

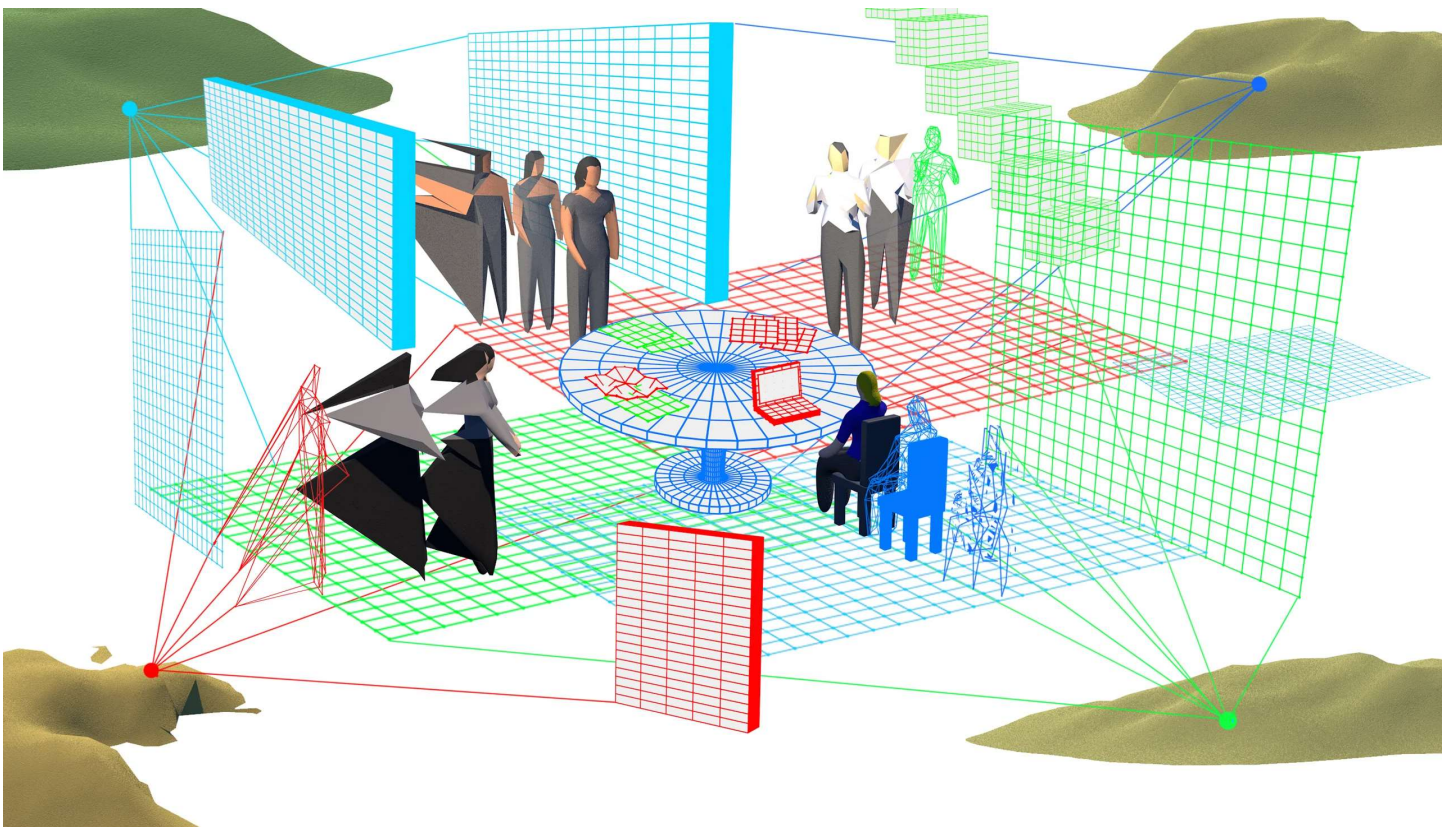
ANNALS OF INQUIRY

WHY REMOTE WORK IS SO HARD—AND HOW IT CAN BE FIXED

The challenges aren't just technological. They're managerial.

