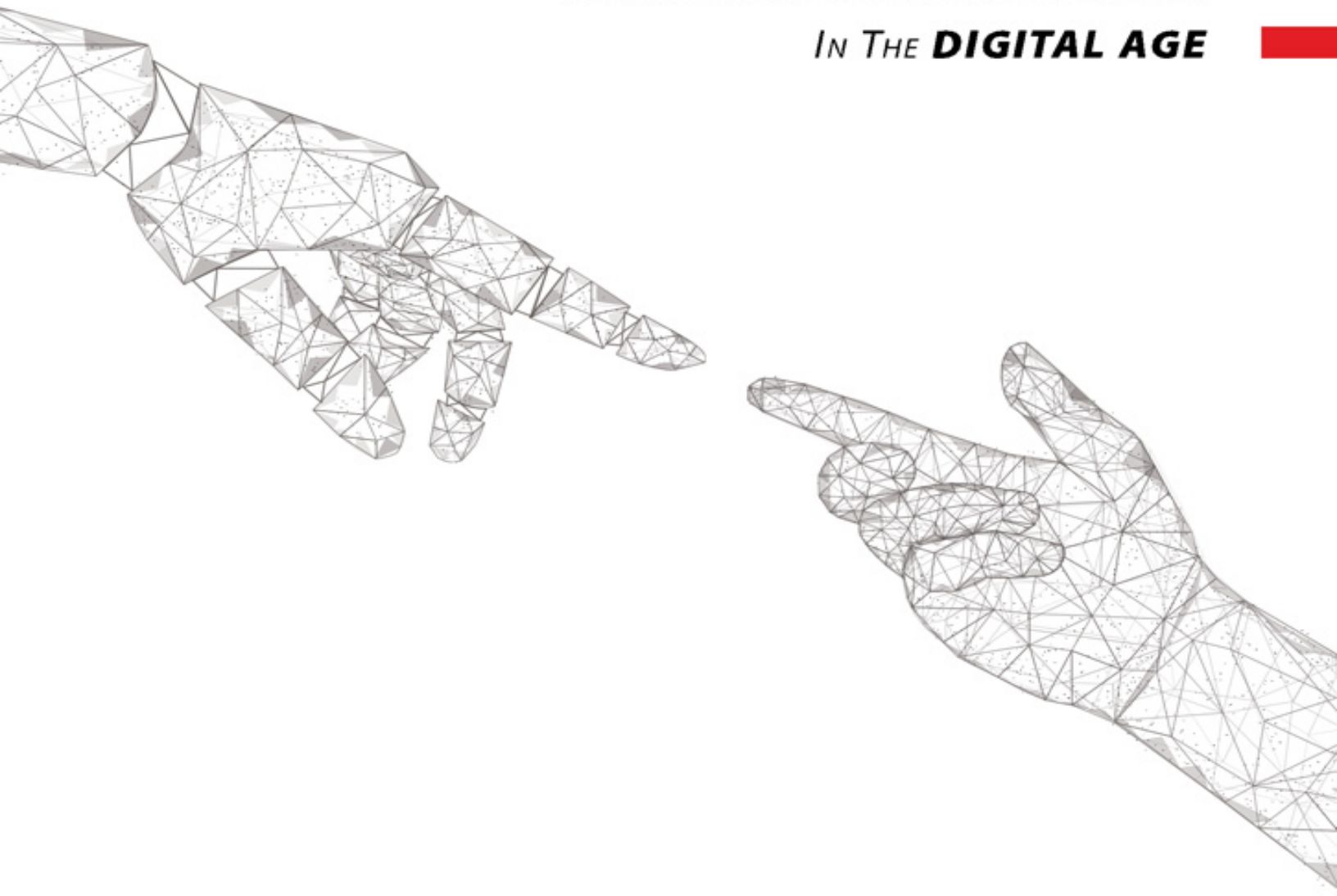
liberated COMPANIES

How to Create Vibrant Organizations In The ***DIGITAL AGE***



FRANK THUN

Let’s make the workplace better than ever before.

This book is dedicated to all those who want to make a difference.

