goop seeps through the walls of an enterprise and becomes embarrassingly visible to customers.

Bureaucracy affects even the language enterprises and their officials speak to the public. In Charles Dickens's *Little Dorrit*, a government agency called the Ministry of Circumlocutions circumlocutes and discourages the public from filling out the many forms it requires—on the cogent grounds that nothing will happen with their cases anyway. Chrysler Corp. announced layoffs with a message saying that it was going to initiate a “career alternative enhancement program.”²³ Governments, eager to obscure their more questionable actions, find ways to bury us under mountains of verbiage.*

What seems to underlie this type of speech is a denial of agency. Individuals avoid acknowledging their responsibility with the help of vague and confusing language, just as they do by pointing to bureaucratic rules they are obliged to follow. George Orwell famously translated a well-known biblical passage into this anesthetizing exemplar of bureaucracy-speak that avoids using the word “I”:

Objective consideration of contemporary phenomena compels the conclusion that success or failure in competitive activities exhibits no tendency to be commensurate with innate capacity, but that a con-

*This is a reference to the story of the Monkey King, as told in Chapter 12. -ed.

siderable element of the unpredictable must invariably be taken into account.²⁴

The original passage, from Ecclesiastes (9:11), was:

I returned and saw under the sun, that the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favour to men of skill; but time and chance happeneth to them all.

We at Satanic Airlines are pleased to welcome you to Inferno International Airport, where the local time is . . . eternity. Please remember to take all your personal belongings.

History of Bureaucracy (Part Two): Napoleon to Gaga

As we've seen, bureaucracy has been around at least since Y2K (BCE, that is) when the Old Kingdom of Egypt was building huge stone cats without noses. But something changed in modern times to make it such a deep and disturbing part of our lives. By the time Weber was tossing around *Schimpfworts*, the bureaucratic lifestyle had already progressed enough that he was describing something well established. What had happened?

It's tempting to date modern bureaucracy to the scientific management theories of Frederick Taylor (1856–1915) and Henri Fayol (1841–1925), but really the change was well underway in Europe by the early years of the nineteenth century. The French Revolution in 1789 had replaced a seemingly stable monarchy with the chaos of the mob, thereby initiating a century or so of seesawing between republic and monarchy in an attempt to regain control and structure while also promoting democracy and equality.

Napoleon entered the scene early in the nineteenth century and began bureaucratizing France, restructuring the civil service and introducing his Napoleonic Code. As you know from my last book (*War and Peace and IT*), Napoleon fought his wars on a grand scale. In earlier days, soldiers might have been appointed by a sovereign, drawn from the nobility with little care for whether they knew which end of a rifle shoots the bullets. By the time of Waterloo in 1815, though, Napoleon was managing an army of 200,000 troops against

500,000 British and other allied soldiers. The front at Waterloo was six times the length of that at the battle of Agincourt four hundred years earlier, and Napoleon commanded from a position more than a mile away.*

He was able to manage on this huge scale because the French army had become a professional, hierarchical organization with a well-defined command structure. It had a dozen tiers of rank, at the bottom of which the soldiers were further classified into riflemen, light and heavy infantry, artillery, dragoons, grenadiers, light and heavy cavalry, signalmen, engineers, and scouts.²⁵ It's a common pattern: with scale, centralization of authority, and specialization come the sparkling adornments of bureaucracy.

France continued to be an innovator in bureaucracy throughout the 1800s. In time, as we've seen, they developed that strange idea of rule by desks, based on the notion of a fair, impersonal, rule-driven society, with continuity provided by a cadre of civil servants. This made sense to Weber, who found it natural that bureaucracy would accompany mass democracy—its universal rules and ideals help create order in an environment where economic and social differences, along with patrimonial authority, are eliminated.²⁶ Unfortunately, France's bureaucracy was quickly distorted by the petty maneuverings of the appointed officials that Balzac painfully describes in *The Bureaucrats*.²⁷

Among the spoils of war that the English seized after Waterloo, apparently, was the idea of rule by desks, for they soon began to vie with France for bureaucratic supremacy. Refusing to be outdone by Balzac, Charles Dickens also took inspiration from the escalating bureaucratic arms race and became a spokesperson for British supremacy. "Britannia," he says in *David Copperfield*, "that unfortunate female, is always before me, like a trussed fowl: skewered through and through with office-pens, and bound hand and foot with red tape."²⁸ Ugh, sick image, but no doubt sincere. There's the nineteenth century for you.

On the business side, firms became larger as industrialization allowed for economies of scale. With advances in industry and technology—particularly in transportation and communication—and the need for large capital investments to build factories came centralization and standardization.²⁹ The obvious next step was to apply a science and engineering mentality—the pride of the modern

*Waterloo: Napoleon's 1815 defeat by the British and their allies, after which he was exiled to the island of St. Helena. Agincourt: battle in 1415 in northern France wherein the British defeated the French army. One mile away: see Battle of Borodino in Schwartz's *War and Peace* and IT. -ed.

era—to business processes and accountabilities. That’s when Fayol, Taylor, and Weber came along and gave us the beginnings of management theory.

Skip a few more decades forward, to the Nazi genocide, a highly engineered bureaucracy applied to unspeakable ends. The Nazis too faced a problem of scale. After 1942, determined to murder all the Jews, they had to figure out how to make it practical. Six million is a lot—and they also had to deal with the Slavs, Romani, homosexuals, and others they’d marked for elimination. They mobilized an unprecedented bureaucratic effort to find, catalog, transport, kill, and dispose of their victims and their possessions.

It was not just in the mechanization of death that the Nazis showcased what bureaucracy can do; they also systematically used the legal bureaucracy to turn Jews into noncitizens and deprive them of their rights. Once the bureaucracy was in motion, it was easy for the perpetrators to overlook their own responsibility; they were simply filling roles in a machine efficiently set up to manufacture Jewish death. As Arendt put it, bureaucracy was conveniently a system where “neither one nor the best, neither the few nor the many, can be held responsible, and which could be properly called the rule by Nobody. . . . Rule by Nobody is clearly the most tyrannical of all, since there is no one left who could even be asked to answer for what is being done.”³⁰

Nevertheless, by the 1950s bureaucracy had become the everyday lifestyle for corporate men and women in proverbial gray flannel suits.* Cookie-cutter suburbs fed white collar workers into city offices, and large enterprises became larger. Then, in the 1960s, students rioted against coercive authority, later becoming executives so they could exercise coercive authority themselves. Bureaucracy spread like a virus.

Then computers and the internet invented speed, and Lady Gaga began changing musical genres and clothing styles every few days. Which brings us to today’s anxiety about the need to move fast while neck-deep in bureaucratic sludge.

Busting Bureaucracy

We hear frequently of attempts at “bureaucracy busting.” But bureaucracy turns out to be hard to bust, leading even Weber to despairing exaggeration:

*Mr. Schwartz is referring to the novel *The Man in the Gray Flannel Suit* by Sloan Wilson (1955), about the struggles of a military veteran in cookie-cutter suburbia and bureaucratic officedom. -ed.

“The only real way to rid oneself of an established bureaucracy,” he says, “is to simply kill them all, as Alaric the Goth did in Imperial Rome, or Genghis Khan in certain parts of the Middle East.”³¹

Incoming politicians vow to do away with bureaucracy, but in the end find it essential for exercising power, and instead of destroying it, wind up trying to direct it to their own ends. Frederick the Great’s attempts to abolish serfdom were frustrated by his inability to control the bureaucracy, which thought him naive and uninformed.³² Hitler’s genocide, as we’ve seen, was abetted by his bureaucratic talents. As it was co-opted by trolls looking for sustenance, the US’s Paperwork Reduction Act, predictably, produced paper. The Government Paperwork Elimination Act, just as predictably, produced even more.

