Hallin, Anette; Andersson, Christoffer; Crevani, Lucia et al.

Book

Creating the future of work : imaginaries in an era of digitalization

Creating the Future of Work

Creating the Future of Work

Imaginaries in an Era of Digitalization

Anette Hallin, Christoffer Andersson, Lucia Crevani, Caroline Ingvarsson, Chris Ivory, Inti Lammi, Eva Lindell and Anna Uhlin

Mälardalen University, Sweden

Edward Elgar PUBLISHING

Cheltenham, UK · Northampton, MA, USA

Published by
Edward Elgar Publishing Limited
The Lypiatts
15 Lansdown Road
Cheltenham
Glos GL50 2JA
UK

Edward Elgar Publishing, Inc.
William Pratt House
9 Dewey Court
Northampton
Massachusetts 01060
USA

Authorised representative in the EU for GPSR queries only: Easy Access System Europe – Mustamäe tee 50, 10621 Tallinn, Estonia, gpsr.requests@easproject.com.

A catalogue record for this book
is available from the British Library

Library of Congress Control Number: 2024952781

This book is available electronically in the Elgaronline Business subject collection
https://doi.org/10.4337/9781035324484

ISBN 978 1 0353 2447 7 (cased)
ISBN 978 1 0353 2448 4 (eBook)

Contents

Preface

This book has been in development for a long time. Digitalization and its consequences for work, leadership, and the labor market has been the focus of attention for several of the authors of this book for decades. However, it was only when we came together in the *Digitalized Management* (DigMa) research program, funded by the Swedish Research Council for Health, Working Life, and Welfare (FORTE), in 2017, that we decided to write something jointly. The aim of the DigMa program was to study how ongoing digitalization changes the way work is performed and managed in Sweden and the UK, and to unpack what these changes imply for workers, managers, and society at large. In many ways, the program built on previous studies we had performed, either individually or in other collobrations. Over the years, we have, together with researchers that have been associated with us, conducted a large number of different types of studies in a wide range of contexts. By now, we have studied digitalization in numerous contexts, including blue-collar work in repair work and manufacturing industries, including Industry 4.0 and Industry 5.0; white-collar work in local government, national public authorities, as well as in banking and insurance companies; and the precarious work of fictional authors and digital nomads.

As digitalization is still ongoing, with new and continuously more advanced technologies being developed – artificial intelligence being the talk of the town at the moment of writing – our work has continued even after the closing of the program. While DigMa was once an externally funded research program, it has now become the name of a thriving research environment at Mälardalen University in Sweden. Here, we, together with a now even larger group of scholars, and often in collaboration with colleagues from other disciplines and from across the world, perform research on various topics related to digitalization within several new, externally funded research projects, often in close collaboration with partners from industry and the public sector.

In this book, we draw eclectically on this research. In the discussions we have had within the DigMa community over the years, we have come

to understand that the future of work and the future of society change as a result of how they are *imagined* to change. But (as we elaborate on in Chapter 1) these imaginaries are not merely a result of people's fantasies. Instead, they are grounded in interpretations made of what actually exists in the world: technologies, infrastructures, and other materialities. The imaginaries of the future emerge as we humans try to make sense of the changing materiality of the world around us. This means that imaginaries of the future are actually rooted in past and contemporary social processes. To understand which imaginaries exist in contemporary society is, we argue, of great importance because it is these imaginaries that will determine what the world will look like tomorrow – depending on how much importance we, together, give them in narratives and discourse today. To understand the imaginaries of contemporary working life is thus not merely a question of understanding contemporary workplaces; it is also a matter of understanding who are made winners and losers by these, and then being able to make a conscientious stand in the development of a different, and better, future.

The empirical findings we use to illustrate our argument mainly come from Sweden and the UK, as this is where our own studies have taken place. Both countries rank highly when it comes to technological innovations, and, in addition, the UK represents a long and vibrant history of industrial automation, whereas Sweden has brought "the Swedish model" of employers and unions together organizing the labor market, to the world. On a local level, the two countries differ in many respects, but the imaginaries are shared, we would argue, also more broadly across western industrial nations. As we explain further in Chapter 1, imaginaries are not limited by country borders; they are conceptual frameworks that feed from discourses and material artifacts that may be found globally. This is why we believe that our book is highly relevant also beyond these two countries.

We have written the book for all those wondering what work will look like in the future in light of the rapid technological development that we see around us today. Our hope is that you, the reader, will find the book interesting and rewarding, regardless of whether you are a worker or a manager. Maybe more important, we hope that you will feel empowered to take the stand that you consider is needed for the working life of tomorrow to emerge in the way that you feel is right and just.

Although our purpose is not to engage in conceptual developments concerning imaginaries but rather to *show* them, we also hope that fellow researchers will find the book interesting. As we are aiming for a

wide audience, we have chosen a style of writing which to some of you may feel less academic, but we hope that you (maybe just because of that?) still find inspiration in the book.

To write a book with *one* voice, when you are eight strong-willed researchers from diverse backgrounds and with different experiences, is not always easy. The observant reader may have noticed that the authors of the book are listed in alphabetical order by surname, with the exception of the first author. This is not because this is the result of her work more than the others; for practical reasons, one of us had to take the lead, and after having discussed it among us, we agreed to let the order of authors reflect this. It must be emphasized, though, that the content of this book is the fruit of our joint labour. The writing of the book has in itself become a way to develop our thinking regarding contemporary working life, and the future of work. It hasn't always been easy, but here we are, with a finished book, still working together on numerous projects, and still friends!

Most of the material in the book comes from our own work, but we are also grateful to be able to draw on the empirical work performed by colleagues, especially the work done by Dr Irina Popova and Zeina Othman. Dr Irina Popova, University of Brighton, did a postdoc in the DigMa program during the first years of the program, performing a study of digitalizing initiatives at a UK municipality. Zeina Othman, Mälardalen University, is at the time of writing performing a study on redesigning routines in the implementation of AI, with empirical material from a private sector provider of AI-supported maintenance solutions for energy infrastructure. Needless to say, any misrepresentation of their work is on us, not on them.

July 15, 2024
Anette Hallin, Christoffer Andersson, Lucia Crevani, Caroline Ingvarsson, Chris Ivory, Inti Lammi, Eva Lindell and Anna Uhlin*Creating the future of work*

1. Imaginaries and the study of the future

This book builds on the notion that ideas about the future matter. More specifically, it asserts that ideas about the future of technology and work matter, since these ideas express and exercise power. It is by forming and holding ideas about the future that we come to develop and implement the technologies that also form our very future, and in this process, some of us win and others lose. Our notion that ideas about the future of technology and work matter might seem either obviously true or possibly banal. How else could technologies develop if not due to how we act presently in anticipation of the future? How could technologies not develop at the behest of their developers? Indeed, the future of technology seems to obviously be one of our own making. At the same time, it is not always exactly clear *how* the future of technology and work is in our hands.

Consider how news reports inform us about the inevitabilities that lie in wait concerning the future. Reports on how automation threatens to take a great portion of our jobs are shared, and pundits voice their prophecies that seem to substantiate these claims. One gets to hear how the future of technology will radically change our lives – and is also expected to accept it. "The future is coming whether you want to or not!" Salvation or doom for some of us, or for us all, is repeatedly promised as we discuss artificial intelligence (AI) and other related technologies. At times, some might claim that perhaps we could act to change our future. But how realistic do claims like "Let's ban the internet!" or "Let's legislate AI" seem? Such claims could be equated with desperate calls to stop the future that will come regardless of our own wishes, or to regulate it in a way that makes it seem less scary.