Table of Contents

Foreword

Around the age of fourteen, I started to think that I was born too early. The new digital technology—in the form of a Commodore 64 personal computer— captivated me, as it did so many others. I imagined all the wonderful changes that would be created in the emerging digital age, but when I compared these visions to the technological reality of the 1980s, I recognized that I was born 100 years too early.

However, I have changed my mind in recent years. Now I am happy to be alive at this potent time in our history as the world gears up to fight the ultimate battle between human technological mastery and biological survival: the extinction crisis.

It’s not that I used to be a fundamentalist about anything. On the contrary, I made my career serving more or less conventional companies in their quest to utilize digital technology. Like everyone else I met during that time, I had a utilitarian outlook on technology: Technology is merely a tool to be used. How wrong we were. My job as a technophile economist has always been bridging organizational, technological, and human needs. The more I learned about my trade, the more I realized that bridging those three elements is all about connection—connection between people and technology, connections between technology and organizations, and connections between organizations and people. It was the quality of these connections, their depth and their strength, that determined the outcome of the projects I have been responsible for as a manager.

The more I advanced in my career, the more it dawned on me that the current organizational hierarchy is just not built to allow strong connections between any of these three elements: people, technology, and organizations. With so much arbitrary power in the hands of superiors over subordinates, negative political behavior and exploitation are bound to run rampant. Like so many others in the digital technology field, my eyes have been opened by the contemporary movements that highlight the need for more connected ways of working—Agile, Lean Startup, New Work, DevOps. During the three years that I have spent researching and writing this book, it dawned on me that stronger connections between people and organizations not only change the internal dynamics and performance of organizations for the better; they make organizations and people more connected to the outer world. They make organizations more caring about society and the environment than the naturally exploitative organizational hierarchy we have become accustomed to.

Alas, this book is not primarily about self-managed, fully democratic workplaces. It is rather about finding intelligent, resilient organizational designs that go beyond a simple dichotomy of hierarchical and self-managed organizations. This book is about building great workplaces that let organizations, technology, people, and the environment flourish together.

Introduction: Today's Inept Businesses

We need to reinvent the technology of human accomplishment.

– Gary Hamel

Human society has come a long way at what seems like breathtaking speed. It has taken humanity just a couple of generations to progress from largely agrarian communities to the industrial age to the dawning of the digital age. It is a great time to be alive, with nearly all indicators of human well-being improving in recent decades.[1] Yet there are challenges, even existential threats, inherent to this new way of life. Never have so many people enjoyed such material wealth as today, but never before has material wealth been so decoupled from physical means.

Let's start with the most obvious example: digitalization. From a company perspective, the complexities of the ever-more-rapidly changing digital landscape are creating huge social upheavals. Some have gone so far as to say that software is "eating the world."[2] In a world where smartphones have become an extension of people—lenses through which people perceive the world— digital platforms rule. It is the immaterial, the elusive software, the algorithms that structure the way we interact with our surroundings and make decisions that increasingly matter. We continue to run companies and organizations, however, on a foundation that was built for the industrial age with its coal mines, steel mills, and manufacturing plants. The

results are costing us dearly. Whole sectors and industries are being uprooted by digital disruptors, while most businesses remain stagnant and incapable of change.

In the digital age, companies need three things. First, they need to learn to produce or at least utilize software better. It is not that every company will become a software company, but every company that finds innovative ways to utilize software will surely be better off than those that do not. Second, companies need to continuously reconfigure themselves to the rapidly changing technological environment. Third, such a degree of organizational learning and readiness to change can only be achieved if people at all levels in companies are willing (and able) to learn and change. As we will examine in the chapters to come, the way most companies are organized today suppresses learning and prevents change.

The second challenge is even more urgent: it is the “extinction crisis” currently facing life on this planet. Our victory over nature, wherein we have harnessed the natural environment to suit humanity’s needs, may turn out to be our downfall. The climate catastrophe, the mass extinction of other forms of life on earth, and the poisoning of our soils and oceans with microplastics are all signs that our ecosystem is hurtling towards the edge of a cliff. Much of our inability to find common ground on those measures needed to keep our planet hospitable, however, is rooted in the discontent created by income and wealth inequality. So long as people have to struggle for their material existence, everything other than short-term concerns over how to provide for themselves and their families seems irrelevant.

