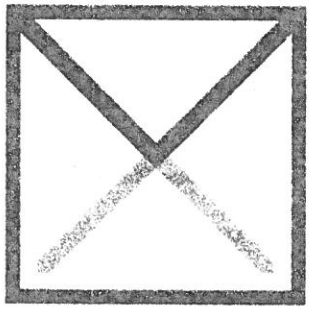

A World Without Email

Reimagining Work in an Age of Communication Overload

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To Max, Asa, and Josh:

May your future not be dominated by inboxes

Introduction

The Hyperactive Hive Mind

In late 2010, Nish Acharya arrived in Washington, DC, ready to work. President Barack Obama had appointed Acharya to be his director of innovation and entrepreneurship, and a senior adviser to the secretary of commerce. Acharya was asked to coordinate with twenty-six different federal agencies and over five hundred universities to dispense $100 million in funding, meaning that he was about to become the prototypical DC power player: smartphone always in hand, messages flying back and forth at all hours. But then the network broke.

On a Tuesday morning, just a couple of months into his new role, Acharya received an email from his CTO explaining that they had to temporarily shut down their office's network due to a computer virus. "We all expected that this would be fixed in a couple of days," Acharya told me when I later interviewed him about the incident. But this prediction proved wildly optimistic. The following week, an undersecretary of commerce convened a meeting. She explained that they suspected the virus infecting their network had come from a foreign power, and that

Homeland Security was recommending that the network stay down while they traced the attack. Just to be safe, they were also going to destroy all the computers, laptops, printers—anything with a chip—in the office.

One of the biggest impacts of this network shutdown was that the office lost the ability to send or receive emails. For security purposes, it was difficult for them to use personal email addresses to perform their government work, and bureaucratic hurdles kept them from setting up temporary accounts using other agencies' networks. Acharya and his team were effectively cut off from the frenetic ping-pong of digital chatter that defines most high-level work within the federal government. The blackout lasted six weeks. With a touch of gallows humor, they took to calling the fateful day when it all began "Dark Tuesday."

Not surprisingly, the sudden and unexpected loss of email made certain parts of Acharya's work "quite hellish." Because the rest of the government continued to rely heavily on this tool, he often worried about missing important meetings or requests. "There was an existing information pipeline," he explained, "and I was out of the loop." Another hardship was logistics. Acharya's job required him to set up many meetings, and this task was substantially more annoying without the ability to coordinate over email.

Perhaps less expected, however, was that Acharya's work didn't grind to a halt during these six weeks. He instead began to notice that he was actually getting *better* at his job. Lacking the ability to simply send a quick email when he had a question, he took to leaving his office to meet with people in person. Because these appointments were a pain to arrange, he scheduled longer blocks of time, allowing him to really get to know the people he was meeting and understand the nuances of their issues. As Acharya explained, these extended sessions proved "very valuable" for a new political appointee trying to learn the subtle dynamics of the federal government.

The lack of an inbox to check between these meetings opened up cognitive downtime—what Acharya took to calling "whitespace"—to dive more deeply into the research literature and legislation relevant to the topics handled by his office. This slower and more thoughtful approach to thinking yielded a pair of breakthrough ideas that ended up setting the agenda for Acharya's agency for the entire year that followed. "In the Washington political environment, no one gives themselves that space," he told me. "It's all neurotic looking at your phone, checking email—it hurts ingenuity."

As I talked to Acharya about Dark Tuesday and its aftermath, it occurred to me that many of the hardships that made the blackout "hellish" seemed solvable. Acharya admitted, for example, that his concern about being out of the loop was largely alleviated by the simple habit of calling the White House each day to learn if there were any meetings he needed to know about. Presumably, a dedicated assistant or junior team member could handle this call. The other issue was the annoyance of scheduling meetings, but this could also be handled by an assistant or some sort of automated scheduling system. It seemed, in other words, that it might be possible to preserve the profound benefits of the email blackout while avoiding many of the accompanying annoyances. "What would you think of this way of working?" I asked after explaining my proposed fixes. The phone line went silent for a moment. I had pitched an idea so preposterous—permanently working without email—that Acharya's mind had temporarily frozen.

Acharya's reaction was not surprising. A widely accepted premise of modern knowledge work is that email saved us: transforming stodgy, old-fashioned offices, filled with secretaries scribbling phone messages and paper memos delivered from mail carts, into something sleeker and more

efficient. According to this premise, if you feel overwhelmed by tools like email or instant messenger, it's because your personal habits are sloppy: you need to batch your inbox checks, and turn off your notifications, and write clearer subject lines! If inbox overload gets really bad, then maybe your organization as a whole needs to tweak their "norms" around issues like response time expectations. The underlying value of the constant electronic communication that defines modern work, however, is never questioned, as this would be hopelessly reactionary and nostalgic, like pining for the lost days of horse transport or the romance of candlelight.

From this perspective, Acharya's Dark Tuesday experience was a disaster. But what if we have this exactly backward? What if email didn't save knowledge work but instead accidentally traded minor conveniences for a major drag on real productivity (not frantic busyness, but actual results), leading to *slower* economic growth over the past two decades? What if our problems with these tools don't come from easily fixable bad habits and loose norms, but instead from the way they dramatically and unexpectedly changed the very nature of how we work? What if Dark Tuesday, in other words, was not a disaster, but instead a preview of how the most innovative executives and entrepreneurs will be organizing their work in the very near future?

I've been obsessed with studying how email broke work for at least the past half decade. An important inflection point in this journey was in 2016, when I published a book titled *Deep Work*, which went on to become a surprise hit. This book argued that the knowledge sector was undervaluing concentration. While the ability to rapidly communicate using digital messages is useful, the frequent disruptions created by this behavior also make it hard to focus, which has a bigger impact on our

ability to produce valuable output than we may have realized. I didn't spend much time in *Deep Work* trying to understand how we ended up drowning in our inboxes, or suggesting systemic changes. I thought this problem was largely one of insufficient information. Once organizations realized the importance of focus, I reasoned, they could easily correct their operations to make it a priority.

I discovered that I was overly optimistic. As I toured the country talking about my book, meeting with both executives and employees, and writing more about these topics on my blog, as well as in the pages of publications like *The New York Times* and *The New Yorker*, I encountered a grimmer and more nuanced understanding of the current state of the knowledge sector. Constant communication is not something that gets in the way of real work; it has instead become totally intertwined in how this work actually gets done—preventing easy efforts to reduce distractions through better habits or short-lived management stunts like email-free Fridays. Real improvement, it became clear, would require fundamental change to how we organize our professional efforts. It also became clear that these changes can't come too soon: whereas email overload emerged as a fashionable annoyance in the early 2000s, it has recently advanced into a much more serious problem, reaching a saturation point for many in which their actual productive output gets squeezed into the early morning, or evenings and weekends, while their workdays devolve into Sisyphean battles against their inboxes—a uniquely misery-inducing approach to getting things done.

This book is my attempt to tackle this crisis. To pull together—for the first time—everything we now know about how we ended up in a culture of constant communication, and the effects it's having on both our productivity and our mental health, as well as to explore our most compelling visions for what alternative forms of work might look like. The idea of a world without email was radical enough to catch Nish Acharya

off guard. But I've come to believe it's not only possible, but actually inevitable, and my goal with this book is to provide a blueprint for this coming revolution. Before I can better summarize what to expect in the pages ahead, we must start with a clearer understanding of the problem we currently face.