New CEOs, as soon as they’ve located the restrooms and the nearest Starbucks, begin promising to do away with red tape and “bloated” bureaucracy, to the wild enthusiasm of shareholders and the press. Paul Adler, Professor of Management and Organization, Sociology, and Environmental Studies at the University of Southern California, cites an article praising the leadership abilities of one new CEO, who “trashed two fat books of policies and replaced them with just 11 important ones,” saying that “Those rules, aimed at one percent of employees, handcuff the other 99 percent.”³³ There’s no reference to the institutional knowledge that might have been trashed in the process, or of what replaced the rules. GE, famously, undertook a transformation intended to reduce its paperwork. “Unfortunately, it is still possible to find documents around GE businesses that look like something out of the National Archives, with five, 10, or even more signatures necessary before action can be taken.”³⁴

The political scientist and public administration expert James Q. Wilson, in his book *Bureaucracy*, writes about the US government’s procurement system, which is governed by the FAR (Federal Acquisition Rule), a monumental* document of six thousand pages. The problem with fighting procurement waste, he says, is that as soon as waste is discovered, more rules get added, resulting in even more waste.

If despite all your devotion to the rules Congress uncovers an especially blatant case of paying too much for too little (for example, a \$3,000 coffee pot), the prudent response is to suggest that what is needed are more

* As a running gag throughout the book, Schwartz uses a different synonym for “large” every time he mentions the six-thousand-page FAR. -ed.

rules, more auditors, and more tightly constrained procedures. The consequence of this may be to prevent the buying of any more \$3,000 coffee pots, or it may be to increase the complexity of the procurement process so that fewer good firms will submit bids to supply coffee pots, or it may be to increase the cost of monitoring that process so that the money saved by buying cheaper pots is lost by hiring more pot inspectors. Or it may be all three.³⁵

He gives a specific example: a case where the army, because of rules intended to reduce waste, had to spend \$5,400 and 160 days to get competitive bids for spare parts that cost \$11,000. For all that cost and effort, they saved only \$100 in the end.³⁶

One reason why bureaucracy-busting initiatives have little chance of success is that they're centrally managed, and centralization tends to require more bureaucracy. Graeber even frames an "iron law of liberalism" that says that "any market reform, any government initiative intended to reduce red tape and promote market forces will have the ultimate effect of increasing the total number of regulations, the total amount of paperwork, and the total number of bureaucrats the government employs."³⁷

Nevertheless

Nevertheless, I'm going to show you how to bust bureaucracy. More specifically, I'm going to give you some ideas on how to digitally transform your organization even when bureaucracy is holding you back.

By *digital transformation* I mean adopting continuous innovation and change, risk reduction through agility, rapid sensing of market and competitive changes, and business flexibility. Most large enterprises, whether public or private sector, are not set up to move any faster than a glacier. And bureaucracy, as Frederick the Great and GE discovered, melts slowly.

Let's be clear on what we plan to bust. It's not Weberian bureaucracy, per se, that we hate. It is something like this:

Bureaucracy (n): immovable obstacles to what I am trying to accomplish that come from somewhere else in the enterprise and frustrate me. Examples: MD-102, Paperwork Reduction Act, new covers on TPS Reports. Used in a sentence: *I am about to kill myself because of all this*

bureaucracy. See also: death, waste (human and process), and dung beetles.

Bureaucracies have three characteristics according to this definition: they're stubborn, they're obstacles, and they come from elsewhere.

Stubborn. Constraints are unappealable “no”s. They don't take account of my special circumstances, and probably reflect an earlier understanding of good practices or a reaction to a situation that occurred long ago.

Obstacle. Constraints are frustrating what I'm trying to accomplish. I'm trying to do what's right for the organization, but I'm being prevented.

Elsewhere. Someone *outside* my team is imposing the constraints, and I had no say in formulating them. Someone is wielding power over me, and I don't like that.

Emotionally, this is what we hate about bureaucracy, right? And we tend to label organizational experiences as bureaucracy when we feel these emotions, whether they fit the Weberian definition or not. We're not talking about the Venerable Immortals of the Ten Continents and Three Islands here, who presumably mean us well and try to support us (though being “venerable” and immortal perhaps makes them suspect). We mean the Crabby Trolls of the Nine Audits and A Million “No”s.

CHAOS MONKEY IN THE BUREAUCRACY

So be cheery, my lads, let your hearts never fail, While the bold harpooneer is striking the whale!

—Nantucket Song in Herman Melville, *Moby Dick*

At this point the danger arises that he may first exclaim, “Is that any business of yours, sir? Who are you to me?”, and then, if you continue to pester him, he may raise his fist and land a blow on you. This is an enterprise that I too was once very keen to pursue, until I fell into such difficulties.

—Epictetus, *Discourses*

Job Descriptions

An interesting thing you discover when you become a government Chief Information Officer (CIO) is that your job description is a law. The Clinger-Cohen Act of 1996, Title 40, Subtitle III, Chapter 113, Subchapter II, clause 11315 establishes the role of a government agency CIO and lists the role’s duties. Here’s a piece of my job description:

(3) annually, as part of the strategic planning and performance evaluation process required (subject to section 1117 of title 31) under section 306 of title 5 and sections 1105 (a)(28), 1115–1117, and 9703 (as added by section 5(a) of the Government Performance and Results Act of 1993 (Public Law 103–62, 107 Stat. 289)) of title 31 . . .¹

This seems a wonder of precision, given that the role of CIO in most enterprises is notoriously difficult to define. Don't let it fool you—government CIOs struggle with ambiguity just as commercial CIOs do, but if we ever needed to establish our authority for a decision, we could refer those who questioned us to Clinger-Cohen's impenetrable text.

My employees had helpfully sent me a copy of Clinger-Cohen and a few other important documents before I EOD'd (Entered on Duty) and was sworn in. Several of my other favorite documents were included in their email: a guide to 180 or so acronyms I'd be seeing every day, some promising-sounding laws called the Paperwork Reduction Act and the Government Paperwork Elimination Act, a thick stack of paper called MD-102, and a map of the Washington, DC, metro system. I scanned quickly through the documents, noted that they had nothing to do with the way anyone runs IT, and put them aside.

Shortly after I EOD'd, I was in a tiny meeting to discuss a tiny project. My memory's probably a tiny bit unreliable on this, but I think it was just a tiny change to the text on a tiny web page. I asked my people how long they thought it would take.

"Eight months," they said carefully, with a side glance at each other.

"Eight months?! How could that little change take eight months?"

"Well, actually, we were going to say something longer, but we knew you wouldn't like it."

"Is our contractor so slow that it will take them that long?"

"No, the contractor is pretty good."

"Well then, why would it take eight months?"

Their enigmatic reply: "MD-102."

Another incident, also early in my time at USCIS: I was at a meeting to discuss the fate of one of our IT systems, something called RNACS. RNACS was just what you'd expect given a name like RNACS—an old mainframe-based IT system, a piece of clunky, cave-dweller technology, expensive to maintain . . . and no longer used. After some discussion we were sure that no one would ever need it again. "Okay," I said, "let's decommission it." Decommissioning meant we'd turn it off, archive any data it held, and stop paying for its upkeep. There was silence in the room.

"Uh, sir?" someone said.

"Yes?"

"You don't have the authority to decommission it."

"Why not? I'm the fu . . . I'm the CIO!"

“MD-102.”

Dang. Probably should’ve read that thing when they sent it to me.

MD-102 was Management Directive 102, a DHS policy used for overseeing the delivery of IT systems. It defined twenty-one distinct roles in the oversight process. In its hundreds of pages of plus thirteen appendices it listed eighty-seven documents that had to be prepared when delivering any IT system and eleven gate review meetings that had to be held to approve its various phases. Each document had to be signed by a giggle* of officials, and each gate review meeting had to be attended by a synod of prescribed voting members and a terafool of nonvoting observers.† At least one of the documents, something called an Analysis of Alternatives, routinely ran to a hundred pages or more and had never taken less than eighteen months to write. A favorite document of mine (with eighty-seven documents, one is bound to have favorites) was something called the Integrated Logistical Support Plan, which explained how we were planning to swab and pilot the new battleship—I mean, IT system. If there was a Louvre or Prado for bureaucratic art, MD-102 would have crowds lining up to view it.

Could there be some connection between MD-102 and the fact that it took years and hundreds of millions of dollars to deliver any IT capabilities?

Enter the Monkey

In 2010, Netflix released a piece of software called the Chaos Monkey, whose purpose was to randomly assassinate‡ other bits of software that were running. This might not sound like a great idea, especially when you realize it’s meant to run in a company’s production environment—that is, among the company’s live IT systems, the ones actively serving customers and employees. The reasoning behind Chaos Monkey is that since today’s IT systems are built to be

* Gaggle? -ed.