Companies need to measure up to the extinction crisis—whether they like it or not. First, they must put an end to the exploitation of the natural environment. As natural disasters

take their toll, customers are likely to favor companies that have more sustainable and regenerative practices, and governments must regulate these businesses accordingly. Anticipating this trend is bound to be both wise and profitable. Second, and more difficult to understand, is that companies need to become more distributive by design. The current deal between the employer and the employed is “money for submission,” with the lion’s share of profits going to the employer. We find this natural—it’s just the way things are. Yet, if we continue to ask people for submission in a system of exploitation, we do not create the systems of learning that we actually need. Even more fatally, by doing so we have built exploitation as a central value into the inner workings of companies.

Organizations are cultural engines of modern societies,[3] and every organizational system comes with its own values attached. By continuing to choose the organizational hierarchy, we are choosing submission and exploitation— by design. People spend 50% of their waking hours working for companies, and spending this time in a system built upon submission and exploitation is bound to be detrimental not only to their outlook on the world, but to the very fabric of society itself. Yet, there are alternatives. There are novel organizational systems that get people to take a more wholesome, interconnected, and purposeful outlook on life. These systems are distributive by design because they do not monopolize economic outcomes as strongly. They are more egalitarian, more liberating.

There have been attempts at the team level to conjure liberating work environments in otherwise conventional companies: such as the Lean, Agile, and New Work movements, to name a few. However, these initiatives do not make an impact beyond the team level because they fail to address the three most important factors that

systematically influence human behavior in the workplace: power, power, and power. The uneven distribution of power in companies is the elephant in the room. No amount of entrepreneurial risk-taking, innovation, leanness, or agility will be effective if the workplace is not seen as a safe place where people can speak up.

Power as the main villain in companies is hardly a new idea. Out of the struggle of competing ideas such as communism, anarchism, and unbridled capitalism, a form of regulated economic activity has emerged such that, since 1990, the social market economy has reigned supreme not only in the West but globally. The social market economy limits the exploitative nature of companies caused by the asymmetrical distribution of power between employer and employee. The 40-hour workweek, workers' rights and benefits, trade unions and worker representation, and a host of other government regulations have by and large succeeded in curbing the worst excesses of asymmetrical power exercised by employers.

Today, however, there is a new and different reason to focus on power. The subordination of employees to the will of their superiors is impeding their ability to engage and their willingness to speak up, try new things, fail, learn, change, and innovate, resulting in a systematic bias against agile, engaging, learning, and innovative companies. Curbing the use of hierarchical power by the employer—the capitalist, the manager—will result in a more powerful company that can achieve better results.

Companies have served society well by harnessing people and coordinating their actions to provide us with ever better goods and services. Companies in their turn shape us because they are also the place where most of us spend the majority of our waking hours. From time to time we

complain about the idiosyncrasies of the workplace or overbearing superiors; we struggle against incompetence, lack of purpose, stress, or boredom. Now, however, is the time to allow people more individual self-expression and give companies more of a bias to do good. It is time to liberate ourselves, and the planet, from the exploitative system upon which the companies of the previous era were built. It is time to create more Liberated Companies.

What This Book is About

The increasing complexity of the digital age requires a system of organization that is also more complex. This book seeks to provide a map and a compass that business leaders can use to navigate the digital age. The map illustrates the often-overlooked multitude of ways that work can be done by people working together. It is an open-ended, structured collection of classical and modern work designs with which companies can be configured to handle short- and long-term challenges. The compass is a set of guidelines on how to blend new and innovative methods with traditional forms of work. There are eleven principles encompassing a combination of old truths that are truer today than ever before, and the emergent truths of the new digital age.