Talk of an inevitable, or nearly inevitable, future is common. Whether optimistic or pessimistic, our world is full of such claims. Perhaps we ourselves partake in such claims from time to time, as we, for instance, hear or make claims about climate change, economic crises, wars,

immigration crises, and whatnot. However, importantly, we do not necessarily make the same claims. If we examine these claims about the future, we also quickly realize that they – despite their supposed inevitability – exist in multiple guises. Moreover, we might hear claims we object to, or our own claims are objected to, not least due to the implications of such claims. After all, stating that something is inevitable might be interpreted as a call to be passive and *accept the future*. Other times, claims about a future that is *nearly inevitable* and catastrophic might call for drastic action. This too is the case concerning the future of technology and work.

Of all imaginable ideas about the future, this book focuses on a subset that we refer to as *imaginaries*. Imaginaries are the ideas that we humans form together about our shared future.[1] These may be contrasted with our personal ideas about our own personal futures. Whereas our personal ideas might hold implications for our personal lives, our shared ideas – the imaginaries – hold implications for all of us; for the economy as well as for society at large.

Important for our book is that imaginaries exist in the plural. Although imaginaries are shared across people and groups of people, different groups of actors may still hold *different* ideas about our shared future. Consequently, there is not one single idea about the future, but multiple ideas shared by many of us. Multiple imaginaries imply multiple imagined futures. As much as we hold ideas about the future – or henceforth *imaginaries* – that posit *inevitabilities* collectively faced, these imaginaries are not necessarily commensurable with one another. And to complicate things further, these imaginaries are in varying degrees compatible with the here and now and are thus variedly manifest.

We imagine futures being embedded in the present but seek to also problematize the extent to which our different imaginaries allow us to make adequate extrapolations about the future. Herein lies the core of our book. We ask the following questions: *Which imaginaries about the future of technology and work are there? How do they fare against the here and now and against each other? And, finally, do we find cause to accept these imaginaries or challenge them?*

---

[1] Jasanoff, S. (2015). Future imperfect: Science, technology and the imaginations of modernity, in Jasanoff, S., & Kim, S-H. (eds), *Dreamscapes of Modernity. Sociotechnical Imaginaries and the Fabrication of Power.* Chicago and London: The University of Chicago Press, Ch. 1, pp. 1–33.

These questions are important because only by seeking answers to these questions can we make deliberate choices today; choices that will matter greatly in the shaping of our shared tomorrow.

WHY TECHNOLOGY AND WORK MATTER

Having specified our interest in imaginaries, why have we then chosen to focus on technology and work? The short answer is that these imaginaries are particularly pertinent for us all. During the past decades, "digitalisation", i.e., the development and introduction of various digital technologies, has come to dramatically change the way we exist in the world, as individuals as well as collectives, in private life as well as at work. Today, there is hardly any profession or job task that is not supported by or performed through some sort of digital technology. Robots perform work alongside blue-collar workers in manufacturing; robot process automation technologies (RPA) complement the work of social workers as well as salary clerks; Web 2.0 technologies support communication, meetings, and operations of projects and ongoing processes of a wide variety of white-collar professionals – and so on. In addition, the development and introduction of various artificial, but so-called "intelligent", automating technologies – AIs – is happening at an astonishing speed in a diverse set of contexts such as manufacturing, banking, education, and health & welfare. Is anyone really spared in the future? The present gives us some clues.

The introduction of this multitude of digital technologies into this diverse set of contexts comes with consequences for what work remains, what work emerges, and also in what ways work is performed *in the present*. When, for instance, robots take over the physically demanding work of the shop-floor worker, or when RPAs start performing the detailed work of processing our salaries, it is argued that the operator or the salary clerk can instead focus their attention on more cognitively demanding or interesting work – even if this work is not clearly defined.[2] Additionally, with the introduction of new information and communication technologies, different modes of working are supported, allowing for a spatial and temporal distribution of work that in many cases previously

[2] Andersson, C., Hallin, A., Ivory, C. (2022). Unpacking the digitalisation of public services: Configuring work during automation in local government, *Government Information Quarterly*, 39(1).

had to take place in particular physical locations at set times. Thus, for example, the introduction of Computer-Aided Design (CAD) solutions has allowed the distribution of design work from high-wage economies where the manufacturer is sited to lower-waged economies – such as the export of much design work by Boeing to eastern European countries.[3] The introduction of digital technologies *presently* thus changes not only the *how* of work, but also *who* does the work, *where* the work is done, and *when* the work is done. It is hard not to imagine that further changes lie in the future. History teaches us that this has always been the case.

Throughout history, technological inventions have indeed changed the way we perform work. Luciano Floridi, an influential philosopher of technology, argues that the current emergence of technology also reflects how we relate to technologies and that there is cause to consider new forms of technology.[4] Historically, much technology has been either of a direct or composite kind. We use tools directly, e.g., the plough, or use tools to configure other tools, e.g., the screwdriver. Before our very eyes, however, new technologies have now emerged that are designed not only to perform complicated tasks previously performed by human workers but also to do so in new ways. For instance, autonomous high-frequency stock trading or autonomous vehicles have emerged due to present possibilities. It is the emergence of this kind of technology that seems to provide an ample point in time to evaluate our imagined futures given that there seemingly are new technological affordances that are yet to fully settle. While commentators might argue about what these consequences will be in the future, there are no foregone conclusions about technology and its effects. We do not know the future of technology and work, but we imagine it.

WHY IMAGINARIES?

That the beliefs and ideas of people matter is a common assumption within the social sciences. Scholars have, for instance, used the concept of imaginations to explain how we make sense of ourselves in relation to

[3] Susskind, R. E., & Susskind, D. (2015). *The Future of the Professions: How Technology Will Transform the Work of Human Experts.* Oxford, UK: Oxford University Press.

[4] Floridi, L. (2014). *The Fourth Revolution. How the Infosphere is Reshaping Human Reality.* Oxford, UK: Oxford University Press.

others, and hence how communities are defined.[5] Imaginations can thus be important units of analysis to understand significant social matters.

As stated above, our interest here is imaginations of the future. Such imaginations hold important implications for explaining why we act as we presently do. For instance, imaginations in the guise of fictional expectations have been argued to be key to understanding the development of our markets.[6] More critically for us, the notion of imaginaries has been important to understanding the development of technology. The influential work of Sheila Jasanoff and Sang-Hyun Kim posits that imaginaries are "collectively imagined forms of social life and social order reflected in the design and fulfillment of nation-specific scientific and technological projects".[7] As they show, sociotechnical imaginaries are pivotal to understanding why certain projects can gain such national support to be pursued despite their initial difficulties. Expectations about the future, and the mobilization of such expectations, hold important implications.

However, it is important to note that imaginaries entail ideas and expectations about *a* future, not *the* actual future. There is an uncertain relationship between imaginaries and reality. Claims about the future are often made possible by narrow claims about the past and present to illustrate a possible trajectory. As Jasanoff and Kim show in their later work, politicians are keen on mobilizing past examples to illustrate what will be or ought to be the case for the future in their efforts. This need not imply that imaginaries are inauthentic devices to enforce policy agendas but rather that they structure our very perception of what will plausibly

---

[5] The concept of "imaginaries" has been used by several scholars to explore the constituting of communities in relation to shared ideas and ideals. Two prominent examples include Castoriadis, C. (1975/1987). *The Imaginary Institution of Society.* Translated by K. Blamey. Cambridge & Malden: Polity Press; and Anderson, B. (1983/2016). *Imagined Communities. Reflections on the Origin and Spread of Nationalism.* London and New York: Verso Books.

[6] Beckert, J. (2016). *Imagined Futures. Fictional Expectations and Capitalist Dynamics.* Cambridge, MA: Harvard University Press.