As email spread through the professional world in the 1980s and 1990s it introduced something novel: low-friction communication at scale. With this new tool, the cost in terms of time and social capital to communicate with anyone related to your job plummeted from significant to almost nothing. As the writer Chris Anderson notes in his 2009 book, *Free*, the dynamics of reducing a cost to zero can be "deeply mysterious,"[1] which helps explain why few predicted the changes unleashed by this arrival of free communication. We didn't just shift our existing volume of voicemails, faxes, and memos to this new, more convenient electronic medium; we completely transformed the underlying *workflow* that determines how our daily efforts unfold. We began to talk back and forth much more than we ever had before, smoothing out the once coarse sequence of discrete work activities that defined our day into a more continuous spread of ongoing chatter, blending with and softening the edges of what we used to think of as our actual work.

One study estimates that by 2019 the average worker was sending and receiving 126 business emails per day, which works out to about one message every four minutes.[2] A software company called RescueTime recently measured this behavior directly using time-tracking software and calculated that its users were checking email or instant messenger tools like Slack once every six minutes on average.[3] A team from the University of California, Irvine, ran a similar experiment, tracking the computer behavior of forty employees at a large company over twelve

workdays. They found that the workers checked their inboxes an average of seventy-seven times a day, with the heaviest user checking more than four hundred times daily.[4] A survey conducted by Adobe revealed that knowledge workers self-report spending more than three hours a day sending and receiving business email.[5]

The issue, then, is not the tool but the new way of working it introduced. To help us better understand this new workflow, I'll give it a name and definition:

The Hyperactive Hive Mind

A workflow centered around ongoing conversation fueled by unstructured and unscheduled messages delivered through digital communication tools like email and instant messenger services.

The hyperactive hive mind workflow has become ubiquitous in the knowledge sector. Whether you're a computer programmer, marketing consultant, manager, newspaper editor, or professor, your day is now largely structured around tending your organization's ongoing hive mind conversation. It's this workflow that causes us to spend over a third of our working hours in our inbox, checking for new messages every six minutes. We're used to this now, but when viewed in the context of even recent history, it represents a shift in our work culture that's so radical it would be absurd to allow it to escape closer scrutiny.

To be fair, the hyperactive hive mind is not obviously a bad idea. Among the benefits of this workflow is the fact that it's simple and incredibly adaptive. As one researcher explained to me, part of email's appeal was that this one easy tool could be applied to almost every type

of knowledge work—a much smaller learning curve than needing to master a separate bespoke digital system for each type of work. Unstructured conversation is also an effective method for identifying unexpected challenges and quickly coordinating responses.

But as I'll argue in part 1 of this book, the hyperactive hive mind workflow enabled by email—although natural—has turned out to be spectacularly ineffective. The explanation for this failure can be found in our psychology. Beyond the very small scale (say, two or three people), this style of unstructured collaboration simply doesn't mesh well with the way the human brain has evolved to operate. If your organization depends on the hive mind, then you cannot neglect your inbox or chat channels for long without slowing down the entire operation. This constant interaction with the hive mind, however, requires that you frequently switch your attention from your work to talking about work, and then back again. As I'll detail, pioneering research in psychology and neuroscience reveals that these context switches, even if brief, induce a heavy cost in terms of mental energy—reducing cognitive performance and creating a sense of exhaustion and reduced efficacy. In the moment, the ability to quickly delegate tasks or solicit feedback might seem like an act of streamlining, but as I'll show, in the long run, it's likely *reducing* productivity, requiring more time and more expenses to get the same total amount of work accomplished.

In this first part of the book, I'll also detail how the social element of the hive mind workflow clashes with the social circuits in our brains. Rationally, you know that the six hundred unread messages in your inbox are not crucial, and you remind yourself that the senders of these messages have better things to do than wait expectantly, staring at their screens and cursing the latency of your response. But a deeper part of your brain, evolved to tend the careful dance of social dynamics that has allowed our species to thrive so spectacularly since the Paleolithic,

remains concerned by what it perceives to be neglected social obligations. As far as these social circuits are concerned, members of your tribe are trying to get your attention and you're ignoring them: an event that registers as an emergency. The result of this constant state of unease is a low-grade background hum of anxiety that many inbox-bound knowledge workers have come to assume is unavoidable, but is actually an artifact of this unfortunate mismatch between our modern tools and ancient brains.

The obvious question is why we would ever adopt a workflow that comes with so many negative features. As I explain at the end of part 1, the story behind the rise of the hyperactive hive mind is complicated. No one really *decided* that it was a good idea; it instead arose, in some sense, of its own volition. Our belief that frenetic communication is somehow synonymous with work is largely a backfilled narrative we tell ourselves to make sense of sudden changes driven by complex dynamics.

Understanding the arbitrariness behind how we currently work, perhaps more than anything else, should motivate us to seek better options. This is exactly the goal I take on in part 2 of the book. In this second part, I introduce a framework I call *attention capital theory* that argues for creating workflows built around processes specifically designed to help us get the most out of our human brains while minimizing unnecessary miseries. This might sound obvious, but it actually contradicts the standard way of thinking about knowledge work management. As I'll show, driven by the ideas of the immensely influential business thinker Peter Drucker, we tend to think of knowledge workers as autonomous black boxes—ignoring the details of how they get their work done and focusing instead on providing them with clear objectives and motivational leadership. This is a mistake. There is massive potential productivity currently latent in the knowledge sector. To unlock it will

require much more systematic thinking about how best to organize the fundamental objective of getting a collection of human brains hooked together in networks to produce the most possible value in the most sustainable way. Hint: the right answer is unlikely to involve checking email once every six minutes.

The bulk of part 2 explores a collection of principles for applying attention capital theory to rebuild the workflows that drive organizational, team, and individual work in this direction—moving us away from the hyperactive hive mind and toward more structured approaches that avoid the problems of constant communication detailed in part 1. Some of the ideas supporting these principles come from cutting-edge examples of organizations experimenting with novel workflows that minimize unscheduled communication. Other ideas are drawn from the practices that enabled complex knowledge organizations to function effectively in an age before digital networks.

The principles described in part 2 don't insist that you banish messaging technologies like email and instant messenger. These tools remain a very useful way to communicate, and it would be reactionary to return to older and less convenient technologies just to make a point. But these principles will push you to reduce digital messaging from a constant presence to something that occurs more occasionally. The world without email referenced in the title of this book, therefore, is not a place in which protocols like SMTP and POP3 are banished. It is, however, a place where you spend most of your day actually working on hard things instead of talking about this work, or endlessly bouncing small tasks back and forth in messages.

This advice is designed to apply to many audiences. This includes business leaders looking to overhaul their company's operation, teams looking to function more efficiently, solo entrepreneurs and freelancers looking to maximize their value production, and even individual employees looking to get more out of their individual communication habits by viewing them from the perspective of attention capital. Accordingly, my examples span from the large scale, such as CEOs making drastic changes to their company's culture, to the small scale, such as my own experiments with using systems borrowed from software development to move my academic administrative tasks out of my inbox and into a more organized format.