† Apparently, a brilliant meme that a collection of baboons is “a congress of baboons”² turned out to be a hoax. But in looking it up I discovered the (apparently legitimate) collective nouns: a shrewdness of apes, obstinacy of buffalo, coalition of cheetahs, business of ferrets, bloat of hippopotamuses, conspiracy of lemurs, unkindness of ravens, and wisdom of wombats. Monkeys, as we know, come in barrels. -au.

‡ Have you noticed that the word “execute,” which should mean the same as kill, actually means the opposite in the technology world? Just saying. -au.

resilient, to withstand unexpected failures without any noticeable impact, the Chaos Monkey would just test to make sure they really were. Netflix made its code available as open source so that other companies could practice decimating their own systems with friendly fire, and many do. Eventually, we did too at USCIS, but that's getting ahead of the story.

Chaos Monkey spawned a new field in Information Technology: Chaos Engineering. Software systems have become so complex and interconnected that it's virtually impossible to know what might go wrong. Chaos Engineering is a discipline that uses controlled experiments on running IT systems to find those complex scenarios that might lead them to fail, so that the software can be fixed to handle them. Automated scripts "inject" different types of failures to see what follows—what other sorts of chaos they lead to—so that technologists can make their systems more resilient.

Since organizations themselves are complex and interconnected social environments, the consequences of organizational change sometimes must also be determined experimentally. Christopher Avery, a leadership expert and speaker, in an article on responsible cultural change in businesses, talks about using a "provoke and observe" approach:

We can never direct a living system, only disturb it and wait to see the response. . . . We can't know all the forces shaping an organization we wish to change, so all we can do is provoke the system in some way by experimenting with a force we think might have some impact, then watch to see what happens.³

One tries something out of the ordinary and sees whether there is resistance, and if so, where it comes from and what it consists of. Then one formulates a strategy for dealing with it.

If you look back at my Clinger-Cohen job description, you'll no doubt agree that government IT is a complex environment, with many interacting, networked, and obscure connections to be unraveled. The only way to improve it would be to provoke it, observe the consequences, and adjust. What was needed was a chaos monkey in the government.*

* In Chapter 12 you'll learn the Way of the Monkey, the first force for transforming bureaucracy. For now, just watch the Monkey in operation. -au.

Speed and Government

I should probably give you some background. My agency, US Citizenship and Immigration Service (USCIS), is the component of the Department of Homeland Security (DHS) that handles *legal* immigration to the US—green cards, naturalizations, refugees and asylees, foreign adoptions, and about ninety other functions (things like providing some people proof of citizenship and letting others renounce their citizenship). USCIS folks are the nice guys of immigration—they don’t arrest and deport people (that’s ICE) and they don’t sit in the airport and look grumpy (CBP and TSA).

As CIO, I wanted very much to find a way that our IT organization could respond quickly to our agency’s needs. It might not be obvious why speed is important in the government, but this was something I’d learned along the way. I’d joined the government in 2010, toward the beginning of the Obama administration. On June 15, 2012, I was at home watching the evening news on TV when the president came on and announced his new immigration initiative, Deferred Action for Childhood Arrivals (DACA). This was the first I’d heard of it. The president also announced that it would be rolled out in sixty days.

The president didn’t know, because, er, he hadn’t asked us, that our average time to release an update to an IT system was eighteen months. When we analyzed the DACA initiative, we found that it would involve making changes to more than twenty IT systems. The math wasn’t encouraging.

We did it, of course. USCIS began accepting applications on August 15, 2012. We had to waive a few requirements here and there, skip steps in our standardized processes, get our contractors on board with the emergency effort, push off other work while we focused on DACA, and . . . it’s probably good that I don’t know what else. I know there were individual heroics, stressful meetings, and food truck wrappers all over the office.

If it had been a one-time effort, we could have left it at that. But at the beginning of the Obama administration there was talk of comprehensively reforming the immigration system, so we expected plenty of change. We also had a very large and famously “failing” IT project in the works, something we called USCIS Transformation. It was intended to be a five-year project, and after five years it had—at least according to the official records—spent about a billion dollars and delivered nothing. Even by federal government standards, this was considered pretty bad. For a sense of scale, in five years most people

could have read MD-102 two or three times, and maybe the introduction to the gargantuan FAR.

The solution to large failing projects and to slow delivery cycle times is well known in the IT community: a combination of what are called Agile techniques, DevOps, and the cloud. The idea is to work in short, fast increments, finishing and releasing pieces of IT capabilities quickly and frequently, then adjusting course based on the results and the feedback obtained from users of the software. But MD-102 prescribed exactly the opposite approach—extensive planning, monolithic deliveries, and strict adherence to plans made before the project was started. Clearly, we couldn't work within the bounds of MD-102 and also deliver speed and agility. But MD-102 was the policy of our corporate overseers, DHS.

Barriers to agility were built explicitly into MD-102's workflows, with steps like a Systems Definition Review (SDR), which "evaluate[s] the readiness of the project to proceed to Stage 3, Design . . . the SDR uses a set of exit criteria to evaluate completion of activities and products for this stage." There are seventy-three exit criteria, including "Have the requirements collected to date been specified in clear, meaningful, and testable format using 'shall' statements?"⁴ In translation, that means, "You must slow down until the bureaucracy catches up." It was a way to spend enough time documenting and approving the requirements that you could be sure they were no longer relevant.

Or, the definition of the integration and test phase, which is allowed to begin only after all of the development work has been completed: "The purpose of the Integration and Test Stage is to demonstrate that the solution developed satisfies all defined requirements and to complete the integration of configuration items that have been readied during the Development stage."⁵

DevOps, on the other hand, requires that integration, testing, and delivery start right away, at the beginning of the project, and proceed throughout. It also has as a principle: "Maximize the amount of work not done." That is, try to find requirements that you can avoid implementing.

Not that MD-102 was the only impediment, but it was a handy enemy. If you could make it through all the words, what it communicated was "you must move at the pace of an embarrassed glacier and spend vast amounts of money if you want to be allowed to do anything good for the American public." Arguably there were worse impediments in government—the Paperwork Reduction Act is a good candidate (more on that later)—but MD-102 was the most immedi-

ate. It was the leviathan breathing bureaucracy down our necks,* so the battle with MD-102 commenced.

Robot Pranks

MD-102 was not crafted by evil bureaucratic robots playing robot pranks. It was created by dedicated civil servants who wanted to guide projects into delivering good results and effectively using the public's resources, generally the taxes paid by citizens. It institutionalized practices that were considered by many to be best practices when it was written. But IT had changed, and new ideas such as those we planned to implement had shown themselves to be much more effective.

The writers of a document like MD-102 are also not naive. They left open a back door, as most bureaucratic artworks do—an exception process. In this case, something called a Project Tailoring Plan. So, we began there, “tailoring” the process laid out in MD-102 to be exactly the opposite of the process laid out in MD-102.

The snag with a Project Tailoring Plan is that someone has to sign off on it. This is hard because most people are too busy when you ask them to take a personal risk. But we got a signature because (1) several of our projects were frighteningly behind schedule and no one could figure out another way to fix them, and (2) everyone had heard that DHS IT needed to become agile, and this was the one way anyone had thought of to do so.

The moment was right. The DHS CIO had recently written a widely distributed email saying we should try out some new Agile ideas. That sort of email is like a banana to a chaos monkey.

We also had the advantage of the then-recent failure of Healthcare.gov, the president's signature healthcare initiative. When the site was finally launched after extended political battles, it quickly fell apart. I taught my staff to ask “Do you really want another failure like healthcare.gov?” in answer to any questions they received.

So, we were given limited permission to try out something more agile, at least for the technical part of the work. We decided to use a process based on

* Actually, whales can't do this. They don't even have noses. -au.

the Agile framework called Scrum,^{*} organizing our work into short iterations, with working software delivered after each one.

Now, an interesting side conversation developed. I said that MD-102 was not agile. The guardians of MD-102 said that it supported agility just fine, because you could get an exception with a Project Tailoring Plan, as we did. I said that since Agile is the best-known way to get results, you shouldn't have to get an exception to use it. MD-102's rules saying that you have to work the old, discredited way unless you get an exception are not actually good guidance, IMHO.