This book is a travel companion for companies journeying in the digital age. But there is no final, ultimate destination, and no single best way to run a company. The diversity of good organizational solutions, even for companies in the same sector, has value in itself. A company that is different is more likely to be perceived as *being* different. In a world where a customer's attention is the scarcest resource of all, this is no small advantage. Nobel Prize winner Ronald Coase famously wrote: "In a market economy we find islands of conscious power in this ocean of unconscious cooperation

like lumps of butter coagulating in a pail of buttermilk."[4] Well, it looks like we need more butter.

The Structure of this Book

This book begins by describing the dominant force in today's economy and society—technology—from an unusual angle. What does technology want? We will see that companies must recognize and adopt the inert needs of technology in their business structures if they truly want to master the digital age.

Part II describes the main features of the organizational terrain that defines the outlines of the map: power. Stark power differences between people determine the main regions on the map—the basic types of organizations. While the digital age is not likely to see forms of organization disappear, it will discourage excessive hierarchies and encourage more liberated, self-managed forms of organization.

In Part III, we focus on the map's various locations—the work designs that companies use to get things done. Around 200 different work designs in nine categories are considered in an exploration of the myriad ways of running and managing organizations—without losing the big picture. Most managers have lost the ability to imagine the many different ways in which things could be done if we made different choices. Part III concludes by describing the work design configurations of four very different companies.

In Part IV, we provide a compass for navigating a company or team in the digital age. Rather than showing a single true north, however, this compass points in eleven different directions. The Eleven Principles of Liberated Companies are vectors determining the trajectory of a company.

Part V lists a number of practical guidelines for the configuration of companies, including where to start and how to sustain the journey.

If the reader ends by feeling that the workplace can be so much more than it is today, and that the systematic bias of companies towards exploiting everything they touch can be changed into a bias for the betterment of people, societies, and the planet, then this book will have served its purpose.

Some Notes on Style

You won’t find many stories of what different companies have done here. There are many good books that explore those stories in depth. Instead of providing case studies, this book will explore the structure behind the more progressive organizational efforts in our age. With all that has been written on digitalization, management, and leadership, the role of this book is to provide orientation—a map and a compass—rather than motivation. For further reading and lots of good stories, see the list of great books at the end of each part and in the Appendix.

Additionally, you will find a box called “Dark Arts” at the end of each chapter that summarizes its contents. I call them “Dark Arts” because these lessons are all too often heresy against the church of conventional management.

---

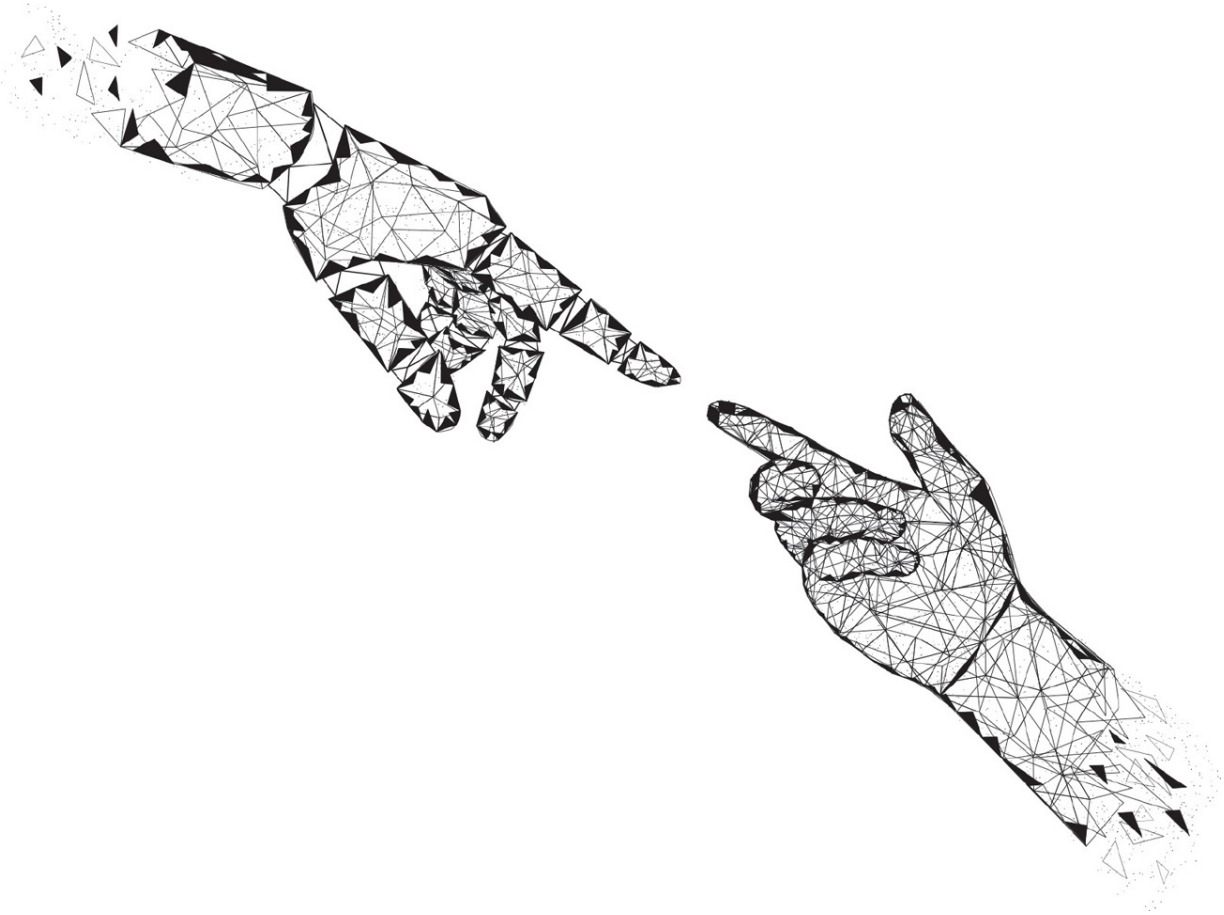
1 (Rosling, 2018)