Not every suggestion in part 2 applies to every situation. If you're an employee of a company that still worships at the altar of the hyperactive hive mind, for example, there are only so many changes you can make on your own without infuriating your coworkers. Some care will therefore be needed in picking and choosing the strategies you implement. (I attempt to help you in this selection by highlighting examples of how the various principles have applied in the individual context.) Similarly, if you're a start-up entrepreneur, you're better able to experiment with radical new work processes than if you're the CEO of a large company.

But I firmly believe that any individual or organization who starts to think critically about the hyperactive hive mind workflow, then systematically replaces elements of it with processes that are more compatible with the realities of the human brain, will generate a substantial competitive edge. The future of work is increasingly cognitive. This means that the sooner we take seriously how human brains actually function, and seek out strategies that best complement these realities, the sooner we'll realize that the hyperactive hive mind, though convenient, is a disastrously ineffective way to organize our efforts.

This book, therefore, should not be understood as reactionary or anti-technology. To the contrary, its message is profoundly future-oriented. It recognizes that if we want to extract the full potential of digital networks in professional settings, we must continually and

aggressively try to optimize how we use them. Attacking the flaws of the hyperactive hive mind is decidedly not an act of Luddism—if anything, the true obstruction to progress is giving in to the simplistic comforts of this blunt workflow at the expense of further refinement.

In this formulation, a world without email is not a step backward but a step forward into an exciting technological future we're only just beginning to understand. Knowledge work does not yet have its Henry Ford, but workflow innovations with impact on the same scale as the assembly line are inevitable. I can't predict all the details of this future, but I'm convinced it will not involve checking an inbox every six minutes. This world without email is coming, and I hope this book will get you as excited about its potential as I am.

Part 1

The Case Against Email

Chapter 1

Email Reduces Productivity

The Hidden Costs of the Hyperactive Hive Mind

When I first met Sean, he told me a familiar story about communication in his workplace. Sean was the cofounder of a small technology firm that designed internal-facing applications for large organizations. His company had seven employees working out of a London office, and they were, as Sean described it, enthusiastic practitioners of the hyperactive hive mind workflow. "We used to have Gmail opened constantly," he told me. "Everything was handled in email." Sean would start sending and receiving messages immediately on waking up and continue into the night. One employee even asked Sean to stop sending emails so late, as the knowledge of messages from the boss piling up while he slept was stressing him out.

Then the hyperactivity shifted into a new gear. "There was all this hype about Slack, so we decided to try it," Sean remembered. The rate of back-and-forth communication intensified, especially after a demanding

client was provided access to their channels, allowing them to check in and ask questions whenever they felt like it: "Constant interruptions, every day." Sean could feel the whiplash attention swings from messages to work to messages and back again wearing down his ability to think clearly. He grew to despise his phone's notification pings. "I hated it—the sound still gives me the shivers," he said. Sean worried that the mental grind of managing all this communication was reducing his company's effectiveness. "I would work until one a.m. every night," he said, "because that was the only time I felt free from distractions." He also began to doubt that all this incessant chatter was mission critical. When he ran a review of his team's Slack usage, he found that the most popular feature was a plug-in that inserts animated GIFs into the chat conversations. Sean reached a new low when two of his project supervisors suddenly quit. "They were burnt out."

Sean's frustrated sense that all this digital back-and-forth is making us less productive turns out to be a common sentiment. In the fall of 2019, as part of the research for this book, I invited my readers to participate in a survey about the role of email (and related tools like Slack) in their professional lives. More than 1,500 people responded, and many of them echoed Sean's frustration—not with the tools themselves, which are self-evidently efficient ways to communicate, but with the hyperactive hive mind–style workflows they enable.

One thread of these responses concerned the sheer volume of communication generated by this workflow. "Every day it's a barrage of emails regarding scheduling, deadlines, and they're not used very effectively," wrote a lawyer named Art. George, also a lawyer, described his inbox as containing "an avalanche of messages" in which important things get lost.

Another thread focused on the inefficiency of stretching out conversations into endless back-and-forth messaging. "The asynchronous nature is both a blessing and a curse," wrote a financial analyst named Rebecca. "It is a blessing in that I can ask a question or delegate a task without having to find the person. It is a curse in that there is an implicit expectation that we are checking email all the time and will respond quickly." An IT project manager similarly complained: "Simple conversations (that could have been dealt with within a matter of hours) can end up beginning a drawn-out email thread being read by an ever-increasing list of recipients." A public services administrator noted that moving these interactions to digital messages also makes them "overly formal" and "less creative or on-point." As she elaborated: "A project or task that could be relatively simply completed with a group working together in person becomes far more complicated by trying to manage all of the back-and-forth communication via email."

Another common argument for email diminishing productivity centered on its ability to increase the amount of irrelevant information it suddenly forces you to process. "I'm frustrated that I receive so many updates . . . that have nothing to do with my position," wrote a teacher named Jay. "People now confuse answering emails with real work," wrote an editor named Stephanie. "There is a performative dimension to writing emails and cc'ing everybody, like 'Look at all the work I'm doing.' It's annoying." As an HR consultant named Andrea put it: "In at least 50% of messages you still have open questions. . . . You get the feeling that the person just shot off an email without caring about how I could answer it."

As in Sean's story, instant messenger tools like Slack weren't let off the hook by my respondents, as they were described by many readers as simply email with faster response expectations. "Slack is just a string of

messages. It invites people to post almost without limitations," wrote an executive coach named Mark. "It's awful."

The above stories, of course, are anecdotal. But as I'll elaborate in the following pages, when you turn your attention to the relevant research literature, it becomes clear that the problems the respondents hinted at are even worse than most probably realize. Email might have made certain specific actions much more efficient, but as the science will make clear, the hyperactive hive mind workflow this technology enabled has been a disaster for overall productivity.

Constant, Constant Multitasking Craziness

In the late 1990s, Gloria Mark enjoyed an enviable professional setup. Mark's research focused on a field known as computer-supported collaborative work (CSCW), which, as the name suggests, looks at ways that emerging technology can help people work together more productively. Though CSCW had been around since at least the 1970s, when it began with a focus on dry topics like management information systems and process automation, it received a jolt of energy in the 1990s as computer networks and the internet enabled innovative new approaches to work.

At this time, Mark was a researcher at the German National Research Center for Information Technology in Bonn, where she could, as she told me, "work on whatever I wanted." Practically, this translated to her "going deep" on a small number of projects at a time, most of which focused on novel collaboration software. Among other projects, Mark worked on a hypermedia system named DOLPHIN, meant to make meetings more effective, and a digital document-handling system named PoliTeam, meant to simplify paperwork within a government ministry. As was the custom in Germany, lunch was the main meal of the day. As

Mark explained, she would enjoy long meals with her colleagues followed by long walks around the campus—they called these "rounds"—to digest their food and work through interesting thoughts. "It was beautiful," she told me. "The campus had a castle on it."