So why, I asked, don't we just make MD-102 say that you have to be agile and fast, unless you get an exception? The rulemakers laughed, because obviously they couldn't be as irresponsible as *that*. A Systems Engineering Center of Excellence had been involved in formulating MD-102, and the Center of Excellence said that it's excellent to have a lot of documents and gate reviews, and they would know, since they are the Center of Excellence.

Anyway, we proceeded with a big project that was now tailored to be agile. We rolled out Scrum,[†] juggled feature backlogs, stood up for a fifteen-minute standup every day, retrospected religiously at the end of each increment, and practiced continuous improvement on our agile process to get better and better.

Agile Amateurs

Matta![‡] A problem arose. Because it was a huge failing project that we were trying to fix, it had the attention of the auditors—in particular, that of the Government Accountability Office (GAO) and the DHS Inspector General (IG).

There was something surreal about their audits. The GAO didn't know that much about IT delivery, much less about Agile practices. I, on the other hand, with the appropriate nose-up arrogance of a digital technologist, considered myself an expert, having used Agile practices more or less since the Agile Man-

^{*} Note that I am no longer a big fan of Scrum. Some of my reasons will become evident later in the book. -ed.

[†] A popular Agile Software Development framework, which Mr. Schwartz discusses in greater detail later. As he says, it calls for fifteen-minute daily standups and frequent retrospectives. -ed.

[‡] "False start." See the sumo references below. Schwartz is thinking of his struggle against MD-102 as a comical clash between lumbering players, like a sumo bout. -ed.

ifesto was written in 2001, and I had several people working for me who were Agile coaches and thought leaders.

So, it surprised us when we went to a meeting where the GAO presented their findings and told us . . . we were not agile enough. Seeing that we were using Scrum, they had done some research, and they compared our practices to those of the official Scrum framework. It turned out that in our continuous improvement retrospectives we'd decided on a few departures from the rules of Scrum. For example, we'd experimented a bit with Scrum's *product owner* role. Our challenge was that the tremendous scope of our project made it difficult to have a single product owner from the very siloed business operation, and when we had several product owners each was incentivized to maintain a never-ending list of requirements (feature backlog) so that they kept the teams working on their part of the project forever. We tried some experiments to see if we could overcome the problem. We'd also made a few other changes here and there, based on what we'd learned as the project proceeded.

GAO hit us with a fact-based analysis. They listed the points where Scrum practice said one thing and our practice was different. Then, for a kicker, they pointed out that the creators of Scrum, Ken Schwaber and Jeff Sutherland, had said that you can't change anything in Scrum, or it's not Scrum.⁶ Ergo, we were not agile.

I explained that the idea of Agile is to inspect and adapt, and that a good Agile practice was to hold retrospectives for continuous improvement. Once again, I was laughed at.

Prosecutorial voice: "So you admit you made changes. According to Jeff Sutherland, then, are you doing Scrum?"

I had to admit that we weren't. Then I thought I had them with a brilliant closing argument that "Scrum is not the same as Agile." Nice try, but I was dealing with bureaucracy professionals. They just drummed their fingers on our Project Tailoring Plan where it said we were going to use Scrum. We were not doing what we said we were going to do.

Fastest-Ever Digital Transformation

What had defeated us? Think about it for a second. It wasn't really government bureaucracy. It was Scrum bureaucracy. Scrum had a bunch of rules, and Jeff Sutherland had said you must follow the rules. Scrum—please don't hit me, Agile IT folks—Scrum is a bureaucratic way of performing IT delivery. It

has defined roles—scrum masters, product owners, team members—and it has defined rules—fifteen-minute standups, backlogs, grooming, story points, and something about pigs and chickens that even its adherents are embarrassed to talk about.* I don't mean that it's necessarily bad,[†] just bureaucratic.

This led to an epiphany. I realized—I had been told this before, but I had never seen such a clear example—that the auditors' real job was to compare what we *said* we would do with what we *actually* did. How to overcome the system then was obvious.

You know the idea of aikido and other Japanese martial arts? You try to use your opponent's strength against them. In a sumo match, the wrestlers push against each other. But if your opponent pushes too hard and you respond by pulling, you can throw them off balance and win the match. A chaos monkey, it turns out, can sow chaos better by mastering sumo.

What if I flexed my own underdeveloped bureaucratic muscle and wrote a policy that said we had to be agile? I could define agility in my own way . . . exactly the way we wanted to run our projects. Then if GAO audited us in the future, they'd be reading my policy and checking to see that everyone was following it! They'd be on our side. A virtuous circle. An *inashi*,[‡] a *deashi*,[§] a true sumo solution.[¶]

So, I looked into how I'd go about writing a policy. Unfortunately, I found out that I didn't have the authority to do so, and in any case, it was a long and complicated process. Nor did I have the authority to write a Management Directive, like MD-102. But—I was told by my best bureaucracy savants—I *could* sign a Management Instruction, composed by them in fluent Orwellian,

* Pigs and chickens: In Scrum, the project team members are "pigs" and everyone else is a "chicken." The idea is that team members are fully committed, like pigs who provide bacon, and everyone else is only "involved," like the chickens that provide eggs. Scrum says chickens should defer to pigs, as in George Orwell's *Animal Farm*. Knowing Mr. Schwartz, he is probably also thinking of the fact that the pig-leader in *Animal Farm* is named Napoleon, one of Mr. Schwartz's favorite historical figures. -ed.

[†] It is, actually. -au.

[‡] Sidestepping or dodging move. -ed.

[§] Constant forward motion. -ed.

[¶] A classic paragraph from Mr. Schwartz. He is weaving together threads: bureaucracy, bloated, whale, sumo wrestler. -ed.

as long as it wasn't a policy, and the people who worked for me would still have to follow it. This was becoming fun.

MD-102 had an official-sounding name, so I knew our instruction had to have one too. Not having any examples to draw on, I decided to name it MI-CIS-OIT-001, or Management Instruction, Citizenship and Immigration Services, Office of Information Technology, Number 1. It doesn't roll off the tongue . . . so it seemed perfect.

Our non-policy carefully defined what we meant by agile. It prescribed eight practices for every IT initiative, and it described five more that were optional. For example, it mandated frequent delivery of code, time-boxed iterations, retrospectives, and continuous testing. There (finger snap)—we had a lack of “policy” that said everyone had to be agile. Fastest Agile transformation ever! We were provably agile the day I signed the non-policy.

Later, when we learned about DevOps, my experts wrote me a new MI with the equally catchy name MI-CIS-OIT-003.⁷ On the day I signed that one we'd transformed all of our IT activities to DevOps. This is why bureaucracy is wonderful.

(If you want to transform your organization in just two days, you'll find MI-CIS-OIT-003 in Appendix A to this book.)

Be Right a Lot

Now there *were* a few problems with this approach. The first was that my policy conflicted with MD-102, which had been signed by someone much higher in the organization. The second was that when my employees saw my policy, they whispered to each other, “What is the CIO talking about?” They had no idea *how* they were going to do what I said they had to do, and besides, they said, it was impossible because of MD-102. But I was still congratulating myself on my bureaucratic sumo move, so I figured we'd deal with those things later.

In my mind the conflict with MD-102 was just a small impediment—yes, my employees still had to comply with it while they also complied with my policy, but since it was an impediment and I was a servant leader, I could just tell them not to worry because I would deal with it.

“Go ahead and follow my policy, and I'll deal with MD-102,” I said. See? That fixed it with one sentence. How did I deal with the impediment? Mostly I asked the DHS CIO for help. I had his banana memo to refer to.

This put all the risk on me, and that was okay. We have a leadership principle at Amazon that goes like this: *Be Right a Lot*.^{*} That helps when you're taking risk in a bureaucracy as well: it's less risky when you do the right things.

I knew that our agile approach at UCIS was going to lead to great results. All we needed was a bit of time to prove it. Good news—big bureaucracies move slowly enough that we had plenty of time to show results before anyone got around to questioning us. Again, bureaucracy made things easy for us.