2 (Andresen, 2011)

3 (Zucker, 1983)

4 (Coase, 1937).

PART I:
TECHNOLOGY AND POWER



Chapter 1: The Trajectory of Technology

So, you tell me that you are taking your company digital?

I want to hear your idea of technology, not that you introduced this or that app…

– Paraphrased from Friedrich Nietzsche, *Thus Spoke Zarathustra* (1891)[5]

To devise an organizational design that works well in a world increasingly dominated by technology, one has to understand two things. First, we must grasp the essence of technological progress, the direction in which it is leading us —in short, we must understand the "wants" of technology. Second, as technology and humans become ever more closely intertwined, we must ask: how do humans and technology flourish together? Let's save the first question for later and answer the second question first.

The three ways of understanding technology

Old truth: technology is just a tool

A hammer, a coffee machine, or a smartphone app is a tool, a technology that we are using. Humans use these tools to manipulate the world around them, to get results. Natural problem-solvers that we are, we look around for the best tool to assist our efforts. If the tool is available, we simply need the skill to use it, and our lives will be easier. The basic thinking of many people in business is similar: tools help to

solve problems. All we need to do is to make a tool available to workers and train them how to use it.

But is this really true? Of course not. For as long as technology has existed, the relationship between tools and people has never been a one-way street. Humans invented and used tools, and their use shaped human culture. No technology was ever inconsequential to human mindsets, values, social systems, even the rise and fall of empires. Anthropologists even divide cultures according to their tools: Stone Age, Bronze Age, Iron Age, Age of the Sail, and Information Age, to name a few. The impact of tools doesn't have to be as dramatic as gunpowder or printing; even the inconspicuous coffee machine intervenes in the way we structure our day, determines where and when we gather, takes up a prominent place in our homes, changes our biological mode of operation by drugging us slightly, and sends many of us into fits of rage when dysfunctional.

Tools have shaped us into what we are today. There is every reason to believe that with ever more technology available, the more and more we are shaped by it. As Marshall McLuhan is often attributed to have said, "We shape our tools and thereafter tools shape us."