By Cal Newport

May 26, 2020



As we enter the uncertain second phase of the coronavirus pandemic, it's unclear when, or whether, knowledge workers will return to their offices. The question is whether we can solve the long-standing problems that have thwarted remote office work. Illustration by Jon Han

In the nineteen-sixties, Jack Nilles, a physicist turned engineer, built long-range communications systems at the U.S. Air Force's Aerial Reconnaissance Laboratory, near

Dayton, Ohio. Later, at NASA, in Houston, he helped design space probes that could send messages back to Earth. In the early nineteen-seventies, as the director for interdisciplinary research at the University of Southern California, he became fascinated by a more terrestrial problem: traffic congestion. Suburban sprawl and cheap gas were combining to create traffic jams; more and more people were commuting into the same city centers. In October, 1973, the OPEC oil embargo began, and gas prices quadrupled. America's car-based work culture seemed suddenly unsustainable.

That year, Nilles published a book, "The Telecommunications-Transportation Tradeoff," in which he and his co-authors argued that the congestion problem was actually a communications problem. The personal computer hadn't yet been invented, and there was no easy way to relocate work into the home. But Nilles imagined a system that could ease the traffic crisis: if companies built small satellite offices in city outskirts, then employees could commute to many different, closer locations, perhaps on foot or by bicycle. A system of human messengers and mainframe computers could keep these distributed operations synchronized, replicating the communication that goes on within a single, shared office building. Nilles coined the terms "tele-commuting" and "telework" to describe this hypothetical arrangement.

The satellite-office idea didn't catch on, but it didn't matter: over the next decade, advances in computer and network technology leapfrogged it. In 1986, my mother, a COBOL programmer for the Houston *Chronicle*, became one of the first true remote workers: in a bid to keep her from leaving—she was very good, and had a long commute—the paper set her up with an early-model, monochrome-screen PC, from which she "dialled in" to the paper's I.B.M. mainframe using a primitive modem, sending screens of code back and forth. "It was very slow," she told me recently. "You would watch the lines load on the screen, one by one." The technology wasn't fast enough for widespread use—hours could pass while the computers synchronized—but the basic template for remote work had been set.

In the following decades, technical advances arrived with increasing frequency. In the nineteen-nineties, during the so-called I.T. revolution, office workers started using networked PCs and teams embraced e-mail and file-sharing. People began spending less time in meetings and on the phone and more time interacting with their computers. As computer prices dropped, many bought comparable machines for their homes, using modems to access the same tools they used at work. In 1994, A.T. & T. held its first "Employee Telecommuting Day"; in 1996, the federal government launched a program to increase remote-work options for its employees. In the early

two-thousands, broadband Internet made home connections substantially faster, and, in 2003, a pair of European programmers released Skype, which took advantage of this broadband explosion to enable cheap audio communication. In 2004, they added conference-call capabilities, and, in 2006, video conferencing. By the next year, their program had been downloaded half a billion times.

Office work seemed on the brink of a profound shift. Instead of commuting into crowded cities, white-collar workers would soon relocate to more affordable, bucolic areas; they'd enjoy flexible schedules, picking up their kids from school and sitting down for family dinners after productive days at home. Some people envisioned more radical departures. In his book "The 4-Hour Workweek," from 2007, Timothy Ferriss, a twenty-nine-year-old entrepreneur, suggested that readers aggressively negotiate remote-work agreements with their employers and then move to parts of the world where the cost of living was low. (Argentina was experiencing a currency crisis, and so could be a good spot for such "geo-arbitrage," Ferriss wrote.) Unsupervised by bosses, these ultra-remote workers could do their jobs in highly efficient bursts, enjoying lavish lives of leisure the rest of the time.

"The 4-Hour Workweek" became a huge best-seller. But just when the remote-work revolution looked inevitable, it lost momentum. In February, 2013, the recently-appointed C.E.O. of Yahoo, Marissa Mayer, put a stop to all remote work at the company by means of an all-hands memo from H.R. "Speed and quality are often sacrificed when we work from home," the memo read. "We need to be one Yahoo!, and that starts with physically being together." I.B.M., Hewlett-Packard, Best Buy, and other companies curtailed their telework programs; Silicon Valley companies became known for the ludic enticements—free meals, coffee bars, climbing gyms—that they used to keep workers at the office. A month after the Yahoo memo landed, an article in *Business Insider* lauded Google's Corporate Concierge team, which helped its engineers accomplish mundane personal tasks, such as planning dinner parties or finding Halloween costumes. "Employees who work for the search giant don't have to worry about much besides their work," it concluded.