The second problem, as I said, was that my IT employees had no idea how to be agile. Here again bureaucracy came to the rescue. I have to be a bit immodest again to explain this. The government bureaucracy is extremely hierarchical. And I was rather high in the bureaucracy. As a member of the Senior Executive Service, I was technically the equivalent rank of a two-star general or admiral in the military.⁸ Now, I had no military experience and would never have made it to that sort of rank if I did. I'm about as fit as you'd expect someone to be whose chief forms of exercise are giggling and lifting a Starbucks venti to my lips. But in the federal bureaucracy, people—largely—treated me as if I were worthy of respect. So, when I puffed my chest, summoned all of my command-and-control authority, and nicely asked everyone to be agile, they said, "Yes, sir!" Of course, that's also what they said when I told them that they should read my favorite short story by Herman Melville. Side note: read "Bartleby the Scrivener."[†] What a great story.

But they were motivated to figure it out, after they got tired of telling each other that I was as crazy as a sumo-wrestling monkey. I arranged training for them and paired them with technologists who already knew what they were doing, and the transformation proceeded.

Another technique I used to great effect: I met with our contractors (we used a lot of contractors), and put on my serious face and said to them something like this: "I expect your people to know more about DevOps than I do, and that's a high bar. If you have talented people working on other government projects, take them off those projects and put them on mine." Then I would scowl and walk out of the office like I imagined a two-star general might.

^{*}This principle is more nuanced than it would appear. It also means that the leader should seek out other opinions and data and be willing to change views if warranted. -au.

[†] In Melville's short story of bureaucratic rebellion, Bartleby is a clerk in a legal office. Any time his boss asks him to do something, he replies, "I'd prefer not to." -ed.

By the time we got to writing MI-003, we'd learned a lot. Instead of defining what good practices were, we defined ten *outcomes* that we wanted. They were things like "Frequent delivery of valuable product" and "Work that flows in small batches and is validated." Then we wrote an addendum in which we listed what we considered *today* to be good practices but noted that the addendum would change often. So, we essentially wrote a policy that said "this policy will change often, and that is a good thing."

Wrong Again

As you can tell, I was proud of my newfound bureaucratic savvy. But GAO and the IG raised the bureaucratic stakes. When they heard about my new policy, they dinged it again. The problem, they said, was that I hadn't set up any mechanism to *make sure* my people were doing what my policy said they should do.

That was a pretty clever maneuver, because, you see, MD-102 *had* such a mechanism. It was called independent verification and validation (IV&V). The idea was that an objective, independent outside party would come in at the end of each project and check against the initial requirements to make sure every feature in it had actually been delivered, whether it turned out to be necessary or not. It was a check to make sure that the project had not done anything that risked flexibility or agility, and that every unnecessary bell and whistle* in the requirements document had been rung and blown so that the government had wasted as much money as possible.

Well, they had me again. No matter: we now knew enough to release MI-CIS-OIT-004, our non-policy on Independent Verification and Validation. We mandated a role for IV&V that was exactly like MD-102's, with a few exceptions. While MD-102's IV&V made sure the full, or maximum, amount of IT work had been done, MI-004's made sure that the *minimum* had been done, that teams were finding as many things as they could *not* to do from the original requirements while still getting the same business outcomes. IV&V would also do as little auditing as possible given the project's risk, and it would make sure that the teams were doing DevOps well and were happy and motivated.

*According to <https://www.phrases.org.uk/meanings/bells-and-whistles.html>, the expression "bells and whistles" originally did refer to things that made a lot of noise, as you'd think. Today it refers to what government contractors often deliver instead of useful software for the billions of dollars they're paid. -au.

Enter the Razor

William of Occam* was a medieval Christian philosopher. Like many philosophers, he's most famous for saying something that he never said. In a principle called *Occam's Razor*, he proposed (he didn't) that simpler explanations are better than more complicated ones, other things being equal. Or he said that explanations that posit fewer entities are better than explanations that posit more. He might have not said either one. In any case, Occam is given credit for a principle of "ontological parsimony" that said you shouldn't add extra stuff you don't need. Newton's Law of Gravitation, Occam's rule would say, is to be preferred over a law that says apples fall because massive objects like the Earth cause a chorus of invisible bureaucrats to write a policy instructing apples to fall or else, and apples, being law-abiding, follow the rules.

My bureaucratic variant on Occam's Razor says "Don't add extra work that doesn't add value" or "Choose the process that is leanest, given an equal amount of value delivered" or, in the case where the value to the business is risk reduction, "Don't do extra risk-reduction work that doesn't reduce risk." It's a principle of *bureaucratic parsimony*.

Applying the razor, we devised a new tailoring plan to accompany MI-003 that shaved MD-102's eleven gate reviews to two, and the number of documents from eighty-seven to fifteen. We continued looking for ways to get an even closer shave. We also trimmed our procurement times from six or more months—sometimes as long as three years—to thirty days in some cases. We whittled down our up-front business case-building to as little as a month, and pared the time it took us to procure computing infrastructure from nine months to just a moment in the cloud.

By mastering the ways of the Monkey, the Sumo Wrestler, and the Razor we'd not only transformed IT, but we'd also set up checks and balances to make sure it stayed transformed. We'd gone from releasing new IT capabilities once every eighteen months to three times a day for some of our IT systems. We'd taken a project that had been "underway"—writing documents but not doing anything—for four years, and in just six weeks begun deploying new IT capabilities that had measurable, meaningful business impact.

Now, that's what bureaucracy can do!

* So that there shall be no confusion, know that our preferred spelling for this name at Exothermic Press is "Okham" but we have made an exception for Mr. Schwartz. -ed.

A Brief Moment of Reflection and Self-Awareness

All right, it wasn't all as smooth as that might sound. It was more a matter of stumbling around in bureaucracy-land until we found some tricks that worked. We inspected and adapted, and in the end had some good successes and also some notable failures. We never did get MD-102 to mandate agile practices, though it was changed to explicitly say that sane practices were acceptable.

Checking back in with USCIS a few years after I left, it appears that many of our changes have stuck, especially the cultural change that left employees willing to try new things and advocate strongly for them. Other areas that were important to me have seen some backsliding, as later management considered them less important. And I'm not sure anyone actually read "Bartleby." But USCIS stands as a strong example of how change is possible in a resistant bureaucracy.

Though I tell the story with some snark—meant in fun—the most important thing I learned was that virtually everyone involved cared deeply about the agency's mission and wanted desperately to do the right thing. We succeeded best when we unlocked that motivation. Bureaucracy is the mechanism for accomplishing mission outcomes in the government. It won't go away. But it can't remain an impediment to accomplishing that mission once the passion of employees is stirred and directed to the right ends.

Estimating Costs

There was another complication I should tell you about. MD-102 required that we calculate Life Cycle Cost Estimates (LCCEs) for our planned projects. The very reasonable idea of the LCCE was that project teams should disclose not just the cost of building or acquiring a new technology, but also the cost of maintaining it over time. According to the scholars charged with interpreting MD-102, our LCCE should assume that our new immigration software system, ELIS, would be in operation for twenty years once it was completed. So, calculating our cost estimate would involve estimating IT costs for the next twenty years.

That's difficult, since a twenty-year estimate would include, ahem, a bit of uncertainty. Like how much prices might change for our cloud infrastructure, how much labor costs might increase, what new technologies we'd need to incorporate into it, how many immigration applications we might need to process in the future. (We could perhaps hedge a bit by buying Red Bull futures.)

And a big uncertainty—how much immigration laws might change over the next twenty years. The guardians of MD-102 insisted that an estimate could be prepared with good statistical rigor by paying contractors a whaleboat of money to use simulation techniques. We were pretty sure that no simulation could give an accurate estimate with that kind of uncertainty and wanted to keep our whaleboat of money. But we complied and paid contractors to do the calculation, which came to \$2.1 billion as the twenty-year cost.

A year or two later, the scholars of MD-102 told us that their interpretation had changed and that now our estimate should project costs for *thirty* years in the future. There's a good amount of uncertainty about what IT costs might look like thirty years into the future—after all, thirty years in the *past* almost no one had a PC, let alone a notebook, a tablet, or a smart phone. But we changed the cell in our spreadsheet model from twenty to thirty, and dutifully reported a new estimate of \$3.1 billion for the thirty-year LCCE.