In 1999, Mark decided it was time to return to her native United States. Both she and her husband had secured academic jobs at the University of California, Irvine, so they packed up, said goodbye to the long stretches of deep work interspersed with leisurely meals and afternoon rounds by the castle, and headed west. Arriving in an American academic job, Mark was immediately struck by how *busy* everyone seemed. "I had a very difficult time focusing," she said. "I had all of these projects to work on." The long lunches she enjoyed in Germany became a distant memory. "I barely had time to grab a sandwich or salad for lunch," she said, "and when I returned, I could see my colleagues in their offices doing the same thing, eating in front of their computer screens." Curious to figure out how general these work habits had become, Mark persuaded a local knowledge sector company to allow her research team to shadow a group of fourteen employees over three workdays, looking over their shoulders and precisely recording how they spent their time. The result was a now famous paper—or infamous, depending on your perspective—presented at a 2004 computer-human interaction conference, with a provocative title that quotes a research subject's description of her typical workday: "Constant, Constant, Multitasking Craziness."[1]

"Our study confirms what many of our colleagues and ourselves have been informally observing for some time: that information work is very fragmented," Mark and her co-author, Victor González, write in the paper's discussion section. "What surprised us was exactly how fragmented the work is." The core finding of the paper is that once you eliminate formally scheduled meetings, the employees they followed

shifted their attention to a new task *once every three minutes* on average. Mark's experience of suddenly being pulled in many different directions when she arrived in California was not unique to her—it instead seemed a more universal property beginning to emerge in knowledge work.

When I asked Mark what caused this fragmentation, she replied quickly: "Email." She came to this conclusion, in part, by diving back into the relevant literature. Since at least the 1960s, researchers have been measuring how managers spend their time in the workplace. Though the different categories they tracked have changed over the years, there are two key types of effort that show up consistently: "scheduled meetings" and "desk work." Mark pulled out the findings on these two categories from a series of papers beginning in 1965 and ending with a 2006 follow-up to her original multitasking craziness study.

When Mark tabulated these results into a single data table, a clear trend emerged. From 1965 to 1984, the employees studied spent around 20 percent of their day engaged in desk work and around 40 percent in scheduled meetings. In the studies since 2002, these percentages roughly swap. What explains this change? As Mark points out, in the gap between the 1984 and 2002 studies, "email became widespread."[2]

When email arrived in the modern workplace, people no longer needed to sit in the same room as their colleagues to discuss their work, as they could now simply trade electronic messages when convenient. Because email counts as "desk work" in these studies, we see time spent on desk work grow as time spent in scheduled meetings falls. Unlike scheduled meetings, however, conversations held through email unfold asynchronously—there's usually a gap between when a message is sent and ultimately read—meaning that the compacted interactions that once defined synchronous meetings are now spread out into a shattered

rhythm of quick checks of inboxes throughout the day. In Mark and González's study, the average scheduled meeting took close to forty-two minutes. By contrast, the average time spent in an email inbox before switching to something else was only two minutes and twenty-two seconds. Interaction now occurs in small chunks, fragmenting the other efforts that make up the typical knowledge worker's day.

It's here, therefore, in these nondescript data tables from CSCW papers published over a decade ago, that we find some of the first empirical evidence for the hyperactive hive mind hypothesis I outlined in this book's introduction. We shouldn't, however, place too much emphasis on just a single study. Fortunately for our purposes, around the time Gloria Mark began studying how communication technologies were transforming knowledge work, other researchers began asking similar questions.

A 2011 paper appearing in the journal *Organization Studies* replicated Mark and González's pioneering work by shadowing a group of fourteen employees in an Australian telecommunications firm. The researchers found that, on average, the employees they followed divided their workday into eighty-eight distinct "episodes," sixty of which were dedicated to communication.[3] As they summarize: "These data . . . seem to lend support to the notion that knowledge workers experience very fragmented workdays." In 2016, in another paper co-authored by Gloria Mark, her team used tracking software to monitor the habits of employees in a research division at a large corporation and found that they checked email, on average, over seventy-seven times per day.[4]

Papers measuring the average number of email messages sent and received per day also show a trend toward increasing communication: from fifty emails per day in 2005,[5] to sixty-nine in 2006,[6] to ninety-two by 2011.[7] A recent report by a technology research firm called the

Radicati Group projected that in 2019, the year when I started writing this chapter, the average business user would send and receive 126 messages per day.[8]

Combined, this research carefully documents both the rise and the reality of the hyperactive hive mind workflow in the knowledge sector over the past fifteen years. But the studies cited provide only small snapshots of our current predicament, with the typical experiment observing at most a couple dozen employees for just a handful of days. For a more comprehensive picture of what's going on in the standard networked office, we'll turn to a small productivity software firm called RescueTime, which in recent years, with the help of a pair of dedicated data scientists, has been quietly producing a remarkable data set that allows an unprecedented look into the details of the communication habits of contemporary knowledge workers.

The core product of RescueTime is its eponymous time-tracking tool, which runs in the background on your devices and records how much time you spend using various applications and websites. The company's origin story begins in 2006, when a group of web application developers became fed up with the experience of working hard all day and then feeling like they didn't have much actual output to show for it. Curious to figure out where their time was going, they cobbled together some scripts to monitor their behavior. As Robby Macdonell, the current CEO, explained to me, their experiment became popular in their social circles: "We were hearing from more and more people who wished they could see what their application use actually looked like." In the winter of 2008, the idea was accepted by the prestigious Y Combinator incubator, and the company was born.

The primary purpose of RescueTime is to provide individual users

with detailed feedback on their behavior so they can find ways to be more productive. Because the tool is a web application, however, all this data is stored in central servers, which makes it possible to aggregate and analyze the time use habits of tens of thousands of users. After a few false starts, RescueTime got serious about getting these analyses right. In 2016 they hired a pair of full-time data scientists, who transformed the data into the right format to study trends and properly protect privacy, and then got to work trying to understand how these modern, productivity-minded knowledge workers were actually spending their time. The results were staggering.

A report from the summer of 2018 analyzed anonymized behavior data from over fifty thousand active users of the tracking software.[9] It reveals that half these users were checking communication applications like email and Slack every six minutes or less. Indeed, the most common average checking time was *once every minute*, with more than a third of people checking their inbox every three minutes or less. Keep in mind that these averages are likely inflated because they include periods like lunch breaks and one-on-one meetings in which the subjects were presumably away from their computer screens. (Gloria Mark's study, by comparison, didn't count time spent in formal meetings when calculating the subjects' average attention-switching times.)

To help understand the true scarcity of uninterrupted time, the RescueTime data scientists also calculated the *longest* interval that each user worked with no inbox checks or instant messaging. For half the users studied, this longest uninterrupted interval was no more than forty minutes, with the most common length clocking in at a meager twenty minutes. More than two thirds of the users never experienced an hour or more of uninterrupted time during the period studied.

To make these observations more concrete, Madison Lukaczyk, one of the data scientists involved in this report, published a chart capturing

one full week of her own communication tool usage data. During all the hours Lukaczyk spent working over this seven-day period, there are only eight blocks of thirty minutes or more that didn't include communication checks—averaging out to slightly more than one such modestly sized undistracted block per day. (And this is someone who makes a living studying technological distractions!)

In a related report, the RescueTime data scientists sought to connect this communication to productivity by restricting their attention to the time spent in activities that the users self-reported as "productive."[10] For each user, they split this productive time into five-minute buckets and then isolated the buckets that *did not* include a check of an email inbox or instant messenger application. These isolated buckets roughly approximate undistracted productive work. The average user studied had only fifteen such uninterrupted buckets, adding up to no more than an hour and fifteen minutes total of undistracted productive work per day. To be clear, this is not an hour and fifteen minutes *in a row*, but instead the total amount of undistracted productive work conducted throughout the entire day.