Today, remote work is the exception rather than the norm. "Flexible work" arrangements tend to be seen as a perk; a 2018 survey found that only around three per cent of American employees worked from home more than half of the time. And yet the technological infrastructure designed for telecommuting hasn't gone away. It's what enables employees to answer e-mails on the subway or draft pre-dawn memos in their kitchens. Jack Nilles dreamed of remote work replacing office

work, but the plan backfired: using advanced telecommunications technologies, we now work from home while also commuting. We work everywhere.

As spring gives way to summer, and we enter the uncertain second phase of the coronavirus pandemic, it's unclear when, or whether, knowledge workers will return to their offices.

Citigroup recently told its employees to expect a slow transition out of lockdown, with many employees staying out of the office until next year. Jack Dorsey, the C.E.O. of Twitter, went even further, announcing in an e-mail that those whose jobs didn't require a physical presence would be allowed to work from home indefinitely. In a press statement, Twitter's head of H.R. said that the company would "never probably be the same," adding, "I do think we won't go back."

Not every company will want to embrace remote work so fully, but, to protect worker health and reduce corporate liability, many will have no choice but to allow significantly more telework for months or perhaps years to come. Offices in Asia may provide us with a glimpse of the American future: restrictions have eased in a number of Asian cities, but at Microsoft Asia's offices, in China, only around half of the company's six thousand employees have returned to in-person work. At Nanjing University, many administrative staff members have adopted interlocking schedules in which they work only a few in-person days each week, minimizing the number of people on campus at any given time; coffee shops in Hong Kong, which have recently reopened, are reportedly filled with remote workers looking to get out of the house. It's possible, as the pandemic unfolds, that offices which have returned will have to go remote again. It's plausible to expect an extended period during which even reopened offices will remain only partially occupied, with most meetings including at least a few participants joining from home.

For those who wish that the remote revolution had succeeded, it's tempting to think that the pandemic has pushed aside the main obstacle to its success: the reluctance of bosses. Managers are often seen as standing in the way of working from home. A corner office isn't as impressive over Zoom, and, conversely, it's easier for a boss to keep track of employees when she can see them at their desks or in the hall. A week after the Yahoo memo was distributed, the technology journalist Kara Swisher reported that Mayer had been motivated, in part, by a review of the company's network logs, which showed that remote employees were spending long periods of time logged out of Yahoo's servers. In a 2013 essay published in *Wired* titled "Yahoo's Mayer is Right: Work-from-Home Employees Are Less Efficient," a software-company executive articulated a view that many

managers likely share: “People who come into the office just get more done. . . . Maybe they just have a better idea of what is expected of them.”

Bosses’ need to boss was surely a factor in the defeat of remote work. But there were other, entirely legitimate reasons for companies to retreat from it, and they are just as relevant today as they were a decade ago. The Yahoo memo, for example, emphasized an obvious problem with telecommuting: the loss of face-to-face interaction. A successful workplace, its authors wrote, depends on “interactions and experiences that are only possible” in the office, such as “hallway and cafeteria discussions, meeting new people, and impromptu team meetings.” In theory, technology enables remote equivalents for these in-person encounters: in 1986, when my mother worked from a bedroom in our Houston suburb, she was alone with her computer, while today a remote worker can trade Slack messages and convene video summits. And yet these advances have never really added up to a complete substitute for the office experience. A gallery of thumbnail-size co-workers on a laptop screen is a diminished simulacrum of the conference-table gatherings that drive so much of corporate life. Yahoo is hardly the only organization to have concluded that the richness of in-person interaction is irreplaceable. During the Second World War—at what, in retrospect, was the dawn of electronic telework—American and British military commanders regularly exchanged telegraph messages and held secure phone conversations. Even so, with surprising frequency, high-level officials undertook risky transatlantic crossings to meet in person. Military planners realized that being physically together mattered.