Even more true: technology as a maker of decisions

People in companies have already lost control over many things they used to do. In the information age, companies have delegated many tasks to complex systems, be it in production, distribution, accounting, or sales. These systems are so complex that no single person knows what the systems are really doing. Even teams of experts often struggle to make sense of the sheer complexity of modern systems—a fact that is clearly visible in the high failure rates of modern software projects. Humans have set up

these systems, but are they fully in control? Are they making the decisions? Our control is limited by design because we want the machines to take over our work, to automate much of what is happening. The algorithms humans have set up mesh with other algorithms to produce the outcomes that we want, and we tend to understand less and less of their inner workings and true complexity. Still, we choose to rely on them out of necessity.

How much will we be in control tomorrow? Certainly less, as artificial intelligence becomes more pervasive in the workplace. The more we utilize technology, the more that technology will make decisions for us: today, just simple deterministic decisions, those that can be easily automated; tomorrow, more complex decisions, those requiring judgment. Without experts to act as translators between business and technology—be they engineers or highly specialized functional experts in logistics and accounting, for instance—modern businesses could not exist today. Yet even experts are limited in their ability to control, as it takes five things to be in control of complex systems.[6]

1. The correct information.
2. A group of knowledgeable people (a single individual's cognitive abilities are usually too narrow and biased).
3. The right group process to analyze and weigh hard (measurable) and soft (intuitive) data.
4. The discipline to keep to a proven process of synthesis every single time, avoiding shortcuts.
5. The discipline to evolve the process itself.

This is a five-point recipe for making solid decisions about complex matters. The better an organization is able to apply this recipe, the more it will prosper. The trouble is that hierarchical companies find it hard to apply this recipe effectively, for the following reasons:

1. “Correct” information is hard to get. If the workplace is not a safe place to speak up, people will suppress some information. People subjected to powerful bosses will react in a politically correct manner so as not to upset anyone with power over them.
2. The people making decisions are the ones furthest removed from the problem: the managers.
3. The process for analyzing data in hierarchies is often skewed towards everything that can be measured. It is further limited by the fact that it is usually quite unsafe for people to speak up about their intuition or express divergent views.
4. The discipline to keep to a process can easily be undermined by an arbitrary personal decision of the highest-paid person in the room (HIPPO). It takes tremendous listening skills for superiors to refrain from dominating decision processes.
5. The discipline to evolve the process itself is likewise undermined. Evolution and betterment might not be the target of a hierarchy at all. A hierarchy inherently favors stability, not change.

Major power differentials between people are systematically detrimental to making sense of complex systems, and this defect has grave consequences. As technology becomes increasingly complex and important for the survival of companies, conventional hierarchical companies will be less and less able to benefit from technology.

New truth: technology as a co-worker

As Kevin Kelly mentions in his book, *What Technology Wants*, “technology is an independent force in itself. Nobody is in control now and humanity will be less in control tomorrow. The technium is already whispering to itself.”[7]

Today, most companies are already so complex that decisions are made by a mixture of humans and machines. In companies like Amazon, Google, Netflix, and Facebook, most day-to-day business decisions are made by algorithms in real-time. Have you ever tried to talk to their “customer service people”? Overwhelmingly, the product itself, in the form of some specialized algorithm, is in charge of customer interactions—and those algorithms are doing their job extremely well. Much better than the customer service peoples of cable or telecom companies usually do.

People inside technologically advanced companies tend to work more on maintaining and experimenting with algorithms. The algorithm becomes a co-worker—one that is extremely skilled in specific functions. Humans specialize in those things that they are more adept at, such as the holistic perception of contexts and setting purposeful directions. AI researchers have concluded that humans in the digital age will be an asset to any company, as they supply a certain form of specialized intelligence.[8] Supplemented by all the multiple forms of intelligence that AI has to offer, the human-algorithm team can achieve much more than either can alone. Take chess, for example. There is no human on earth today who is able to beat modern chess programs. However, in tournaments where humans are allowed to play assisted by AI, the combination of human and machine tends to beat AI that is not supported by humans. There may, of course, come a point in the future when human interference in chess AI will no longer increase but may actually impair performance, but business is much more complex than chess—its rules are much more fluid, and its streams of information are much more ambiguous. In the context of businesses, human intelligence and machine intelligence are likely to have a productive relationship for a longer period. If humans and machines are more and more equal co-workers, the

companies that benefit will be those that manage to create a work environment that fosters this cooperation.