[7] Jasanoff, S., & Kim, S-H. (2009). Containing the atom: Sociotechnical imaginaries and nuclear power in the United States and South Korea, *Minerva*, 47, 119–146; quote from page 120.

become the case.[8] Thus, while imaginaries cannot be reduced to pure fantasy or, for that matter, policy, their relationship to reality is not reliable. Imaginaries might seem plausible but are hard to scrutinize. The future has yet to arrive to prove us right or wrong.

SETTING THE STAGE: OUR APPROACH TO IMAGINARIES

As explained above, imaginaries are collectively held ideas about phenomena. In the context of this book, the phenomenon in question is the future of technology and work. Multiple actors not only hold imaginaries of this phenomenon but actively engage in shaping them. The way imaginaries portray the future is by positing a link between the past and present to indicate an expected future of some kind – a future that is invariably considered as inevitable or nearly so. Imaginaries have political and normative dimensions to them, and we all engage in imagining the future to indicate how the future ought to be understood and which actions we ought to take or avoid.

With this definition at hand, fitting questions are: How do we *see* imaginaries? And, how do we use this concept in this book? To answer these questions, we first need to clarify that we depart from the presupposition that it is not particularly difficult to grasp imaginaries at all. We encounter them in the news, in political speeches, in the commentaries of pundits, in lunchroom conversations, in discussions taking place at dinner tables, in our living rooms, and so on. People talk about the future all the time. To paraphrase St. Augustine: the future does not yet exist.[9] It is the *expectations* about the future that exist – in the present. Hence, we *see traces of imaginaries in the present.*

More specifically, we see imaginaries in *the ways in which technology today is being used at work.* Ideas and expectations about what the technology is supposed to do for us are made visible in the choices made by tech firms to develop certain technology (instead of other technology),

[8] Jasanoff, S., & Kim, S-H., (2013). Sociotechnical imaginaries and national energy policies, *Science as Culture*, 22:2, 189–196.

[9] We refer here to Augustine's discussion on the phenomenology of time and future in Book XI in Augustine (1970). *Confessions*. Translated by R. S. Pine-Coffin. New York: Penguin Group (USA), originally written between AD 397–400.

through managerial decisions to implement or use a certain technology instead of another, and in the ways that employees react to and work with or against these technologies. When new technologies are innovated, developed, chosen, introduced, and used in workplaces, we can thus see what managers and workers imagine the future of technology and work will be. It might be a *near* future, for instance, what will be the case in the next couple of years, but it could also be a distant future, for instance, what our workplaces plan to do with technology in five years or more. Technologies do not develop instantly but take time to develop, and their development presupposes expectations about the future that we are made aware of. The imaginaries of the future of work are thus rooted in contemporary practices of technology at work.[10]

Consequently, our method to capture imaginaries is to examine discourses *and* practical realities. The former, discourses, are exemplified above in the various means by which we encounter discussions on technology and work in the news, in presentations, and so forth. By practical realities, we refer to the world "out there" where technology and work are found: the practices and technologies of our workplaces and organizations. In these settings, we not only see what people do when working and with what technology they do their work but also how actors imagine the two. It is across workplace practices that inklings of imaginaries are evinced and the trajectories of technology and work unfold. Moreover, it is also by attending to our workplaces that we see in which senses imaginaries are compatible with our current practical realities. Perhaps some of our workplaces are dreaming about technologies in ways that technologies fail to deliver.

THE IMAGINARIES OF THIS BOOK

In the following chapters, four imaginaries will be described: imaginaries of work as rational, imaginaries of work as human–machine collaboration, imaginaries of work as freedom, and imaginaries of work as self-improvement. Why these? Why not other imaginaries?

[10] Here we find inspiration in the work of Canadian philosopher Charles Taylor, who posits that social imaginaries are not merely sets of ideas, but the practices that enable a particular society. Taylor, C. (2004). *Modern Social Imaginaries.* Durham & London: Duke University Press.

The simple answer is that not only did these imaginaries emerge out of the many empirical studies we have performed during the past few years; studies performed in different contexts, with a variety of methods, and by different people. They also resonate well with what we see beyond our own researched contexts.

Furthermore, the four imaginaries described and illustrated here all have roots that go beyond the current focus on *digital* technologies. They can be traced back to the first industrial revolution, when the steam engine, the first technology that on a broader scale made automation of work possible, was invented. We will not here even attempt to sketch the history of work, and the way work, with industrialization and modernization, moved from the private to the public sphere, and what this brought. Instead, it suffices to say that since the first industrial revolution, the imaginaries that work is an activity that is best performed when thought of as rational, and that work requires increased collaboration between humans and machines as new technologies develop, are not new. These imaginaries have, however, taken on different meanings, and their scope has grown, with the advancement of digital technologies. Similarly, the imaginaries of work as freedom and work as self-improvement may be found in various religious and ideological beliefs historically, but these are imaginaries that in the present have taken on meanings beyond these traditional contexts.

Our exploration of imaginaries in this book shows that there is not one imaginary about the future of work; there are indeed *different*, co-existing imaginaries. Some are nearer than others, projecting more significant presences in our daily lives, while others seem to imagine futures that are harder to spot in the present practical realities of many people. Some of these might seem familiar since the advent of digital technology but have taken on new shapes; others are perhaps more surprising elements about how the future of work and technology is imagined. With decades of designing and using digital technologies, these imaginaries have not emerged suddenly but have long been fostered and mobilized by actors involved in work, in workplaces, in society – lately not least by managers and technologists. New technologies do, however, provide powerful fodder for imagining the future that seems far less bound to practical realities. The development of digital technologies that are artificially "intelligent" is maybe the most obvious example; these technologies hold a special place in our imagination because of their seemingly human-like qualities. These technologies stand apart from previous technologies in that they mimic human cognitive and physical abilities directly. This

is unsettling, perhaps, and drives several debates and controversies along with vivid and generative imaginaries.[11]

As we will elaborate on, different imaginaries project different ideas about how we *ought* to understand technology and work. Efforts to design and implement technologies, we maintain, presuppose particular and shifting understandings of work. These presupposed understandings concern specific views of what work is, now and in the future, and indeed also specific values related to what work ought to be.

Noteworthy too is that imaginaries can be in stark contrast to what is made manifest in the technology and work of today, implicating a tension between what is the case and what is desired to be the case. These imaginaries have consequences as they run up against "reality" and face the lived lives and everyday work of workers and managers in the present. Some of our imagined futures and their inevitability might seem less realistic than others. In encountering obdurate realities, the question is how actors decide to face the consequences. Is the future and work to be re-imagined to fit the bill, or can we explore other, different imaginaries that better relate to contemporary practical realities? What, in that case, may these look like?

TEASING THE CONTRIBUTIONS

As certain technologies are deemed particularly desirable and inevitable, other (possible) technologies and their developments thereof are left in the shadows. An important lesson in this book is that the development of certain technologies, and not others, entails the possibility of imaginaries becoming self-fulfilling prophecies. Importantly, the total set of imaginable technologies becomes defined by a narrower set of preferred technologies. What falls out of view, and which futures are therefore at

[11] As Cantwell Smith (2019) has argued, AIs cannot and can never be "intelligent" in the way that humans have learnt to be. They have no stake in the world, or, indeed, in their own existence, meaning that the "intelligence" they do develop is fundamentally different to that of humans, who have had to earn their place on the planet through millennia of survival. In line with Cantwell-Smith's suggestion, we highlight the misuse of terms like "intelligence", "judgment", "learning", etc., in application to machines by using scare-quotes. Cantwell Smith, B. (2019). *The Promise of Artificial Intelligence. Reckoning and Judgment.* Cambridge, MA: MIT Press.

risk? As we will argue throughout this book, the imaginaries that are produced and reproduced about work, digitalization and technologies are problematic in several ways, not only in terms of their supposed inevitabilities. We show that not all actors are equally considered in imagining the future. Power is at play here.