Face-to-face interactions help people communicate and bond, but that’s only part of their value. The knowledge work pursued in many modern offices—thinking, investigating, synthesizing, writing, planning, organizing, and so on—tends to be fuzzy and disorganized compared to the structured processes of, say, industrial manufacturing. In many offices, tasks are assigned haphazardly, and there are few systematic ways to track who is working on what or find out how the work is going. In such a chaotic work environment, there are profound advantages to gathering people together in one place. In person, for instance, the social cost of asking someone to take on a task is amplified; this friction gives colleagues reason to be thoughtful about the number of tasks they pass off to others. In a remote workplace, in which co-workers are reduced to abstract e-mail addresses or Slack handles, it’s easier for them to overload each other in an effort to declare victory over their own rapidly filling in-boxes. (This may be one of the reasons that, in our current moment of coronavirus-induced telework, so many people—even those without kids underfoot—feel busier than before, despite the absence of time-consuming commutes.) In other ways,

meanwhile, offices can be helpfully frictionless. Drawn-out e-mail conversations can be cut short with just a few minutes of spontaneous hallway conversation. When we work remotely, this kind of ad-hoc coordination becomes harder to organize, and decisions start to drag.

Software development is one of the few knowledge industries to have had success with remote work, in part because its programmers and managers have deployed an unusually systematic approach to organizing their efforts. Software firms often employ “agile” project-management methods: elaborate systems, punctuated by “standup” meetings and coding “sprints,” which help them track and assign tasks without overloading individuals or creating unnecessary interruptions or redundancies. Leveraging these systems, carefully organized teams of coders can operate smoothly without the informal productivity boosts that come from working in the same space. The extensive efforts required to accomplish this feat, of course, only help underscore the importance of offices for everyone else.

Even if a team solves the logistical challenges of remote work, it must confront the psychological ones. When he was writing “On the Origin of Species,” Charles Darwin invented a ritual to help him settle into work each day: he staked out a meandering path through the most scenic areas of his family estate, outside London, placed a set number of stones at the beginning of the path, then walked circuit after circuit, kicking a stone into the hedgerow after each lap. With every go-round, he pulled his thoughts away from personal concerns and toward evolutionary theory. For many people, the rituals of the commute—podcasts on the train, hellos in the elevator—serve as a similar preparation for the day’s work. Without them, it becomes easy to lose track of the distinction between professional and personal life. Work time becomes more scattered, and leisure time less pure. There’s a reason so many professional writers stretch their budgets to lease private offices, even though, on paper, the extra expense seems unnecessary. They knew what many socially distancing knowledge workers are now discovering: deep work requires some degree of separation.

All this is to say nothing of the pleasures of office life itself. In an age when community-based social ties are increasingly frayed, the office is where many adults interact with other adults. Perhaps, encoded in our genes after millennia of tribal cooperation, there is instinctual excitement at working side by side with others toward a shared goal. An e-mail that reads “Job well done!” is not the same as a smile. These benefits of the office—these subtle affirmations of our humanity—were easy to overlook, until we abruptly found ourselves deprived of them.

Technological transitions often stumble when we expect them to sprint. In 1989, the Stanford economist Paul David wanted to understand why so many companies were so slow to adopt computer technology; for historical perspective, he turned to the history of the electric dynamo, which had been invented around a hundred years before, and which, before it transformed industrial production, had also been adopted slowly. In his paper “The Dynamo and the Computer: An Historical Perspective on the Modern Productivity Paradox,” published in the *American Economic Review*, David explained that, at the turn of the century, most factories were powered by massive central steam engines. The engines turned overhead shafts, which were connected by an intricate array of belts and pulleys to close-packed machinery. When electric motors were first introduced, factory owners tried to integrate them into their existing setups; often, they’d simply replace the hulking steam engine with a giant electric dynamo. This introduced some conveniences—no one had to shovel coal—but also created complexities. It was hard to keep all the electrical components working; many factory owners opted to stay with steam.