The implication of the RescueTime data set is striking: the modern knowledge worker is almost never more than a few minutes away from sending or receiving some sort of electronic communication. To say we check email too often is an understatement; the reality is that we're using these tools *constantly.*

The only thing missing from the data sets we've just discussed is a sense of what's in all these emails that we're sending so constantly throughout the day. To help fill this gap in our knowledge, I asked the 1,500 people who took my reader survey to choose a recent representative workday and categorize the emails they received during that day. I

provided seven categories: planning (setting up meetings, arranging calls, etc.), informational (which I defined as not requiring a response), administrative, work discussion, client communication, personal, and miscellaneous.

I was curious to learn which types of emails were dominating my readers' work. To my surprise, the answer turned out to be *all types.* The average number of planning, administrative, work discussion, client communication, and miscellaneous emails received were all between eight and ten per day, with the average number of personal emails being slightly less. The only outlier was informational emails, which numbered eighteen per day on average.

Pulling together these various observations provides us with a clear and disturbing portrait of interaction in the modern office setting. It's no longer accurate to think of communication tools as occasionally interrupting work; the more realistic model is one in which knowledge workers essentially partition their attention into two parallel tracks: one executing work tasks and the other managing an always-present, ongoing, and overloaded electronic conversation about these tasks. The authors of the 2011 Australian study underscore this point: "Our findings lead us to conclude that such a distinction [between primary work and communication interruptions] does not hold in an environment suffused with communication media, which constantly call for employees' attention." Not only are we communicating all the time, but, as detailed in my reader survey responses, the number of different types of things we're communicating about is also large. The modern knowledge work organization truly does operate like a hive mind—a collective intelligence of many different brains tethered electronically into a dynamic ebb and flow of information and concurrent conversations.

It's important to emphasize that this *parallel track* approach to knowledge work, though perhaps shocking in its severity, is not obviously

a bad thing. One could argue, for example, that this ongoing communication is efficient because it eliminates the overhead required to schedule formal meetings, and it allows people to receive exactly the information they need, exactly when they need it. Writing in 1994, at the beginning of the digital communication revolution, the late sociologist Deirdre Boden made a compelling form of this argument by analogizing these increasingly frenetic messaging habits to the "just in time" processes that had recently proved massively profitable in manufacturing and big-box retail.[11] One could also argue that the large number of different types of things we communicate about in a given day is also adaptive: a higher throughput approach to work that was made possible only by highly efficient messaging tools.

As I'll argue next, however, this optimism is flawed. The abstract value of the hyperactive hive mind workflow quickly dissipates when we're forced to confront the concrete reality of how our ancient brains—evolved in a context far removed from electronic networks and low-friction messaging—actually function when asked to rapidly switch between many different targets of attention.

The Sequential Brain in a Parallel World

We take for granted our ability to pay attention. As foundational results in neuroscience reveal, part of what distinguishes us from our primate ancestors is the ability of our prefrontal cortex to operate as a kind of traffic cop for our attention, amplifying signals from brain networks associated with our current object of focus while suppressing signals from everywhere else.[12] Other animals can do this with respect to immediate stimuli, such as the deer alertly raising its head when it hears a branch crack, but only humans can decide to focus on something not

actually happening around them at the moment, like planning a mammoth hunt or composing a strategy memo.

From the perspective of a frenzied knowledge worker, a serious shortcoming of this process is that the prefrontal cortex can service only one attention target at a time. As Adam Gazzaley and Larry Rosen bluntly summarize in their 2016 book, *The Distracted Mind*: "Our brains do not parallel process information."[13] As a result, when you attempt to maintain multiple ongoing electronic conversations while also working on a primary task like writing a report or coding a computer program, your prefrontal cortex must continually jump back and forth between different goals, each requiring the amplification and suppression of different brain networks. Not surprisingly, this *network switching* is not an instantaneous process; it requires both time and cognitive resources. When you try to do it rapidly, things get messy.

The fact that switching our attention slows down our mental processing has been observed since at least the early twentieth century, long before anyone understood how the prefrontal cortex was actually executing these changes. One of the first papers documenting this phenomenon was published by Arthur Jersild in 1927. It introduced what became a basic experimental structure for investigating the costs of attention switching: give the subject two different tasks, measure how long it takes them to do each task in isolation, and then see how much they slow down when they have to alternate back and forth between the tasks.[14]

For example, one of Jersild's experiments presented the subjects with a column of two-digit numbers. One task was to add 6 to each number and the other was to subtract 3. If you asked the subjects to perform just one task repetitively, like adding 6 to every number in the list, they finished much faster than if you asked them to alternate

between adding and subtracting.[15] When Jersild made the tasks more complex, by asking the subjects to now add seventeen and subtract thirteen, the difference in completion times got even larger, indicating that more involved tasks require more involved switching.

In the decades following Jersild's classical work, numerous other studies modified the details but came to substantially the same result: network switching slows down the mind. The goal of these papers, however, was to better understand how the brain operated. It wasn't until 2009 that scientists began to take seriously the question of how these switching costs might impact actual workplace performance. It was then that a newly minted assistant professor named Sophie Leroy published an organizational behavior paper that pulled together these threads. The title of the paper presents a blunt question that captures much of what had started going wrong with the hyperactive hive mind approach to collaboration: *Why is it so hard to do my work?*[16]

As with Gloria Mark, Leroy's interest in the psychology of knowledge work was inspired by personal experience. When she began her doctoral studies at NYU in 2001, she had just left a multi-year stint as a New York–based brand consultant, where she had witnessed firsthand the increasingly fragmented nature of the knowledge sector. "We had so much work," she told me, "people were constantly switching between targets [of their attention]." At the time, the academic specialty of organizational behavior hadn't yet considered the psychological impacts of all these interruptions. Leroy decided to change this.

Her study worked as follows. Subjects were given five minutes to complete a tricky word puzzle. Some subjects were provided a version of the puzzle that could be easily completed during this time, and others were provided a version that *couldn't* actually be solved, ensuring

that the task would remain uncompleted after the five minutes were up. In addition, some subjects were given time pressure, including a visible countdown clock and a reminder every sixty seconds of how much time remained, while others were given no such cues and told that they should have no trouble finishing the puzzle in time.

This setup provided four possible combinations of the complete/incomplete and pressure/no pressure conditions to test. For each such combination, after the first five minutes, Leroy surprised the subjects by having them complete a standard psychological exercise called a lexical decision task that was designed to quantify exactly how much the word puzzle remained on their mind—a measure she called *attention residue.* Leroy found that under low time pressure, whether or not the subject completed the task didn't make a difference to the amount of attention residue: in both cases, concepts related to the puzzle remained more on the subjects' minds than neutral concepts.

Under high time pressure, if the subject didn't complete the task, similar amounts of attention residue were measured. The only outlier was high time pressure and a completed task: under this combination, attention residue was reduced. As Leroy hypothesizes, when a task is confined to a well-defined block of time and fully completed during this block, it's easier to move on, mentally speaking, when you're done. (Unfortunately for our purposes, when switching back and forth from email inboxes or instant messenger channels, we rarely experience well-defined time limits for our tasks or a sense of completion before switching again.)