For this reason, we see an urgent need to redirect the ongoing debate on the future of technology and work against dominant imaginaries. Some imaginaries imply that the fruits of the future will not be evenly shared. Not all imaginaries are equal, nor should they be treated as such. Some of these imaginaries are dark ones and hold terrible futures in store. This leads us to a fundamental aspect of this book. While the politics of digital technology has been given much attention as of late, particularly in the assessment of the various social and political consequences of technologies,[12] we suggest that these politics are in no small part dependent on the imaginaries about technology and work. So, at the end of the book, we ask: How can we navigate among these possible futures to create a future of technology and work that is fair, just, and possible to manifest? What kind of future do we want?

[12] Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power.* London: Profile Books; Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114, 254–280.

2. Work and imaginaries of rationality

Having introduced what imaginaries are and what imaginaries do, we move into exploring one set of the multiple imaginaries of work that we call imaginaries of *work as rational*. As described in the first chapter, it is in the ways in which technology today is introduced, used and planned to be used at work that imaginaries materialize. We will, in this chapter, talk about how work understood as optimizable through rational reason alone is rooted in past and contemporary practices of using technology at work, and the effects thereof on the future of work.

For instance, in our study of a Swedish municipality implementing new digital technologies, we met a management consultant who, during one of our interviews, claimed that *"All work that happens in an organization is performed in processes, regardless if these are mapped out or not."*[1] Selling the service of improving workflows to minimize time and effort spent on unnecessary tasks, the consultant expresses a view of work as an activity consisting of discrete tasks that are performed in a particular order in relation to each other. When the consultant says "process", what is meant, we came to understand through our study, is "step by step procedure", which is a specific way of understanding a process. We call the imaginary of work that is actualized in this way *work as rational*. Through this wording, we posit an imagined view of work that emphasizes certain 'rational' properties in work itself. Among such properties, we consider two important aspects: first, that work is deemed as presently rational and thus heeding rational expectations such as being predictable or easily categorized. Second, there is an inherent recursive idea at hand; what is rational can also be further rationalized. The latter idea posits important implications for digitalization. For instance, to further rationalize implies categorizing and order tasks according to reason. This, in turn, is important for digitalization efforts that automate or augment work through digital technologies.

[1] In this chapter, pseudonyms have been used instead of real names.

In other words, the imaginary of work as rational enables us to understand how it is possible to strive for replacing human work through automation or for improving human work through augmentation. The widely quoted article by Oxford economists Carl Benedikt Frey and Michael Osborne[2], predicting that 47% of all jobs in the US would disappear due to the development of digital technologies able to perform tasks in a more efficient way, quickly became a sort of accepted truth. This article was translated to Swedish circumstances in 2014 by Fölster[3], who claimed that 53% of the Swedish workforce could be replaced before 2033 due to the large manufacturing industry in the country. According to Fölster, occupations requiring finger dexterity, originality, artistry, social skills, negotiation, persuasiveness, and concern for other people would have the lowest probability of being replaced by digital tools. Already a decade earlier, American economist David Autor and his colleagues developed a model to predict the degree to which human labor could be replaced by digital technology[4]. Their model suggests that all forms of human labor that are repetitive and based on routines or rules, such as that of factory workers or, for that matter, social workers, will be completely *replaced* by technology, whereas human work that involves abstract problem solving and that requires mental flexibility, such as that of lawyers or medical doctors, will be *complemented* by technology. Labor that involves the capacity for contextual understanding and human-to-human interaction, such as that performed by lorry drivers, waiters, or hairdressers, will, however, only be replaceable to a limited degree. Even though Osborne and Frey's results have been harshly questioned by other researchers for lacking rigor (for instance by researchers Coelli and Borland[5]), the harm was already done. Imaginaries feed on what is made sense of, retold,

---

[2] Frey, C. B., & Osborne, M. A. (2013). *The Future of Employment: How Susceptible are Jobs to Computerisation? Machines and Employment*. The Oxford University Engineering Sciences Department and the Oxford Martin Programme on Technology and Employment, Oxford.

[3] Fölster, S. (2014). *Vartannat jobb automatiseras inom 20 år–utmaningar för Sverige*. Stiftelsen för strategiskforskning, Stockholm.

[4] Autor, D. H., Levy, F., & Murnane, R. J. (2003). The skill content of recent technological change: An empirical exploration. *The Quarterly Journal of Economics*, 118(4), 1279–1333.

[5] Coelli, M. B., & Borland, J. (2019). *Behind the headline number: Why not to rely on Frey and Osborne's predictions of potential job loss from automation*. Melbourne Institute Working Paper No. 10/19.

and re-told and made common sense across the public; and the numbers stated by Osborne and Frey certainly were.

However, 20 years later, some of the "safe" occupations are already at risk as the introduction of AI is taking over the creative works of illustrators, screenplay writers, and even psychological counseling to prevent risks of depression and suicide among children[6]. Activities *previously* considered typical human activities, such as in design and legal work, have been transferred to software[7]. Moreover, there have been several initiatives to develop self-driving lorries, for example, and although technologies that replace waiters are not particularly common, alternative business models have been developed where waiters are not needed or needed to a lesser extent since work has been pushed to the customers who place their orders themselves. Besides automation and augmentation, we therefore have also *heteromation*. Heteromation is defined as "the extraction of economic value from low-cost or free labor in computer-mediated networks"[8], which in practice means, for instance, customers doing free work for a company through self-scanning processes instead of manned check-outs. The value generation of heteromation is often packaged as a service to customers, when it is in fact a matter of customers doing the work. Self-service desks at airports and at fast-food restaurants are increasingly common, but heteromated work is expanding also to areas such as social data contributions, game mod work, and emotional labor through, for instance, correspondent banking. It can, in other words, be argued that what we see is digital technologies replacing the paid human worker, and the human instead providing free labor in the expanding digital networks.

Hence, whereas it has proved challenging to predict if and how digital technology is going to replace human work, it is nonetheless evident that all these changes to work are made possible by the imaginary of work

---

[6] See, for instance Creative Bloq (https://www.creativebloq.com/news/ai-is-taking-artists-jobs), The Guardian (https://www.theguardian.com/film/2023/mar/24/chapgpt-movie-script-ai), and Daily Dot (https://www.dailydot.com/irl/brisbot-kids-chat-bot/).

[7] Susskind, R. E., & Susskind, D. (2015). *The future of the professions: How technology will transform the work of human experts*. Oxford University Press, USA.

[8] Ekbia, H. R., & Nardi, B. A. (2017*). Heteromation, and other stories of computing and capitalism*. MIT Press: Cambridge, MA.

as rational. This does not mean that treating work as rational is a new endeavor. Work has always been considered, and may be argued to be, in many aspects rational: following norms of action, bureaucratic rules, or legal procedures; sentencing convicts; marking essays; even giving counseling – all these tasks present rational calculative elements. Still, in this chapter, we argue that the imaginaries of work as rational – digitally legible, decomposable, rules-based, "systematizable" – become problematic because it is a reductionist view of work that, while describing well many aspects, also washes out many of its critical elements. Those critical elements consist of the many relational, parallel, and complex practices happening at the same time as bureaucratic, legal, or routine tasks are executed. In other words, the core issue may not be so much which jobs will be lost, but how work changes when the imaginary of work as rational prevails.

This imaginary promises productivity, efficiency, and improved services. Promises that appeal to executives, managers, politicians, and policymakers alike, facing a complex world marked by an unstable financial situation, social unrest, demographic change, and climate crisis. Who would not want to believe in the possibility that machines can help us in a situation like this?