In the end, it took decades for factory owners to figure out how to make the most of electric power. Eventually, they discovered that the best approach was to put a small motor on each individual piece of machinery. Since a factory no longer needed to draw power from a central engine, its equipment could be spread out. This, in turn, changed the nature of industrial architecture. Buildings that no longer required reinforced ceilings to house shafts, belts, and pulleys could incorporate windows and skylights, of the sort we know today from urban loft buildings.

Inertia, David found, had been part of the problem. Factory owners who had spent a lot of money and time building physical plants organized around central-drive trains were reluctant to commit to complex, expensive overhauls. There were imaginative obstacles: powering each machine with its own individual motor may seem like an obvious idea now, but in fact it represented a sharp break from the centralized-power model that had dominated for the previous hundred and fifty years. Finally, technological barriers stood in the way—small issues, compared to the invention of electricity, but persistent and important ones nonetheless. Someone, for instance, had to figure out how to construct a building-wide power grid capable of handling the massively variable load created by many voltage-hungry mini-motors being turned off and on unpredictably. Until that happened, it was central power or bust.

In some respects, we may be in an electric-dynamo moment for remote work. In theory, we have the technology we need to make remote work workable. And yet most companies that have tried

to graft it onto their existing setups have found only mixed success. In response, many have stuck with what they know. Now the coronavirus pandemic has changed the equation. Whole workplaces have gone remote; steam engines have been outlawed. The question is whether, having been forced to embrace this new technology, we can solve the long-standing problems that have thwarted its adoption in the past.

Some useful innovation is possible on an individual level. As a newly minted remote worker, you may find that demands on your attention are actually more incessant and intrusive than they used to be—a natural consequence when a workplace depends more than ever on phone calls, e-mails, and video conferences. You might respond by consolidating all of your appointments into a given half of the day—say, between 1 P.M. and 5 P.M.—preserving the other hours, by default, for actually working on the items discussed. This might be a good moment to try out scheduling software, such as Calendly or Acuity, which replaces e-mail exchanges about when to meet with an appointment-booking interface that reduces scheduling to a single click. (Some worry about the coldness or presumptuousness of these services, but they significantly reduce the number of open threads in your in-box.) Perhaps you'll adopt a Darwin-esque morning walk around the neighborhood—a reasonable approximation of a ramble around your country estate—or move your home office from the main floor of your house to a corner of your basement, sacrificing convenience for quiet. (A lawyer friend of mine with two young kids tells me that he's found the trade-off to be well worth it.)

Those who want to venture even deeper into the world of personal productivity might try “time blocking,” an organizational strategy dating back at least to Benjamin Franklin, who wrote about it in his autobiography. In this approach, you assign your work to specific blocks of time in which you'll execute it. This stands in contrast to the standard strategy, which is to drive your day off lists, appointments, and incoming messages. Time-blocked schedules can be intense, since you must constantly focus on not taking too much time to execute any given task. But they add structure to otherwise chaotic workdays, and can significantly increase the amount you're able to do in a limited amount of time.

Still, focussing on personal productivity will only get us so far. Organization-level innovations will also be needed. Newly remote companies might consider acting like software developers, and moving project planning out of e-mail and Slack and into more agile, structured systems. Web services such as Trello, Microsoft Flow, and Asana allow all of a team's tasks to appear as cards on a digital bulletin board, so that everyone can see who's working on what and how it's going. That

sort of transparency fights overload by eliminating the haphazard assignment of work; it also encourages a culture in which people work deeply on a smaller number of tasks at a time—an especially meaningful improvement for remote workers, whose days can otherwise be propelled by pileups of ambiguous demands.

Managers may need to rethink how meetings work. A browser plug-in called Clockwise helps teams organize them in a “batched” fashion, so that they occur back to back, preserving as much uninterrupted time as possible on each employee’s individual calendar. (Matt Martin, the company’s C.E.O., says that Clockwise saw sign-ups increase by forty-two per cent in March and April—a period during which, according to its internal data, newly remote workers have been spending more time in meetings and struggling with more fragmented schedules.) Alternatively, a team might channel the flood of check-ins by borrowing the idea of “office hours” from academia. In this system, workers post regular times during which they’ll be available for unscheduled calls or video conferences. If a colleague has an ambiguous question or request, she simply waits until office hours come around to talk it through. As I wrote last year, the software company Basecamp has been using this strategy for years with extraordinary success: the inconvenience of waiting for office hours to begin is greatly outweighed by the control each individual regains over her schedule.