Next, Leroy replicated these conditions, except this time, when the first task was complete, instead of measuring attention residue the subjects moved directly to a second task meant to mimic the demands of normal work: reading and evaluating résumés for a hypothetical job opening. The subjects' performance on this task was measured by how many details they could remember from the résumés after reviewing

them for five minutes. The connection between attention residue and performance on this second task was clear. The three conditions that resulted in high attention residue all produced roughly the same performance on the résumé evaluation task, and this performance was notably lower than under the low attention residue condition. The more the first task remained on the subject's mind, the worse they did on the subsequent task.

"Every time you switch your attention from one task to another, you're basically asking your brain to switch all of these cognitive resources," Leroy explained to me when I asked her about this work. "Unfortunately, we aren't very good at doing this." She summarizes the current context in which knowledge workers operate as a state of "divided attention," in which the mind rarely gets closure before switching tasks, creating a muddle of competing activations and inhibitions that all add up to reduce our performance. In other words, Leroy identified a clear answer to the question that titles her paper. Why is it so hard to do our work? Because our brains were never designed to maintain parallel tracks of attention.

Email Is Not a Job

I have a friend who is both a management consultant and a business advice book aficionado (he runs a self-improvement reading group at his firm). Naturally, when we get together, we like to talk shop about work habits and productivity. Early in the process of my work on this book, we went for a hike on a trail in Rock Creek Park, near his home in Washington, DC, and I outlined my concerns about email and how we might do better. He was incredulous—quickly listing reasons why frequent email use provides more benefit than harm in his role as someone who manages

a team of other consultants. His reaction seemed convincing, so after our hike, I rushed to jot down his points in my notebook.

His argument centered on communication efficiency. Email, he explained, allows him to "quickly coordinate with diverse groups of people to make progress on things." He told me that when someone on his team got stuck, a short message from him could get them unstuck, so taking long breaks from his inbox could significantly reduce his team's effectiveness. He saw himself like an orchestra conductor, keeping everyone's actions coordinated—his presence in the middle of this frenetic scrum was where he believed he was most valuable.

Many people feel the same way as my friend. They acknowledge that some jobs might benefit from significantly less interruption, but not theirs. When confronted with the research summarized earlier in this chapter, they'd probably accept that constant attention switching is reducing their cognitive capacity in the moment, but they would then conclude that this is not a problem, as it's more important for them to be responsive to their team or clients than to be maximally sharp. As my friend told me that day in Rock Creek Park: "Not everyone does deep work all the time."

The implication of this final quip is that there's a small group of professions that specifically value uninterrupted hard thinking—writers, programmers, scientists—but for most positions, being in the thick of things is a major part of the job. We can find a classic example of this split in Paul Graham's often cited 2009 essay, "Maker's Schedule, Manager's Schedule."[17] In this piece, Graham notes that for a manager, meetings are a big part of what they do during the day, while for a maker, a single meeting can be "a disaster," as it breaks up their ability to work continuously on a difficult problem. Whether or not they've read Graham's essay, many knowledge workers, like my consultant friend, have

internalized its underlying thesis that non-distracted work is relevant to only a small number of jobs.

I've come to believe that this partition is too crude. For many different knowledge work positions—if not *most*—the ability to slow down, tackle things sequentially, and give each task uninterrupted attention is crucial, even if the role doesn't regularly require hours of continuous deep thinking. The flip side of this claim is that for most positions, the hyperactive hive mind workflow, which derails attempts at clear cognition, makes you less productive. It's obvious that constant attention switching is bad for Graham's makers, but as I'll now show, it can be just as bad for his managers.

People in managerial roles are right to emphasize the importance of constant communication to their job—*as it exists right now.* If your team currently operates using the hyperactive hive mind workflow, then it's crucial to monitor your communication channels closely. In the hive mind, managers are often at the center of a web of ad hoc connections—if they step back, the whole clunking contraption grinds to a halt. But given all the different ways we could work, is this hyperactive messaging really the *best* way to manage teams, or departments, or even whole organizations? Whenever someone insists the answer is "yes," I can't help but think about a legendary figure whose approach to leadership undermines this belief.

George Marshall was the US Army chief of staff during World War II, meaning that he essentially ran the entire war effort. His name might not be as well known as Dwight Eisenhower (whom Marshall hand-selected for advancement), but those who were involved in the war credit Marshall as a key figure—if not *the* key figure—in coordinating the Allies' triumph. "Millions of Americans gave their country outstanding service," Harry Truman once said, "[but] General of the Army George C. Marshall gave it victory."[18] In 1943, Marshall was *Time* magazine's Man of the Year, not long before being named the country's first five-star general.[19]

I'm mentioning Marshall here because of an illuminating case study I stumbled across, written by an army lieutenant colonel in the early 1990s, that brings together multiple sources to describe *how* Marshall organized the War Department and led it to victory.[20] The key point that jumps out as you read these notes is that even though Marshall managed more people, had a larger budget, and faced more complexity, more urgency, and higher stakes than just about any manager in the history of management, he rejected the attraction of an always-on, hyperactive hive mind approach to his work.

When Marshall became army chief of staff, he encountered an organizational structure in which he had 30 major and 350 minor commands under his control, with over sixty officers who had direct access to him. Marshall described the setup as "bureaucratic" and "red-tape-ridden." There was no way he could win the war while trying to manage the deluge of issues, small and large, this setup would generate—he would drown in memos and urgent phone calls. So he acted. With "ruthless" efficiency, Marshall took advantage of President Franklin Roosevelt's recently granted wartime powers to radically restructure the War Department.

Numerous agencies and commands were consolidated into three main divisions, each run by a general. Marshall reduced a bloated staff of over three hundred personnel, operations, and logistics officers down to only twelve. Some major divisions were eliminated altogether. As the report summarizes:

> [The reorganization] provided a smaller, more efficient staff and cut paperwork to a minimum. In addition, it set up clear lines of authority. Lastly, it freed Marshall from the details of training and supply. Marshall delegated responsibility to others while he freed himself to concentrate on the war's strategy and major operations abroad.

Those who retained access to Marshall were provided a clear structure for their interactions, turning briefing the general into an exercise in controlled efficiency. You were instructed to enter his office and sit down without saluting (to save time). At Marshall's signal, you would begin your brief while he listened with "absolute concentration." If he discovered a flaw or something missing, he would become angry that you hadn't noticed and resolved the issue before wasting his time. When you finished, he'd ask for your recommendation, deliberate briefly, then make a decision. He then delegated taking action on the decision back to you.

Perhaps Marshall's most striking habit was his insistence on leaving the office each day at 5:30 p.m. In an age before cell phones and email, Marshall didn't put in a second shift late into the night once he got home. Having experienced burnout earlier in his career, he felt it was important to relax in the evening. "A man who worked himself to tatters on minor details had no ability to handle the more vital issues of war," he once said.

Marshall focused his energy as a manager on making key decisions that would impact the outcome of the war. This was a task for which he was uniquely suited. He then trusted his team to execute these decisions without involving him in the details. As Eisenhower recalls Marshall telling him: "[The War Department] is filled with able men who analyze the problems well but feel compelled always to bring them to

me for final solution. I must have assistants who will solve their own problems and tell me later what they have done."

It seems clear that Marshall would have rejected the claim that it's more important for managers to be responsive than thoughtful. The report on Marshall's leadership style emphasizes on multiple occasions the general's commitment to concentration, especially when it came to making key decisions, when he would exhibit "thinking at a fantastic speed, and with unmatched powers of analysis." The report also emphasizes the attention Marshall invested in "reflection" and big picture planning—trying to stay a step ahead of the complicated landscape of problems presented by global warfare.