The Inspector General then wrote a report saying that our project was doing so badly, that our costs were planned to jump from \$2.1 billion to \$3.1 billion—we were going to overspend by \$1 billion! We protested that nothing had changed. The difference between the two numbers was just that it was a thirty-year estimate instead of a twenty-year estimate. The IG put that into a footnote in their report.⁹ The press apparently doesn't read footnotes, because the articles they wrote said that our project was going over budget by \$1 billion.

Score one for the bureaucracy.

The Paperwork Reduction Act (PRA)

I mentioned that one piece of bureaucratic art that slowed us down was the Paperwork Reduction Act (PRA) of 1995, 44 U.S.C. 3501 et seq. The "Act" in its name tells you that this was a law, passed by Congress. A bureaucracy-busting law! It was intended to reduce the amount of time the public had to spend filling out forms for the government. That's a brilliant idea. I've recently filled out applications for visas to other countries that ask for information like my father's cousin's children's names and occupations and my favorite brand of chewing gum. Even better, Congress set up a concrete metric to measure the PRA's success—multiply the time it takes to fill out a form by the number of people who fill it out, and that gives you the total burden on the public. The PRA's goal was straightforward—to minimize burden.

I know this sounds like a good thing for those of us trying to modernize government IT by making application forms electronic. The first sign of trouble is that there is also another act called the Government Paperwork Elimination Act (GPEA). The Knight of Occam asks: “Why would we need both a Paperwork Reduction Act and a Paperwork Elimination Act, and why is there still so much paperwork?” All will become clear.

Congress made the mistake of specifying the precise process that would be used to implement the PRA, and Congress, for the most part, is not filled with experienced process managers. The PRA was to be overseen by a small team of bureaucrats in the White House called OIRA (Office of Information and Regulatory Affairs), and any new form a government agency wanted to release to the public would first have to be approved by them and given a control number. You’ve seen these on the bottom of government forms. To get approval from OIRA, you had to send them a mock-up of the form, along with an explanation of each data field and why it was needed, and an estimate of the burden. Then, after OIRA’s critique, you would improve the form, publish it for sixty days to gather the public’s comments, work with OIRA to improve it again based on the feedback, and then republish it for another thirty days for more public comments. And then OIRA would decide whether to approve it.

Now, this process probably makes sense if you’re Congress. But given that OIRA is chronically understaffed, it sometimes took as long as eighteen months for a form to be approved. And OIRA later determined that the process would apply not just to newly created forms, but to any change to an existing form. That’s *any* change—including changes whose purpose was to reduce the paperwork burden. So it might now take eighteen months to reduce public burden, and more effort and cost than most agencies wanted to spend. You had to think carefully before doing anything of the sort.

Furthermore, OIRA decided that electronic forms were also subject to the process. If we at USCIS wanted to offer an online version of one of our ninety or so paper forms, we’d have to go through the entire approval process again, even though the paper version had already been approved. If we later decided to change it based on applicant feedback, we’d have to do it yet again. And our plan was to make all ninety forms electronic.

They added a bonus rule that there had to be “parity” between the electronic form and the paper one—we couldn’t do anything that gave an advantage to people who chose to use the electronic form. Now, it’s common in electronic forms for the software to fill “default” values into some of the fields based on

what it already knows about an applicant, and to validate what an applicant types to make sure they haven't accidentally listed their age as negative ten or their favorite TV show as *Real Housewives of New Jersey*. But, of course, paper doesn't do that, so it was (in theory, at least) prohibited.

One more thing. It's an IT best practice to do A/B testing when designing a form. That means that for each design decision that has to be made, several versions of the form are created to see which option works best when people use it. With the PRA we obviously couldn't do that, because the form had to be fully approved *before* we let people use it.

Ah, you're wondering what the Government Paperwork *Elimination* Act is for. The GPEA of 1998 (1998!) required federal agencies, by 2003, to provide electronic rather than—or in addition to—paper options for the submitting of information *where practicable*, and to accept electronic signatures rather than paper ones, *where practicable* (my italics).¹⁰ Although we wanted to accept electronic signatures on our forms, the Justice Department apparently thought that in our case *it wasn't practicable*, so we set up a process where our digital applicants signed a paper form when they came to our offices to give us their fingerprints.

Why We Do This to Ourselves

MD-102, the LCCE, and the PRA (and GPEA) exist for very good reasons. You could say the same for most bureaucratic processes in the federal government. The federal hiring process, for example, is highly formalized because it must make sure that hiring is done fairly and without bias, and because it implements a policy that favors military veterans for government jobs, which is a policy goal. The procurement process takes six thousand pages to describe in the massive FAR because it's carefully designed to make government procurement fair—to avoid bribery or even unconscious biases on the part of the procurers. In a way, the government is striving for perfection in how it serves its citizens, and the bureaucracy I've made fun of in this chapter is their well-meaning, passionate attempt to do so.

In the business world, formal rules and accountabilities also exist for good reasons. One can always ask, "What is the control objective of this rule?" There invariably is, or once was, such an objective. Sometimes a rule serves to reassure investors that the company has control over its reporting (an explicit goal of Sarbanes-Oxley, for example) or control over its spending. Sometimes the

rules and authorities are put in place to mitigate risks or perceived risks. Sometimes they're there to prevent problems from recurring, as in the case of the missing corkboard diagram. Sometimes they're intended to promote consistency within a brand. All these rules must be applied universally, or they lose their meaning. You can't convince investors you have control over spending if employees are sometimes allowed to bypass the spending rules.

In any social organization, there's tension between freedom and constraint, and a bleeding edge where the two rub up against each other. That's the territory where the bureaucratic Chaos Monkey, Razor, and Sumo Wrestler operate, probing the frontier, investigating where freedoms may lie and readjusting the guardrails to achieve both control and creativity.

IT: THE BIGGEST, BADDEST BUREAUCRATS

Reason furthers unity, but nature furthers diversity; both lay claim to man.

—Friedrich Schiller, *On the Aesthetic Education of Man*

Nothing so tires a person as having to struggle, not with himself, but with an abstraction.

—José Saramago, *All the Names*

IT Bureaucracy: Not Fooling Anyone

Among the biggest, baddest, bullyingest bureaucrats in a large enterprise are the IT folks. Yes, us, the very IT folks who so hate bureaucracy when we find it imposed on us. Your password, we say, must be in a format that guarantees you'll never remember it, and you must change it every few nanoseconds, and you need to remember your old password in order to change it to something else you won't remember. If you notice a problem in our IT systems, you must fill out a trouble ticket; if you want a new feature or some help, fill out another ticket. Or write something called a user story card in the format "As a bureaucrat I want to force people to use the ticketing system so that they will grind their teeth with frustration." Everything we touch turns to standards. Then, once we've set them, we put trolls in everyone's way to enforce them. We make employees sign Acceptable Use Policies before we let them use the company network acceptably. Never, we say, connect your personal device to the company network, and be sure to lie to us when we ask if you're using your personal device for company business.

If you're an IT person, you're probably sputtering, "But! But! We have no choice! These are best practices! Hackers are trying to steal our cat videos!" Quite so, quite so. See my point? For the rest of the enterprise, these policies are handed down by purported experts, IT people, the cave dwellers who don't care about getting the real work of the company done, and they are endlessly frustratingly bureaucracy.

When we discover better ways to use technology, it's natural for us to want to force people to use them. If we notice there's inefficient duplication of IT systems across different lines of business or office locations, we want to centralize purchasing and architectural decision-making. We need governance mechanisms to control our technologies because . . . well, there are lots of good reasons.

Digital transformation forces us IT folks to confront our standardize-and-govern mentality. Will technology free us from bureaucracy, or will it entwine us further in it? It's worth some thought as we manufacture our bureaucratic goo.

Mechanization

The connection between technology and bureaucracy goes deep. Weber understood that there was a mechanical, nonhuman aspect of bureaucracy:

The professional bureaucrat is chained to his activity in his entire economic and ideological existence. In the great majority of cases he is only a small cog in a ceaselessly moving mechanism which prescribes to him an essentially fixed route of march. The official is entrusted with specialized tasks, and normally, the mechanism cannot be put into motion or arrested by him, but only from the very top.¹

With that quote, we see the core tension of bureaucracy before us. Bureaucracy is what we get when we think through the best way to perform each operation, then set up rules to make sure employees always do it exactly that way. But once we do, it seems like we'll have mechanized employees' activities, and we might just as well replace them by machines. What role can individuals play in a system that moves under its own logic and power?