Today, we work and live with companies that are a reaction to the challenges of the industrial age, and the work-environment design that best suited industrial technologies was bureaucracy. Bureaucracy replaced charismatic domination with legal domination, replaced haphazard arrangements with standardized processes and a clear hierarchical way of making decisions that was focused on analytics, efficiency, consistent outputs, and reduction of waste.[9] At the time of its invention, bureaucracy was considered an antidote to bad management. Max Weber, a German sociologist credited with "inventing" bureaucracy, wrote in 1922 that "organizations are shaped by the relentless march of technological and managerial reality."[10]

Today we face the relentless march of the algorithm. There is so much benefit inherent in algorithms that we adapt our beliefs, behaviors, values, and social norms to them, personally, socially, and in companies. According to Max Weber, technology puts us in an "iron cage": we are defined by technology and will be redefined every time technology changes. In the industrial revolution, the "iron cage" trapped individuals in systems of efficiency, rational analysis, top-down control, and digressional power. Now, with the rise of dematerialized digital technologies and artificial intelligence, we feel the need to adapt our ways once again in order to catch up with technology.

If technology is rapidly evolving and technologies are quickly becoming obsolete, today's challenge for humanity is not to align itself to any single new technology, but rather to find a method to keep evolving its cooperation with technology continuously and forever. Companies need a work design that is so sensitive and adaptable that

technological and social innovation at the workplace occurs naturally and permanently. It is not enough to understand individual technologies: the internet of things, social media, 3D printing, virtual reality, block-chain, self-driving cars, big data, cloud systems, or AI, to name a few emergent technologies of the last decade alone. To overcome the challenge of building a design for human, social, and technological cooperation that is able to flourish in ever more technologically driven times, we need to understand what technology wants and how a company can serve these needs best.

The trajectory of technology

Company leaders often ask: What does our company want from technology? How can technology help our company to be more competitive? To answer these questions, companies engage in all kinds of futuristic ideation workshops, creative sessions, company visits, and pilgrimages to Silicon Valley or coastal China. They declare success if they have identified or implemented or invested in this technology or that start-up. This is naïve.

The really important question to ask is: What does technology *want* from companies? This is an unusual question. Can technology "want" something? There are some thinkers, like Ray Kurzweil, who predict that a "singularity" will occur around 2045[11]—a point where machines become sentient to such an extent that they will be able to self-construct. A point where the power of the kingdom of technology outstrips the power of the kingdom of biology, to which we humans belong. That point will be a point of no return for the human race—a singularity.

The chances are high that technology will become more independent in the future. Machines are becoming sentient in unexpected ways—it may not be that machines will trump the general versatility of biological human intelligence in the coming years, but machines are already coming up with alien forms of intelligence that make them superior for many specific applications. Recommendation engines determine what we buy, filter algorithms determine how we perceive reality, navigation apps shape the way we experience geography. The sheer numbers of proliferating specialized forms of intelligences are replacing more and more areas where our generalist human intelligence once reigned. Over time, the area where we use our human intelligence will become increasingly focused. This process has already begun.

What I am getting at here is something else. We know from systems theory that complex systems develop emergent properties, which are behaviors that are revealed on an aggregate level but cannot be observed in any single component of the system. The system of biology, as an example, always moves towards greater specialization of species in a process of evolution determined by its inherent characteristics. The biochemical algorithms surrounding DNA shape the trajectory of biology, pointing toward what biology wants.

The system of technology can be visualized in the same way. Instead of biochemical realities, technology is based on the physical and mathematical realities that the world is made of. The laws of physics and mathematics are the algorithms that technology uses to progress. At first, that may sound outlandish. After all, if my computer bothers me, I can cut its power supply. But I can’t unplug the whole system of technology, everything that surrounds us and that is manmade. No one can unplug the internet. And the more

the internet of things becomes a reality, the less it will be possible to disconnect physical reality from virtual reality.