Hence, the imaginary of work as rational is present, as will become apparent in this chapter, in a variety of different work settings and organizational contexts. It lays the premises for transforming human manual and intellectual work into something done by digital tools. In this chapter, we therefore dwell on the conceptualization of work as consisting of separate, discrete, and sequentially ordered activities. After that, we discuss how it becomes possible to translate work into algorithms, but also how work is still experienced as an embodied whole, not as discrete activities to be rationally optimized. Finally, we turn our attention to the further fragmentation of work into micro-tasks and gig work for and through the development of digital technologies, which disassemble work in time and space. We end the chapter by discussing the consequences of what we have shown in the chapter and further problematizing the imaginary of work as rational.

WORK AS CONSISTING OF DISCRETE, SEPARATE, AND SEQUENTIALLY ORDERED ACTIVITIES

The assumption that work, although possible to describe on different levels of abstraction, consists of discrete, separate, and sequentially

ordered activities is central to the imaginary of work as rational. The reason for trying to master work by decomposing it into discrete activities that can be ordered and optimized is to be found in the ambition to manage work by dividing its performance from its planning and control. Frederick Winslow Taylor and his seminal book *The Principles of Scientific Management* from 1911 gave rise to a way of conceiving of the management of work, Taylorism, in which the know-how of craft work is captured and transferred into industrial settings where efficiency is achieved by introducing a scientific and rules-based rationality. Central to this is a process of optimization of work that requires the detailed observation of work, and the subsequent careful re-planning of it, and the assignment of tasks to individuals – and machines. The "efficiency craze" emerging in the wake of Taylor's book release, that for instance led to an "efficiency exposition" held in New York in 1914 with Taylor as keynote speaker and more than 69 000 visitors[9], reconfigured work then and keeps doing so also in contemporary organizing.

During the 20th century and all through into the first quarter of the 21st century, Taylorism has heavily influenced not only industrial work but also how work in general is organized, managed, and performed but also how work is imagined[10]. On the back of Taylorism, other management philosophies have emerged where the mapping and time management of work are also essential, for example, the ideas of Continuous Improvements processes and Lean-production aiming to improve efficiency and productivity through reduced waste of material and human resources. These ways of understanding the maiagement of work share with Taylor´s scientific management the aim of increasing efficiency, as well as the idea that to remodel work processes, work first needs to be mapped and translated into process charts of some sort. In the case of Lean, for instance, focusing on the pace of production, or pacing, means first creating processes with clearly defined and standardizable phases.

Currently, we see numerous organizations treating work as discrete tasks in their search for efficiency through the adoption of digital technologies – both private and public organizations. We will share some examples here. First, a telling example is the investigation of the work of

---

[9] Barley, S. R. (2020). *Work and Technological Change*. Oxford University Press: Oxford:

[10] Zuboff, S. (1988). *In the age of the smart machine: The future of work and power*. Basic Books, Inc: New York.

social workers at a social welfare department in a Swedish municipality performed by one of us.[11] The social workers in this organization deal with cases related to elderly care and assistance.

As part of making individual assessments of the support needed by citizens, the social workers in the municipality perform the task, for example, of assessing applications from citizens under the Social Services Act. We studied this particular task at a time when the municipality worked on a project for developing a Robot Process Automation application (RPA). An RPA can be described as a virtual robot designed to take over a routinized task, in this case, the task of assessing applications from citizens asking for some sort of support in the social welfare department. The municipality studied was not the first to seek to automate this type of process in Sweden, and the head of department, along with its digital strategist, had both been inspired by success stories from other municipalities. The work to translate the daily chores of the social workers into tasks and activities possible to digitalize began in this municipality in the spring of 2018 when the following impact goals were formulated: "*Streamlined process and shortened time for case work of prioritized processes from application to decision*" and "*Managers and co-workers experience that co-workers have more time available for other qualified work tasks*". Particularly noteworthy here is the description of "streamlining processes" which implicitly describes the process in which the social worker and the help-seeking client interact as a rational, sequential process to be optimized. In the adjective "streamlined" there is thus already the assumption that what is dealt with is an ordered sequence of activities that can be performed in a more efficient way.

During the workshops held as part of the process of implementing the RPA, the social workers identified the following activities as necessary to perform the task:

1. Receiving the application and opening a case.
2. Checking the eligibility of the applicant.
3. Compiling the rational and documentation of the decision made.
4. Informing the citizen about the decision.

[11] Andersson, C. (2023). *Digital Automation of Administrative Work: How Automating Reconfigures Administrative Work*. Doctoral dissertation, Malardalen University.

5. Taking action to ensure that the required action is taken (money paid, technology installed, etc.).
6. Documenting and archiving the process and the decision.

What this list shows us is that when describing work to make the task at hand possible to understand and digitally automate, what happens is that work is made into a sequence of activities. When work is framed in this way, these activities are not only constructed as separate and discrete, but they are also sequentially ordered. That is, in producing this kind of knowledge about work, work is dealt with in a way that makes it possible to turn it into sequentially ordered separate activities. Work that does not fit this format is consequently either reshaped or reformulated to fit the format or completely left out, thereby closing the door to any work not complying with the imaginary of work as rational.

For the optimization of work through digitalization to be possible, the messy, relational, and simultaneous performance of daily chores needs to be broken down into sequential activities. As our other research has shown, technologically enforcing control over work based on defining it as standardized sequential work can give ample cause for resistance.[12] Nonetheless, the quest for productivity, efficiency, and cost reduction through the implementation of digital technology is leading to a shift in how work is understood. We call this a movement towards hyper-Taylorism, a trend of reproducing and reinforcing a Taylorist understanding of work and its consequent optimization in the digital working life.[13] Taylor monitored and timed work tasks through interrogating and observing workers with the aim of transferring craft knowledge from workers to managers in the form of instructions. In implementing digital technologies, as our example shows, similar imaginaries of work as

[12] Lammi, I. (2021) Automating to control: the unintended consequences of modern automated work delivery in practice. *Organization,* 28(1), 115–131.

[13] Andersson, C., Crevani, L., Hallin, A., Ingvarsson, C., Lammi, I. J., Lindell, E. & Uhlin, A. (2021). Hyper Taylorism and third-order technologies: Making sense of the transformation of work and management in a post-digital era. In: Ekman, P., Dahlin, P. & Keller, C. (Eds.*) Management and Information Technology after Digital Transformation*. Routledge: Abingdon.

fundamentally rational are at play, but the knowledge extracted from workers is inscribed in algorithms.

WORK AS POSSIBLE TO TRANSLATE INTO ALGORITHMS

In the previous section, we have described how an instrumental view on work, as ultimately consisting of discrete components or of identifiable units of activities that together constitute a task, is often considered as legitimate and does not needing to be accounted for since it builds on a long history of scientific management-inspired ways of managing work. This is fundamental in the context of digital development, since the breaking down into sequential tasks and activities is what is required to produce a digital technology that can perform the task and activity at hand. This, importantly, requires a translation process through which the components of work are articulated in words and images that are then translated into algorithms.

In the study of the development of an RPA software discussed above, we, by joining the social worker community over a longer period of time, had the possibility of observing this translation process as it emerged.

From Process Maps to Detailed but Simple Descriptions

A first step in the digitalization project in the Swedish municipality was the creation of *detailed written descriptions* of the work processes performed by the social workers. While the department already had documentation on all work processes in the form of Microsoft Visio-style process maps, they needed to produce more in-depth and detailed descriptions from which to build the RPA. The digital strategist presented this as an opportunity both to optimize existing processes and to lay the groundwork for the department to go further in the future and incorporate 'proper' AI technology.