An obstacle to these types of organizational shifts is the theory of management by objectives, according to which bosses provide employees with clear goals, then leave them alone to figure out how to accomplish them. This hands-off approach seemed to make sense as, over the past few decades, office work grew increasingly complex and creative. But it’s ill-suited to the world of remote work, in which the details of how we work matter if we hope to keep efforts sustainable. Organizations might have to start thinking not just about what they do but about how they do it. To see themselves through the I.T. revolution, companies hired chief information officers. Perhaps the coronavirus pandemic will make chief workflow officer an equally important role.

At some point, the pandemic and its aftershocks will fade. It will once again be safe to ride commuter trains to office buildings. What then? Many companies seem amenable to the idea of lasting changes. In April, a survey of chief financial officers conducted by the research firm Gartner found that three-quarters planned to increase the number of employees working remotely on a permanent basis. From an economic perspective, companies have a lot to gain from remote work: office space is expensive, and talent is likely to be cheaper outside of the biggest cities. Many

workers will welcome these changes: in a recent Gallup poll, nearly sixty per cent of respondents said that they would like to keep working remotely after restrictions on businesses and schools have been lifted. For them, the long-promised benefits of work-from-home—a flexible, commute-free life, with more family and leisure time—have finally arrived.

There are also social reasons to cheer a more remote future. It might help reverse the geographic stratification of American life. Workers, and their spending, could break out of the unaffordable metropolises and spark mini-revitalizations off the beaten path, from Bozeman to Santa Fe. Remote work could be good for the environment, since less commuting means fewer emissions. (Although the recent movement of Americans out of sprawling suburbs and back into dense cities was, in itself, an environmental good.)

And yet remote work is complex, and is no cure-all. Some of the issues that have plagued it for decades are unlikely to be resolved, no matter how many innovations we introduce: there's probably no way for workplaces to Zoom themselves to the same levels of closeness and cohesion generated in a shared office; mentorship, decision-making, and leadership may simply be harder from a distance. There is also something dystopian about a future in which white-collar workers luxuriate in isolation while everyone else commutes to the crowded places. For others, meanwhile, isolation is the opposite of luxury. There may be many people who will always prefer to work from work.

In one possible future, the percentage of employees spending half of their time or more working from home will grow significantly in the coming years—increasing, perhaps, from the three-per-cent baseline set in 2018 to something like twenty or thirty per cent. There will be a lot of remote work, but a lot of office work as well. In this future, workflow innovations will allow remote and in-person efforts to integrate more smoothly without the need for constant e-mails or video conferences. Companies will maintain regional headquarters, but they'll be smaller, featuring more desk-swapping and fewer permanent, pre-assigned offices. Some attractive smaller cities will see populations rise; some larger cities will see housing costs decrease. There will be more variety in work arrangements. Perhaps, in addition to shifted hours and reduced schedules, we'll require remote-only employees who have never been fully integrated into an in-person office to sign multiyear contracts to work exclusively on a small number of important objectives before moving on. (In their book "The Alliance: Managing Talent in the Networked Age," from 2014, Reid Hoffman, Ben Casnocha, and Chris Yeh endorse this idea, which they call a "tour of duty.")

Jack Nilles envisioned a complete transformation of work, in which the central office might disappear—a steam engine giving way to a network of motors. The changes the pandemic will create will likely be more nuanced. This doesn't mean, though, that their effects will be small. When only three per cent of a workforce is remote, managers can get away with business as usual. When that number climbs to thirty per cent, fundamental changes to the nature of work become necessary. Before the pandemic, we were already suffering through a productivity crisis, in which we seemed to be working longer hours, glued to screens and drowning in e-mails. The solutions that make remote work sustainable—more structure and clarity, less haphazardness—may also help fix these other long-standing problems in knowledge work. Work that is remote-friendly for some may be better work for all.

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