Marshall was more effective at his job because of his ability to focus on important issues—giving each full attention before moving on to the next. If he had instead accepted the status quo of the War Department operation, with sixty officers pulling him into their decision making and hundreds of commands looking for his approval on routine activity, he would have fallen into the frantic and predictably busy whirlwind familiar to most managers, and this almost certainly would have harmed his performance. Indeed, if something like a hyperactive hive mind workflow had persisted in the 1940s War Department, we might have even lost the war.

Let's put aside for a moment whether or not you as a manager feel like you have the authority to effect Marshall-style changes to how your team operates, as this is among the issues I tackle in the second part of the book. (Hint: you probably have more latitude than you imagine when it comes to reducing your role in monitoring minutiae.) The key lesson I want to extract from Marshall's story is that management is about more than responsiveness. Indeed, as detailed earlier in this chapter, a dedication to responsiveness will likely degrade your ability to make smart decisions and plan for future challenges—the core of Marshall's

success—and in many situations make you worse at the big picture goals of management. In the short term, running your team on a hive mind workflow might seem flexible and convenient, but in the long term, your progress toward what's important will be slowed.

We can find contemporary support for this claim in an academic paper titled "Boxed In by Your Inbox," published in 2019 in *The Journal of Applied Psychology*, which used multiple daily surveys to study the impact of email on the effectiveness of a group of forty-eight managers in various industries.[21] One of the paper's authors summarized their findings as follows: "When managers are the ones trying to recover from email interruptions, they fail to meet their goals, they neglect manager-responsibilities and their subordinates don't have the leadership behavior they need to thrive." As the number of these messages increases, the manager becomes more likely to fall back on "tactical" behaviors to maintain a feeling of short-term productivity—tackling small tasks and responding to queries—while avoiding the bigger picture, George Marshall–style "leadership" behaviors that help an organization make progress toward its goals. As the paper concludes: "Our research suggests the pitfalls of e-mail demands may have been underestimated—in addition to its impact on leaders' own behavior, the reductions in effective leader behaviors likely trickle down to adversely affect unwitting followers."

Armed with these insights, let's return to my friend's trailside quip: "Not everyone does deep work all the time." Notice that this claim applies to Marshall: outside of long flights or train rides, he rarely sat for hours at a time thinking big thoughts about one thing. But he also avoided falling into a responsiveness trap. He didn't run around putting out fires; he instead systematically worked through issues that really mattered, giving each the attention it deserved before moving on to

the next. As I'll now argue, managers aren't the only knowledge workers for whom clear thinking is crucial.

Let's shift our attention from *managers* to *minders*, the latter being my term for the many different roles that provide administrative or logistical support in knowledge work organizations. Even more so than managers, minder positions seem like an obvious case where responsiveness should be a key part of the job description. But is this true?

To use an example familiar to my professional world, consider an administrator who provides support to professors in an academic department. This admin likely operates in a hyperactive hive mind workflow, where urgent emails arrive haphazardly throughout the day. If you polled the professors in this hypothetical department, they would likely argue that this workflow is a good thing, as the admin's ability to respond quickly to queries is central to their usefulness!

On closer examination, however, a distinction emerges between communicating about tasks and actually executing them. In fact, these two activities are often in conflict. One minder role that long ago identified this conflict was IT support. As desktop computers spread through offices in the 1980s and 1990s, they brought with them the need for a new type of employee within these organizations: information technology professionals to fix the computers when they broke. As these systems got more complicated, the demands on IT departments became more insistent—with frustrated users calling and emailing with new urgent problems or to check on previously reported issues. A catch-22 emerged: if the IT staff put off responding to these calls and emails, the employees they supported would be irate, but if they dedicated themselves to

being fully responsive, they wouldn't have the uninterrupted time needed to actually resolve the issues.

To solve this problem, these departments began to cobble together custom software tools that became known as ticketing systems. Loosely inspired by the old model of physical help desks, where you would be handed a ticket in exchange for the piece of broken machinery you brought in for repair, these systems automated most of the communication tasks related to submitting, monitoring, and solving IT problems.[22]

In their modern incarnations, these systems work roughly as follows. If you have a problem, you send an email to an address like helpdesk@company.com. The ticketing software monitors this address, and when it sees your query, it extracts the problem and your contact information, assigns it a unique number, and submits this data as a "ticket" in the system. At the same time, it replies to your email, letting you know the issue has been received and giving you instructions on how to check its status.

Inside the ticketing system, the problem is categorized and typically assigned a priority—this might be automatic or require some triage by a staff member who monitors incoming issues. If you're a member of the IT team using the system, when you log in, you're shown only the tickets that apply to your specialty and you can select the most urgent to work on. At this point, you focus on the selected issue until you finish or reach a natural stopping point where further help might be required. Only once done do you return to your queue to select the next ticket to tackle. As progress is made, updates are sent automatically to the person who originally submitted the issue, and other staff members can monitor your progress and chime in with help when you get stuck.

Ticketing systems have become big business because they've consistently been shown to reduce IT staffing costs, as focused technicians solve problems faster. They also increase satisfaction, as they provide structure and clarity to the process of resolving technical issues. The premise on which this effectiveness is built is that communicating about tasks often gets in the way of executing them—the more you can offload this communication from the cognitive space of your staff, the more effective they become at actually getting things done.

Which brings us back to our example of the department admin. Though this trade-off between communication and execution is now well understood in the IT setting, it's still largely ignored in other minder positions. Our hypothetical admin, therefore, like an early IT professional, finds himself overwhelmed by messages, fearing that if he steps away from any of his ongoing email threads with harried professors he'll invite frustration. The resulting hyperactive hive mind communication then reduces his ability to think clearly about the often subtle and complicated issues he's trying to resolve for the professors in the first place.

To make this more concrete: The same week I was writing the first draft of this chapter, for example, I sent my own department's admin a note about a postdoc I was hiring using a research grant. The postdoc had originally been scheduled to start at the end of the summer, but due to visa issues, he needed to delay his start until January. This was a simple message to write, but its implications were subtle, involving HR, budgets, and office space allocations, among other impacts. Putting together a plan to properly react to this start date shift would require some careful thought, but I couldn't help reflecting that the space for such thinking is hard to find when dealing with my request is interrupted by the many other unexpected emails likely demanding our admin's attention that same morning.

Too often, we think of those with minder roles as automatons, who

spend their days cranking through tasks, one after another, as they arrive as input through inboxes and chat channels. But this perspective condescendingly dismisses the cognitively demanding nature of this work. Fixing my postdoc start date issue is no less complicated than pulling together a smart strategy memo or sharp section of computer code. It follows that embedding minders into a concentration-eroding hyperactive hive mind workflow, though superficially convenient in the moment to those who interact with them, reduces their ability to do their job well. As we learned from the example of IT ticketing systems, if we can somehow create space between communication and execution, people in these roles would find the tasks before them more easily dispatched.

This discussion of minders is important because this professional role is about as far as you can get from Paul Graham's vision of makers dedicating entire afternoons to solving a single challenging problem, and yet, even for the much more varied and administrative obligations of minders, the hyperactive hive mind still ends up causing problems. To conclude this investigation on the hive mind and effectiveness, however, we'll veer sharply back toward the focused end of the spectrum and look closer at what's actually at stake when constant communication invades the world of people who create valuable things with their minds.