A designated process leader from a different department in the municipality, with experience in similar mapping processes, was appointed to lead the workshops. The project manager, an ICT administrator, two unit-managers and several social workers attended these workshops. During the first workshop, the process leader distributed post-it notes and asked the participants to write down the actions they take in relation to the task in focus. It was emphasized that simplification and clarity, as requirements of mapping, were important. The session was held in a conference

room with everyone sitting around a large table and the process leader standing by the whiteboard at one end of the room. After instructing the participants to write down everything they could think of that happened in the work process of assessing applications for one particular social benefit, safety alarms, each person around the table was asked to read out loud what they had written on their post-it notes and put them on the whiteboard in dialogue with the group and the process leader. The result of the interaction was the arranging of post-it notes on the white board according to an imagined timeline, starting with the first activity that the social worker brought up and finishing with the final activity. This, however, meant that parts of the process that the social workers clearly articulated as happening simultaneously were reorganized so that they instead followed a linear progression. In other words, the process leader used the post-it notes to create a linear sequence out of something that, according to the experiences of the social workers, was in practice very much mangled together in a dynamic interaction. Crucially, the post-it notes and the process leader's ordering of them allowed for a structuring and separation of the social workers' work into discrete packages of activities that in the everyday work, unfolded in different ways depending on the social workers' interactions with the municipality inhabitants.

There are strong reasons for paying particular attention to what happened in these workshops. By producing a linear ordering of the work done by social workers, the workshops were key points at which the organization and the technology were configured together. This was done in a space that was carefully controlled by an experienced process leader equipped with a "toolbox" embedded in the imaginary of work as rational. In creating this new version of work, that is, a new version of the process of evaluating an application for a digital safety alarm, the performance of work was separated from a web of interconnected practices that in everyday practice defined it. The toolbox mobilized made space for certain aspects of work but not for others. The whiteboard, post-it notes and the strict process to be followed lead the social workers to translate their daily chores into specific activities. On few occasions, caring for, supporting, or calming down clients were mentioned, chores that apparently are part of social workers' interaction with worried and vulnerable inhabitants. However, the restrictive space of post-it notes, and the requirement of articulating out loud such aspects in front of their colleagues, clearly had a disciplining effect – with the result that work was "sanitized". In the final version that was used for the

RPA implementation, caring for, supporting, or calming down were not included as either tasks or activities.

From Detailed but Simple Descriptions to Algorithms

In the second process mapping workshop that we observed, the process leader reiterated the results from the first workshop so that the social workers could give their input on the process that was now visualized. Some social workers expressed concern with the new configuration since the way in which the process leader described the process didn't match their sense of what would be appropriate, or indeed, what would be in accordance with the relevant legislation.

When presented with the process mapping, some social workers also expressed concern about the potential loss of personal interaction with the inhabitants when the process is automated. For instance, an application for a safety alarm, which was one of the work processes that was to be automated first, is often the first decision and intervention related to safety and support in the home, and therefore more than just a decision on a safety alarm or not. It is the first contact of someone in need with the municipality.

> **Social worker** […] It is rare that something happens so that one needs a lot of help at once. Usually, it starts with a safety alarm and then one might need help to go grocery shopping because they are unable to go to the store, or [they] need help with cleaning.
>
> **Interviewer**: Would it be a big loss if that point of contact disappeared?
>
> **Social worker**: I think so. Because I think about how I would like to have it. And I would rather talk to a person and have things explained to me, than just, well, like the social insurance service [state governmental service], if you are to apply for something there. Then they have their webpage, and they are really neatly built and everything. But you almost never, at least not me, actually succeed in filling them out correctly. There is always something that goes wrong. So, you must call them and sit in the phone queue for 40 minutes in order to reach a case officer and get an explanation of how to do it. It's impersonal to just fill out forms on a computer, I think. It's also hard when you don't have somebody to ask. It is easier to call somebody and ask and get the answers to what you wonder about.

The conversation above must be understood from the perspective of the recipient: an older person, person with a disability or a person in need who is approaching the municipality for the first time. It is easy to understand how difficult this first step might be emotionally for the one in

need and what delicate handling the first approach might require by the trained and experienced social worker. However, as described above, all aspects of care, support, or calming emotions were erased in the process of translating how human interaction is performed to which activities the RPA is supposed to perform.

The issue of the importance of actually being in direct contact with the person in need was brought up during the workshop by social workers, also in a discussion regarding how individuals could be informed about how the benefit application process was proceeding without personal interaction. As one of the social workers interjected in a discussion with the process leader:

> **Social worker:** Yes, we do lose the opportunity to inform about the benefits. We also lose the opportunity to sometimes catch other needs, or to see that the need is even bigger. Because it starts with a safety alarm but when we talk to this person, we may realize that 'well this person hasn't eaten in four days' or 'oh, she falls over all the time' or whatever it might be that makes it the case that we actually can inform about and motivate them on other benefits. That we lose.
>
> **Process leader**: Does the individual experience lesser quality then, if you are not part of the process?
>
> **Social worker:** Of course, that might be a risk. The human interaction is important.
>
> **Process leader:** But is it something that gets worse for you?
>
> **Social worker:** No not to us.
>
> **Unit manager:** For the individual possibly.

Whereas this concern was acknowledged by the process leader and the project manager, the way it was addressed was based on what possibilities the technology offered, not on what the person in need would benefit the most from. It was suggested that a textbox in the digital application could take care of this, and the discussion was focused on what information had to be given in the web form. The translation of the current practice to the RPA-automated process was thus guided by the technical possibilities of the technology and the need to rethink the work of the social worker to suit the technology, rather than vice versa. The outcome of the process described above was an algorithm for the RPA to be implemented in the municipality.

EXPERIENCES OF WORK AS AN EMBODIED WHOLE

As we have shown in the previous sections, the translation of the multifaceted performance of work into separable, discrete, and sequentially ordered activities seems to happen rather smoothly thanks to the long tradition of treating work as something to be optimized and made more efficient. There is no need to vividly argue for work as rational. When social workers point to work as messy, simultaneous relations and actions, embedded in a sense of care for the person in need, they can relatively easily be silenced by the toolbox used by the process leader, or they may even discipline themselves into silence, not feeling that certain activities may have a place on a post-it notes at all. However, the social workers still voice their experience of things being done "in one go" or of care being a central part of their work or of creating a contact with a whole person when approached, not just assessing a specific need. What they express is that work is a complex practice and that the activities that make up work cannot be reduced any more than "the finger movements of a concert pianist make up piano music".[14] The caring, supporting dialogue between the social worker and the older people is lost in translation when an RPA is implemented as in the example described above. When work is represented as discrete activities in a sequence, what is brought to the fore is therefore just a portion of what performing work entails, and this portion is constructed in a specific way, partly dictated by the design of the digital technologies being used.

We have already seen how other aspects of work, other than those that were organized in linearly ordered post-it notes constitute the actual practice of the social workers: the tacit assessment of the general state of the person under evaluation when meeting this individual in person, and the seeing and sensing required for making such assessments, for instance. The care, support, and calming of, among others anxious parents or older people who have reached a vulnerable point in their lives, making them in need of help from the bureaucratic municipality, is lost in translation.

This work, in fact is messy, non-linear, and embodied – and, of course not unique for the social workers at the municipality. We see it also in other contexts, with one example coming from our ethnographic study in

[14] Wagenaar, H. (2004). "'Knowing' the Rules – Administrative Work as Practice". *Public Administration Review*, 64(6), 643–656, 643.

the manufacturing industry, where we observed CNC operators, welders, and assembly workers over a one-year period. When observing one of the CNC operators work during a day, we noticed that he didn´t use ear protection, even though the noise from the machines, for us, was almost overwhelming. When we asked why, we were somehow surprised: when running the more manual support machines, he would wear personalized ear protection and listen to the radio through these, but with the more advanced CNC machines with built-in and sealed-off functions, he needed to hear the sound of the machine.