As I've suggested, bureaucracy echoes many of the intellectual developments of the modern era. Just as Napoleon was organizing his army into logical

ranks and files and creating the Napoleonic Code, the German philosopher G. W. F. Hegel was publishing his major work, *The Phenomenology of Spirit*,* arguing that history represents the development and unveiling of an “absolute idea,” or *Geist*, and that we as individuals are caught up in that larger development which proceeds inexorably around us. Karl Marx, one of the “Young Hegelians,” picked up on this idea and wrote about history as an inevitable progress toward communism, with individuals essentially relevant only to the extent that they play a part in that drama. After Hegel and Marx the role of an individual in this “machine” of society and history became a focus of philosophy in the works of, among others, Kierkegaard, Nietzsche, and the existentialists, and in Melville’s vision of an uncaring, hostile natural world in which we are tossed about. Bureaucracy, in other words, was hardly original, just a recapitulation of what was already going on in academia.

Weber says: “The fully developed bureaucratic mechanism compares with other organizations exactly as does the machine with the non-mechanical modes of production.”² There’s a deep ambiguity in Weber’s conception of bureaucracy. On one hand, he talks about it as “domination by knowledge” and a meritocracy—that is, a *human* effort. On the other hand, he talks about an impersonal application of rules, a *mechanical* effort.

A good deal of our discomfort with bureaucracy comes from our anxiety at being treated like expendable parts in a machine. It’s a legitimate fear, since bureaucracy is motivated by the assumption that, left to themselves, people will screw everything up. Bureaucracy is used to make sure recalcitrant workers actually work; to restrict employees who would otherwise pad their expense reports; to stop government officials from taking bribes. Because it’s based on a fundamental distrust, bureaucracy feels like it exists only because there’s no way to fully eliminate people. Alfred Krupp, the munitions manufacturer, said it bluntly:

What I shall attempt to bring about is that nothing shall be dependent upon the life or existence of any particular person; that nothing of any importance shall happen or be caused to happen without the foreknowledge and approval of management; that the past and the determinate future of the establishment can be learned in the files of the management without asking a question of any mortal.³

* 1807 to be exact. -au.

We should be particularly sensitive to this in our era of digital transformations, for bureaucracy, in this view, is about using an algorithm to guide human behavior. In Weber's day, computers didn't exist; the closest he could conceive was an organizational system where people execute algorithms themselves.

A Very Geeky Analogy: Part One

Allow me to elaborate this analogy, because I'm going to suggest that (1) the thought pattern behind bureaucracy is very close to the way technologists think, and (2) perhaps counterintuitively, this suggests a way that we can minimize the torments of bureaucracy by literally automating them away.

In my geeky analogy, the roles in a hierarchical, bureaucratic organization are like the microservices of an IT architecture.* Just as each microservice has a well-defined and bounded role in the architecture, so each role in a bureaucracy is bounded through a division of labor and technical specialization. As roles in a bureaucracy interact through formalized patterns, so do microservices through their formal interfaces (APIs), which represent a contract that the microservice "agrees to," thereby lending calculability to its activities. Officials in a bureaucracy enact only their roles; their human biases do not affect their performance. Similarly, as long as a microservice fulfills its contract, its internals don't matter; this is the principle of loose coupling, or the separation between interface and implementation. As microservices are orchestrated to perform a business function, each having a place in an algorithm that delivers an IT capability, so bureaucracy orchestrates the roles in its organizational chart to deliver on the goals of the enterprise.

Bureaucracy, then, is the algorithms (rules) and their authorized users (roles) that control the behavior of an enterprise. Bureaucracy is an organization's software.

Bureaucrats by Nature

It turns out that the "alphas" of *Homo bureaucraticus* are the software engineers, those who've learned to control others by standardizing processes and

* A *microservice* is an independent piece of software code that performs a simple piece of functionality and can be integrated with other microservices to perform complete tasks that are relevant to a user. Each microservice can be used in multiple complex tasks. Mr. Schwartz is talking about best practices for designing such microservices, which is an important topic in the digital world. -ed.

roles and providing automation that essentially forces everyone to do things their way. In Adler's words:

Technology is know-how that has been objectified and thus rendered relatively independent of the skills of specific actors. Know-how can be objectified in equipment and associated software programs; it can also be objectified in organizational procedures and structure.⁴

Consider again my keynote story in the introduction (the case of the corkboard's disappearing diagram). Software developers, in trying to improve a process, effortlessly found a bureaucratic solution. The mechanism they chose was a formal, defined set of steps that would apply to all team members, whether they're forgetful or not. It's an algorithm; a technologist's solution to social interaction.

From another angle, software code *itself* is a kind of bureaucracy. A rule-maker—called a programmer—writes code to represent rules that will be followed by the computer and the user, constraining the behavior of both. “Code” is a “codification” of expected behaviors. It uses “validations” to restrict user behavior and allows employees access only to functions that fall within the boundaries of their job descriptions. It is embedded in a business process that may be specified in a user manual, an SOP document, a tradition of how the software is used, or instructions from a pointy-haired manager.

Code happens to be a special kind of rule that is “executable”; that is, a policy which is detailed and formal enough that we can build a machine to execute it. If we didn't have the machine, it could be executed, mechanically, by a person . . . which would make the connection to bureaucracy more evident.

If this seems like a stretch, spend some time with software users. You'll find that for them, code enforces arbitrary or strange “features” and restrictions on them, which seem to come from some hidden corner of a bureaucracy. They do things *this* way and not *that*, because that's how the software is set up. They're forced into strange workarounds, perhaps entering values into fields that were clearly not designed for their purpose, because it's the only space available. If they need a change to the code, they enact formal rituals and sacrifice budget dollars to gain a position in a product backlog.

The backlog, by the way, is a truly ingenious piece of bureaucracy—a last in, nothing out queue that imprisons requests until some inscrutable process

grants them a hearing. Like Joseph K. in *The Trial*, the user never finds out what their feature request is accused of or when and how justice will be rendered.

Standards, Centralization, Greek Names

It's been a commonplace that IT must standardize. We just must, because—you know—otherwise bad stuff would happen. Without standards, independent parts of the organization might make duplicative or inconsistent choices. We might spend money on several pieces of technology where a single one would do; we might have to train our people to support multiple platforms; we might introduce security risks as employees use tools we haven't vetted. Software engineers might go off and write code in a programming language like Ruby or Malbolge or Khepri or something other than a standard CIO-soothing-language like Java.*

If it's not clear that standards are a kind of bureaucracy, consider an employee who's not allowed to use a piece of software or hardware they've used in a previous job that's better than the one IT has standardized in their current job. Maybe they're told they must use an iPhone instead of an Android phone, or vice versa. If technologists want to make up names for their server computers, they must choose names from Ancient Greece rather than Ancient Rome.† Or they're stuck with an old version of an operating system because it's still the company standard.

In many cases, the benefits of standardization outweigh the costs; it's a great idea. The standards that enabled the internet—well, they enabled the internet. But knee-jerk standardization often neglects the costs it imposes, for bureaucracy has a cost. We might not be able to take advantage of new technology (say, functional programming languages, which are becoming increasingly valuable), we might not be able to hire programmers who want to program in MobYdIck,‡ or we might frustrate our excellent technologists who know that a better way lies outside the standards.

* Ruby is a real language, Malbolge is a real language (sort of), and Khepri is an Egyptian god. -ed.

† This actually was a standard in one of the companies I worked for. -au.

‡ This is not a real programming language. -ed.

Closely related is the question of centralization versus decentralization. To Weber, the need for centralization was what drove the introduction of bureaucracy in the first place.⁵ But as James C. Scott, a political scientist teaching at Yale, shows in *Seeing Like a State*, centralization results in a loss of important local details as higher-level abstractions are imposed.⁶ He talks about a centralized government's need to "make a society legible, to arrange the population in ways that simplified the classic state functions of taxation, conscription, and prevention of rebellion."⁷ But such simplifications lose fidelity; the representation they create "always ignores essential features of any real, functioning social order."⁸

IT suffers from this same oversimplification and loss of detail when it centralizes. Apparently minor differences between two business units cause problems when their ERP systems are consolidated. Shared services and centralized management add overhead by demanding formal interactions between the center and the periphery: ticketing systems, periodic status meetings, contentious prioritization, budgets, chargebacks.