As I learned after publishing my 2016 book, *Deep Work*, people enjoy hearing stories about intensely creative types retreating into undisrupted seclusion to produce brilliant work. One fan favorite is the habits of Maya Angelou, who revealed in a 1983 interview that when she wrote, she was up by five thirty, soon after which she retreated to a hotel room to work without distraction. "[It's] a tiny mean room with just a bed,

and sometimes, if I can find it, a face basin," she explained. "I keep a dictionary, a Bible, a deck of cards and a bottle of sherry in the room."[23] Ensconced in this isolation, she wrote until around two in the afternoon, unless the writing was flowing well, in which case she kept going until the energy diminished. When she was done, she read over what she'd written, cleared her head, took a shower, then had a drink with her husband before dinner.

When people encounter stories like Maya Angelou's, they're quick to accept that uninterrupted concentration supports difficult creative endeavors. When we shift these endeavors into the office setting, however, where retreating to a seedy hotel with a bottle of sherry would likely be frowned upon by even the most dedicated productivity hacker, the importance of the connection between focus and value begins to dissipate.

Not long ago, for example, I heard from an engineer who wrote technical white papers for a Silicon Valley start-up. These papers were complicated to pull together but important for the company's marketing efforts. As the engineer explained to me, he was having a hard time executing his job because the start-up embraced a hyperactive hive mind workflow. "If you didn't respond quickly to a Slack message," he said, "you were, ironically, considered to be slacking off."

Inspired by some of my writing on these issues, the engineer set up a meeting with his CEO. He summarized the research on how attention switching reduces cognitive performance and explained his concerns about constant interruptions hurting his work. He also acknowledged that retreating into complete, Angelou-style isolation would also create problems, as other people on his team needed to interact with him on a regular basis. He asked the CEO's advice on how to maximize the value he produced for the company. "As soon as I asked this question," he told me, "it was clear that it would be absurd to suggest that I should

spend all of my time [in a state of responsiveness] just because it made certain things easier."

They agreed that he should spend four hours a day—50 percent of his work hours—in a distraction-free state, and the other 50 percent plugged into the hive mind workflow. To implement this goal, they set aside a two-hour chunk each morning and a two-hour chunk each afternoon during which the engineer was considered unreachable. The CEO explained this new setup to the engineer's team. "It took them about a week to get used to it, then it was no longer a problem," he told me. As a result, the engineer's productivity significantly increased—with few negative impacts. The real surprise in all this was the fact that until the engineer forced the issue, no one had ever stopped to wonder about whether the way they were working was actually working.

Nish Acharya's story from this book's introduction provides another example of a position where it's accepted that focused thought is important, but the workflows put in place make these efforts nearly impossible. It wasn't until Acharya's email servers were temporarily taken away that he got the "whitespace" needed to actually figure out his team's strategy. Journalists suffer from a similar mismatch. Not long ago, I was chatting with a well-known reporter who had started his own media company. He lamented that he was "required" to constantly check Twitter to make sure he wasn't missing breaking news—a behavior that impeded his ability to efficiently write good stories. I pointed out that his office was full of young, tech-savvy interns looking to get their foot in the door of his profession. "Wouldn't it make more sense to have one of them monitor Twitter and call you if something important was happening?" I asked. The thought had never occurred to him—he just assumed some degree of distraction was the cost of doing business.

Most people accept the premise that the hyperactive hive mind workflow reduces the productivity of makers. At the same time, however, this workflow is really convenient. Accordingly, so long as the benefits of focus are left vague, this trade-off might seem like a wash, where a little lost productivity is compensated with some gained managerial flexibility. But when we get specific about what exactly can be gained when makers are extracted from hyperactive communication, this trade-off can suddenly resolve itself to be massively lopsided. As with the white paper–writing engineer or Acharya when it comes to makers, moving away from the hive mind workflow isn't about tweaking productivity habits, but instead about significant boosts to effectiveness. When these advantages are made clear, it becomes harder to justify their loss simply for the added convenience of responsiveness.

Beyond the Hive Mind

I opened the chapter with the story of Sean, whose team was burnt out by the demands of the hyperactive hive mind. He was suspicious that all this communication was somehow dragging down their productivity. As we now know, he was right—this workflow conflicts with the human brain in ways that make most knowledge work tasks more difficult to complete. Unlike many who share similar suspicions, however, he decided to do something about it.

As Sean told me, the sudden departure of his two project supervisors rattled him. "This forced me to take a step back and ask what we're actually doing," he said. "To ask, is this communicating doing more harm than good?" Sean and his cofounder decided to make some radical changes. They shut down their Slack servers for good and relegated email to a tool used mainly to coordinate with entities outside the company. Intrigued by this claim, I put Sean on the spot during one of our phone interviews and asked him to open his email inbox while we spoke and tell me what was in it. He was happy to oblige: it contained a

message from the firm's accountant, a support ticket from a web hosting company they use for some of their projects, a few invoices from contractors, and a message from a freelancer they were working with on a new project. There was no internal-facing communication and nothing requiring an urgent reply. Sean used to send messages until 1:00 a.m. every day. Now, as he reported, "on a normal day I check email once." Some days he doesn't get around to checking his inbox at all.

Email and Slack served important purposes in Sean's company: they're how his team coordinated and how they interacted with their clients. If Sean had eliminated these tools without replacing the functions they served with alternative processes, his company would have fallen apart. Following the types of principles explored later in this book, however, he did put alternatives in place and they seemed to work fine.

Sean divided the day into a morning block and an afternoon block. At the beginning of each block, his team gathers in person, with the occasional remote worker joining using videoconferencing software, to discuss the upcoming block. "Each person covers three points: what they did yesterday, what they are doing today, and what issues they're having or blocks they're experiencing," Sean told me. "It lasts fifteen minutes max." Then everyone does something that has become exceedingly rare in our current age of connectivity: they simply work, for several hours in a row, with no inboxes to check or chat channels to monitor, until the block is over.

On the client side, the company now includes a section in their contract that spells out exactly how they will (and implicitly will not) interact with the client. For most clients, this means a regular phone call to provide updates and answer questions that is immediately followed up with a written document that captures everything discussed. Sean's cofounder, who manages these relationships, was terrified that their clients would be irate to learn that their access was being reduced. This

fear was unfounded—the clients turned out to appreciate the clear expectations. "They are absolutely much happier," Sean said.[24]

I wanted to share the changes Sean made because, as I've learned from discussing this topic over the years, many will continue to defend the hyperactive hive mind workflow, even after evidence of its harm is presented. Their counterargument hinges on the claim that this workflow is somehow fundamental. That is, they'll concede that all this communication might slow down our brains, but they can't imagine any other reasonable way to get work done. Sean demonstrates that once you know what pain you're trying to avoid and what benefits you're trying to amplify, other approaches emerge.

Part 2 will dive deeper into the principles for designing these alternatives, but before we move on to the world beyond the hive mind, we must first confront an equally important argument against this approach to work: not only does it make us less productive; it also makes us miserable—a reality that has massive consequences for both individual well-being and organizational stability. It's to this claim that we now turn our (hopefully not too divided) attention.