In the middle of the (quite loud) conversation between the CNC operator and one of us observing his work, the operator suddenly stopped talking. He quickly stepped over a container on the floor and listened carefully to the running machine. For the researcher, there was no change in the way the machine sounded, but for the operator, the tiniest change of noise was an indicator that the steel shavings had gotten stuck. He quickly opened the machine and within seconds loosened the jammed steel shavings with a shovel.

When the machine was running again without problem, the operator described how he would hear even the tiniest change in the process, and how this way of listening was part of him when being at work (as a kind of always activated passive listening). But, as his machine is part of a large fleet of machines – old, new, manual, and automatic – standing close to each other, he could not always rely on his hearing. When the old machine across the aisle was running at the same time as he was running his machine, he had to put his hand on the machine wall to feel any changes in the vibrations in the machine that would indicate something was not right, as Figure 2.1 illustrates.

Hearing, seeing, touching – that is, knowing your machine through the senses – would most likely not be captured on the post-it notes if the work performed at this workstation was to be mapped. Conceptualizing work in the way described in the previous two sections would consequently turn a blind eye towards the intricate relations that in situ *are* part of the everyday work process.

If we limit our understanding of work to work as rational, we are not able to appreciate the embodied experience of work that we have exemplified in this section and the complexity of mundane everyday work. To avoid limiting our understanding of work, we can find inspiration in scholars interested in practice theories who have for some time argued for the importance of bringing to the fore how our world is constantly re-produced in the situated doings that we perform together with technologies,

Source: Stina Rudebjer.

Figure 2.1 An illustration of the observed operator touching the machine to monitor its functioning

objects, places, and discourses. According to these theories, *doing* and *knowing* are not separate[15] – knowing does not come *before* doing. Rather, "the knowing subject and the known object emerge in the ongoing interaction".[16] Performing work is therefore a form of knowing: in the performance of work, knowledge is produced, expressed, enacted, and transformed. Our bodies, not only our minds, are crucial for doing and knowing work – and our minds are not separated from our bodies. This means that all work is embodied; it is performed with and through the body. An imaginary of work as rational cannot account for the embodied nature of work. This is in sharp contrast to the knowledge produced about work when translating human interactions into an algorithm.

Hence, it might not only be the tacit embodied knowledge and skills that people have developed that are lost when the performance of work is translated into simple algorithms. The imaginaries of rationality also affect the idea of work as such, the knowing we perform. We may end up only being able to know those aspects of work that are rational since we have lost the others in translation. Even if algorithms might become more advanced and learn on their own in the near future, as advocates of AI often imply, it is unclear how even such advanced algorithms might capture these intricacies. This has, however, not stopped people from dreaming of a future where technologies manage to not only replace our work practices but also do so on their own accord without post-it sessions, or other mapping endeavors. AI, as some say, will in due time overtake human work itself completely and rationalize it to its fullest extent.

WORK AS DISCRETE TASKS THAT CAN BE DISASSEMBLED IN TIME AND SPACE

Although it may be argued that work is an embodied whole, not just a rational endeavor, the development of digital technologies designed to work with discrete activities, combined with shareholders', politicians', and managers' search for efficiency, has led to further fragmentation of work that is nowadays no longer supposed to happen within the formal

[15] Mol, A. (2002). *The Body Multiple: Ontology in Medical Practice*. Duke University Press: Durham.

[16] Gherardi, S. (2019). *How to conduct a practice-based study: Problems and methods* (2nd ed.). Edward Elgar Publishing Ltd: Cheltenham.

boundaries of an organization. Certain discrete activities can be performed by humans outside of the organization or by digital technologies such as AI, which, however, also require humans outside of the organization to perform work. Hence, reconstructing work as discrete activities means disassembling work in time and space and redistributing the performance of work across the globe. For instance, the development of AI technologies has been seen as implying a future where all work is not only far more rationalized but is so in a completely global sense through technology. The practical realities of ensuring this do, however, also challenge the common conception of how discrete activities hang together. Shortly put, wanting to imagine discrete and rationalizable tasks runs counter to how efforts to redistribute the performance of work happens.

We can start elaborating on this point by looking at the so-called artificial intelligence that may take over all or part of the activities to be performed for accomplishing a certain task through automatization. The range of activities that are being automated, or that are being discussed as possible to automate in this way, is broad and includes everything from individualized online purchase recommendations to stating whether to grant a bank loan to someone or not. In some cases, this means that the whole task is automated, in other cases that the task is partly already performed, or will possibly be performed in the future, by the AI and partly by a human worker. One example we have encountered through a project performed by a PhD student in our research environment is the maintenance of overhead power lines.[17] Power lines are critical parts of the infrastructure that secure electricity in a country and, as such, they need to be regularly maintained. Traditionally, humans have "manually" performed inspections through visual on-site inspections. This includes both on-site visits where the inspector controls the power lines and the masts, sometimes by actually climbing them, and inspections from above performed from a helicopter from which the inspector can look at the power lines with binoculars. During the flight, photos are also taken that are later analyzed by the inspector. This way of performing

[17] PhD student Zeina Othman, whose work we acknowledge in the preface, and two of the authors of this book have co-authored the conference paper referred to in this chapter. Othman, Z., Lammi, I. & Crevani, L. (2023). Boundary-crossing Routine Design in the Echo of Algorithms. *Paper presented at the 39th EGOS Colloquium*, Cagliari, July 6–8.

the inspection task is considered costly, inefficient, and environmentally unfriendly, and technology providers are therefore developing ways of using AI for conducting the inspection virtually. One way is to have drones flying over the power lines, taking pictures that are analyzed by specific applications that, using AI, generate an analysis of the power lines, pointing out where defects have been identified. These virtual inspection results are then looked at by a human expert who decides how to act on them and marks the severity level of the identified defect. The providers of the AI application offer this kind of service to utility companies across the globe. This means that it is the same AI application that treats the data from different companies, situated in different geographical locations, and in contexts with different ways of constructing power lines, different legislations, and different norms regarding what is considered in need of maintenance or not. Conceiving of work as a rational endeavor means that it is possible to let, or imagine letting, a technology outside of the situated context perform the activities that have traditionally been performed by the inspector manually in a situated context with its specificity.

This is, of course, no easy enterprise for the technology provider. Interestingly, it also requires a lot of human labor and human intelligence. The AI needs to be "trained". To recognize what is a defect that needs to be pointed out and what is not. That is, the AI needs to be "trained" to "identify" what is a powerline and what is not, what is a component and what is not, and what is a defect for this specific client and what is not, and so forth in different parts of the globe. The 'training' of AI, both in the case of powerlines and more generally for many applications, is often done in low-wage countries, out of the context of the application, by people who may not have any specific competence or experience with the objects the AI is "trained" for and who are therefore are told what to look for and then mark a huge number of images to provide the AI with data to work with. This means that they may also need to "be in contact with" the people who previously did the work manually in order to understand what specifically to look for. Hence, the idea of automatization as detaching the technology doing the work from humans is an illusion: a lot of human work is, in fact, needed. When using the finalized AI application, the user will validate, or not, the defects the AI has identified. This means that the user of the AI will constantly contribute to "rain" the AI, both to the benefit of their organization and to the benefit of other customers the technology provider may have, now or in the future. This means that the work that was formerly performed locally