More shocking and significant is that we do not *want* to unplug technology because we are already a part of it. The American author Kevin Kelly, who is known as the philosopher of Silicon Valley, has devoted most of his adult life to thinking and writing about technology. Kelly uses his own definition of technology, the Technium, which he defines as "the accumulation of stuff, lore, practices, traditions, and of choices that allow an individual human to generate and participate in a greater number of ideas."[12]

The Technium is made up of technology and humans. Our current culture still holds onto a human-centric view of the universe—a view that puts the rational human mind in control of technology. But in academia it is generally accepted today that no human, no institution, absolutely no one is in control of technology.[13] Technology is an independent force that worms its way forward as a result of technical, social, political, psychological and commercial forces. It is a system that has inert wants, just as biological evolution has. The wants of technology have been making themselves felt for decades and can only become more prominent over time, especially after artificial intelligence becomes sentient.

Today, many companies are lumbering slowly along the technological highway, only to be smashed by Amazon, smashed by Airbnb, smashed by Net-flix, smashed by online pure-plays with their data and algorithms. It can be argued that these major successful companies today do not stand in the way of technology but are simply traveling on the same trajectory as technology. What if we could find a way of organizing a company where the use of technology proliferates naturally? Where the technological, social, and

commercial spheres establish self-reinforcing feedback loops and evolve together? That company would be on the same trajectory *as* technology—and it would be a very powerful design for a company indeed.

To sketch a work design of the future, more is needed than just looking at today's technologies; sn understanding of the inner workings of technology as a whole is required. So, what does technology want? Kevin Kelly has discerned a number of directions that technology works towards that together make up what he terms the "trajectory of technology" (Table 1). Let's go through this list and consider its implications for the work design of a company.[14]

Technology wants to increase…	Effect
Efficiency	More efficient technologies will replace less efficient ones
Opportunity	Technology offers more and more options how to solve problems
Diversity & Specialization	Every single technology, or tool, will ever be more adapted to a specific situation, and ever less viable in others
Complexity	New technologies do encompass old ones. Thus, they are more complex.
Emergence & Sentience	Technology becomes ever more able to organize itself, thereby producing ever more forms of intelligence
Ubiquity & Freedom	Technologies spread inexorably, increasing the number of options
Mutualism & Structure	Technologies progress by building upon other, reliable technologies
Evolvability & Beauty	Technology favors those technologies that are able to evolve faster

Table 1 The trajectory of technology

Technology wants efficiency

Technology loves efficiency. The more efficient a technology gets, the more it begets other technologies. Take electric cars, for example, which only became a mass-market option with more efficient batteries. Or virtual reality, which was invented in 1989 but became viable only when high-

resolution smartphone screens became cheaply available in the 2010s.

Humans are in love with efficiency, too. Efficiency has been our faithful companion since the industrial revolution, and it won't leave us now that we have passed into the digital age. Efficiency is clarity; it is rational and comforting in a world of uncertainty. Efficiency gives us a problem to solve. Dealing with the brother of efficiency—effectiveness—is much more tedious. Effectiveness, which is about choosing *what* to do rather than *how* to do it, comes with too many options and is less rationally computable for us than efficiency. It is not only humans' laziness that lets us seek efficiency; it is technology itself that seeks efficiency. The quest for ever more efficient solutions is one we share with technology. Companies will continue to seek efficiency today and tomorrow. The change is that there will be much more potential to find efficiencies as technology has more and more to offer over time. Therefore, the way work is done in companies—their "work design," a term we will use extensively throughout this book—needs to adapt more and more often. Organizing must become more of a process of evolution and less of an incremental exercise.

Technology wants opportunity

Over time, technologies offer more and more opportunities to do things differently. The Amazon bookstore begot the Amazon marketplace, which begot Amazon Prime, Kindle Unlimited, and Amazon Dash, which begot Amazon Web Services, and so on. The peer-to-peer file-sharing technology underpinning Napster begot the streaming mediums of Youtube, Netflix, and Spotify, which begot advanced artificial intelligence used for recommendations, which begot social collaboration on videos and music with friends. Youtube, Netflix, and Spotify in turn became