At DHS, we watched a dynamic of centralization and decentralization play out. DHS, remember, was formed through a merger of agencies with very different goals, practices, and cultures. It includes among its twenty-two component agencies FEMA (which has to respond quickly and flexibly to disasters), USCIS (primarily an application-processing agency), ICE (a law-enforcement agency), the Coast Guard (a military organization), and the Secret Service (the agency which guards the president and fights counterfeiting).

Despite this diversity of missions, "corporate" DHS must oversee the whole. It had to devise a framework that would apply equally to all of the component agencies and all of their activities, ensuring that their investments were productive and directed at the right mission needs, that projects were well executed, and that infrastructure remained secure. They had to answer to Congress and the public for runaway investments, and cope with budget limitations when Congress reduced appropriations. This is how MD-102 arose.

Because the overseers were so far removed from our day-to-day activities, their oversight had to be conducted through formal mechanisms and documentation. Each project disaster—and there were plenty—was answered with the creation of new formal controls to reassure Congress and OMB (the Office of Management and Budget) that it would never happen again. But how could there be an alternative? DHS was, itself, overseen.

Joseph K.* Files a Ticket

There are many good reasons why IT departments have inflicted ticketing systems[†] on their colleagues, but there's no denying that they're a piece of IT bureaucracy that inspires our coworkers with dread and loathing. Tickets are impersonal and unpleasantly formal. They require information to be entered that is only occasionally relevant. They create a formidable "paper" trail, as email follows email with the ticket's status changes. They trigger predetermined workflows of approvals and handoffs from which deviations are difficult.

Tickets make employees feel like they're making requests of a machine. The ticket management process is opaque—who knows when someone will next take an action on the ticket or what they're busy with now that prevents them from doing so? For all the requestor knows, trolls in a cave somewhere are waiting until they finish barbecuing the last requestor who tried to get their ticket processed faster. A ticket winds its way through organizational silos on its way to fulfillment, with each silo given a seemingly arbitrary SLA (service level agreement) that specifies how slowly it can process the request. I've had tickets auto-cancel because no one had taken timely action, and then been directed to a survey asking if I was happy with how my problem was solved.

Imagine what Kafka would make of this process. Joseph K. might fill out a ticket asking what crime he was accused of and would periodically receive status messages: "Your request has now been given the status of 'pending'!" or "Your case has been routed to the appropriate authorities. Please click here to answer a few questions relating to your case that will help us improve our customer service." It's an IT equivalent of "All lawyers are currently helping other defendants. Please continue to wait as your case is very important to us."

Ticketing systems grew, I think, from the idea that IT is a service provider to the rest of the business.[‡] Their intention was to formalize the interactions between the business and IT so that IT could show that it was providing predictable levels of service. But what a great tool for implementing a siloed, specialization-of-labor bureaucracy!

* From *The Trial*. -ed.

† Those are the software systems that force you to create a database "ticket" whenever you have a request, and then track the progress of your ticket as it is ignored. -au.

‡ See my previous books, particularly *A Seat at the Table*. -au

Security, Mom

Imagine you're a non-IT employee in an enterprise. You're given IT's Acceptable Use Policy to sign and told you must take an online security training every year. If you don't, automated reminders threaten to escalate to your manager. You're told never to click on an email that looks "phishy": that is, any email that has misspellings, strange return email addresses, comes from Nigeria, or is absolutely ordinary and appears to come from your mother. Never click on an attachment, the mandatory training tells you, unless it is from someone you trust and not from someone *pretending* to be someone you trust.

What you see, simply, is a security bureaucracy. The rules come from people you don't understand, are a barrier to what you want to get done, and can't be appealed. You're set up to fail, since you can't distinguish between an email from a friend and an email pretending to be from a friend. Hide from the trolls—you're probably already guilty of noncompliance. Good luck.

Compliance Audit

IT enforces company bureaucracy. It helps the enterprise ensure compliance and achieve clean audits. That's convenient, because today enterprises are subject to an acronym soup of compliance regimes—one part HIPAA to several parts GDPR, FISMA, KYC, and PCI-DSS, salted with SARBOX to taste. These frameworks assign formal accountabilities to particular roles in the organization. To satisfy these frameworks the company must show that formal controls are in place and effective. If there is any way to do so without bureaucracy, I can't imagine it.

Since all work flows through IT systems, it is IT that plays the role of bureaucratic troll, essentially posting the signs saying "if you push this door an alarm will sound" and then making sure that the sound is loud and annoying. not only enforces compliance but can also demonstrate through its electronic audit trails that compliance has occurred. An automated DevOps pipeline tracks every change made to code. The company can tell who made a change and when, and what follow-on tasks were triggered. When tests are run, their results can be recorded automatically; when deployments are made, it's a matter of record who did the deployment, when, and what code was deployed. This is bureaucracy made effortless and invisible. Nevertheless, it's still bureaucracy. The trolls have just found a new home, inside software code.

Agile Bureaucracy

Recall that in Chapter 2, the Chaos Monkey was defeated at one point not by government bureaucracy, but by Scrum bureaucracy. Scrum is a popular Agile IT framework. It provides a structure that incorporates Agile principles within which delivery teams develop and deploy IT capabilities. It's sometimes considered a transitional phase between traditional and more agile ways of working; while it incorporates Agile principles, it's nevertheless palatable to established enterprises. Of course it is: it has all the feel of an authoritarian bureaucracy.

Ken Schwaber and Jeff Sutherland, the creators of Scrum, command, for example: “the Development Team *isn't allowed* to act on what anyone else [other than the product owner] says.”⁹ Requests for features, according to the Scrum scriptures, must be written as user story cues (“as an alien I want to enter the Earth's atmosphere and abduct a human so that I can learn about their bureaucracy”), then placed into a product backlog where they're sorted by a spreadsheet master occupying the role of product owner. The team must stand together for fifteen minutes each day to ask each other precisely three questions: What have you done since yesterday? What will you do by tomorrow? Do you have any impediments? They must estimate story points (what?) and calculate their work velocity by counting those story points (what?), and then flagellate themselves for not accomplishing enough story points (what?). And, as the government auditors pointed out to me, if you change any element of Scrum, you've sinned. Here's the relevant text from Scrum's inventors: “Scrum's roles, events, artifacts, and rules are immutable and although implementing only parts of Scrum is possible, the result is not Scrum. Scrum exists only in its entirety.”¹⁰

Verdict: IT—Human, Annoying

If you're an IT geek, don't fool yourself into thinking that because you love to get things done quickly and effectively, and because you rebel against rules imposed on you, you're free from the bureaucratic urge. No, it's more likely that you have an impressive ability to optimize processes and implement controls by turning people's freedom into constraints. You, *mon semblable, mon frere*,* are probably a bureaucracy savant.

* “My likeness, my brother.” This is a reference to the dedication in Baudelaire's *Les Fleurs du Mal*. -ed.

4

WHY BUREAUCRACY IS BAD

Pleasure was separated from work, means from end, effort from reward. Eternally shackled to one small fragment of the whole, man imagined himself to be a fragment, in his ear the constant and monotonous noise of the wheel that he turned . . . he simply became the impress of his occupation, his particular knowledge.

—Friedrich Schiller, *On the Aesthetic Education of Man*

The greatest hazard of all, losing one's self, can occur very quietly in the world, as if it were nothing at all.

—Søren Kierkegaard, *The Sickness Unto Death*

Metaphysical Pathos

Whence flows our deep hatred of bureaucracy? It seems strange, does it not? Bureaucracy is just a way to structure social interactions, particularly in a large enterprise. True, it's a way that others impose their wills on us, but we all understand that when we sign up to work for a company we give them the power to tell us what to do. Our time belongs to our employer. Why should we be bothered if our employer wants to waste it by making us feed the trolls with plates full of unnecessary paperwork? Yet bureaucracy is somehow nightmarish, something that disturbs us at a deep level.

The sociologist Alvin Gouldner, in *Patterns of Industrial Bureaucracy*, talks about a “metaphysical pathos” surrounding bureaucracy.¹ Where Weber saw a rational management technique, the rest of us see a way of life, deeply troubling and anxiety inducing. This, perhaps, is what distinguishes modern