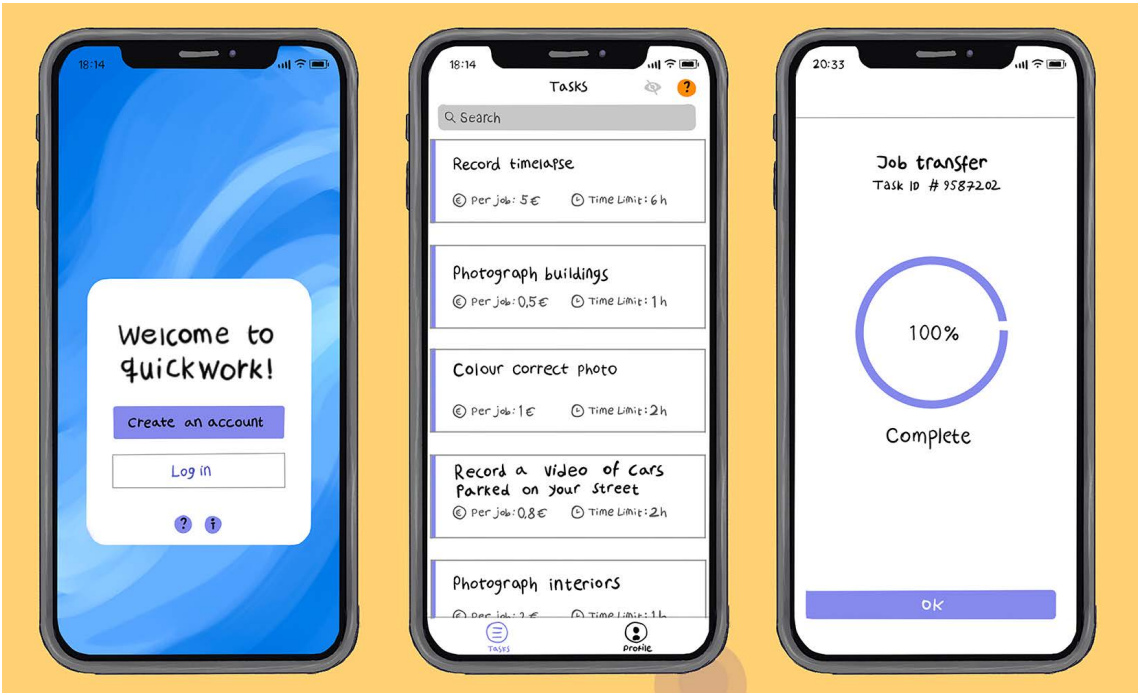
by inspectors is becoming something performed around the globe, at different times, in discrete but interdependent activities.

Such activities may also take the form of so-called "micro-tasks", which means that activities are not only discrete but even reduced to something micro, like a gig or even a "click". The company *Clickworker* is, for instance one of the global players in the kind of brokering gig work that is often referred to as crowdsourcing. The term "gig economy" refers to a labor market characterized by short-term contracts or freelance work instead of long-term employment. As opposed to employment, gig work is all about a flexibility that enables individuals to dictate their schedules, command their own rates, and accept work that matches their skills and interests. Gig work has increased rapidly across the globe in the 21st century and is today frequent in various work tasks such as car- or house-sharing, food delivery, pet services, administrative tasks such as virtual assistance, and task-based gigs such as freelance writing, design, teaching, and tutoring services. In the year this book is written, no less than 44% of the American workforce is part of the gig economy, and "it's no secret that traditional jobs are being reshaped by the flexible structures that gig work offers."[18] What this means is that the idea of work, at least for part of the workforce, is changing.

As gig worker, the individual enters the context for work on short notice, does what is requested within a short time frame, and then leaves the organization again until a new request comes. This also implies that the individual is not aware of, and is not supposed to be aware of, the long-term opportunities, challenges, and goals of the organization they performs work for. For the individual, it is thus not only a matter of long- versus short-term contracts that is at stake, but the mere understanding of their work in a wider, more complex web of entangled practices. Gig work represents a sequence of activities that is cut out of the organizational long-term relational context and out of the long-term aims of the organization. Digital platforms enable such a cut. Figure 2.2 illustrates what the interface for the gig worker may look like.

On the website of *Clickworker*, we can, for instance, read that the company is a full-service provider that automatically breaks down projects into micro jobs that are assigned through the digital platform to a suited worker:

[18] https://www.upwork.com/resources/best-gig-economy-jobs, retrieved on February 2, 2024.



Source: Stina Rudebjer.

Figure 2.2 Illustration showing what a gig workers may see on their screens when using a digital platform

> "[…] offers both standard and customized solutions for the implementation of data-oriented projects. These projects are automatically broken down into micro jobs and processed by qualified Clickworkers from the crowd. The results are then reassembled and transmitted to the customer in a quality-assured manner."[19]

According to Forbes, these micro jobs "typically pay from 10 cents to a couple of bucks, but there are rare tasks that let you earn nearly $20 for each completed assignment"[20]. This gives an idea of the actual "size" of the "micro" and of the fragmentation of the retribution for the labor put into the platform. The description of the "crowd" working for Clickworker gives further clues to the mechanisms at play in the disassembly of tasks:

> Our Crowd
>
> More than 6 million Clickworker based in 136 countries worldwide."
>
> Clickworkers are a team of internet professionals registered with our organization. They work online, performing micro-tasks on our platform using their own desktop, tablet or smartphone (via Clickworker-App).
>
> Clickworkers participate in projects on a freelance basis and according to their own schedule. They are compensated directly through us on a per assignment basis.[21]

Through a digital platform, work is disassembled into micro-tasks that can be sourced to a crowd of 6 million humans across the globe, who perform them at a time that fits them.

Micro-tasking is not always as transparent as in the case of Clickworker. As argued by Ekbia and Nardi,[22] every one of us is in fact involved in the kind of heteromated work that micro-tasking in an unpaid, or low-paid, manner entails. When we think that the identification tools, the online captchas, where we click on pedestrian crossings, bicycles, or fire posts (to prove that we are human) are images to "train" AI, we can see that the 'training' of the tools is in fact performed not only by certain

---

[19] https://www.clickworker.com/about-us/, retrieved on March 8, 2024.

[20] https://www.forbes.com/sites/enochomololu/2023/11/20/the-7-best-micro-job-websites-to-earn-money-online/?sh=5e17cdfc22d9, retrieved on March 8, 2024.

[21] https://www.clickworker.com , retrieved March 8, 2024.

[22] Ekbia, H. R., & Nardi, B. A. (2017*). Heteromation, and other stories of computing and capitalism*.MIT Press: Cambridge, MA.

humans, but by humans more in general, in a fragmented way over time and space.

Yet another aspect of how work is divided into discrete tasks that can be disassembled in space and time is the divide between those organizing the technology for disassembled work and those exposed to it. At Clickworker, we, for instance find the following quote showing the sentiments of one of the more senior employees:

> Working at Clickworker as a former intern and now a full member of the team has been a truly inspiring journey. From my first day on the job, I felt welcomed and supported by my colleagues and have grown both personally and professionally because of it. The passion and drive that each and every one of my colleagues brings to the table is impressive.
>
> Together, with the help of the Clickworker crowd, we are changing the world by delivering innovative solutions and making a real impact. I am honored to be a part of this talented and dedicated team, and I am constantly motivated by the exciting projects we work on, knowing that our collective efforts are making a difference. – Robert, Marketing.[23]

The quote, obviously written for marketing purposes, brings to the fore that the imaginary of work as rational is not an imaginary that leads to an equal working life. The quote portrays work as being about inspiration, collective effort and achievement, passion, making a difference, being welcomed, and so on. Clearly, the micro-tasks described earlier are for other kinds of workers than those brokering them.

A final, and most important, note on the issue of the disassembling of work is that crowdsourced human work is often not only low-paid work but also work performed in parts of the world where crowdsourced human workers' rights may not be guaranteed,[24] as the popular press has pointed out repeatedly.[25] When the content to be worked with may be violent or disturbing (as for instance when reviewing pictures and tagging them for child pornography or not), the absence of proper support

[23] https://www.clickworker.com/about-us/, retrieved March 8, 2024.

[24] According to their website, Clickworker has its workforce mostly located in Europe and North America, so we are not referring to them specifically here. https://www.clickworker.com, retrieved March 8, 2024.

[25] https://www.wired.co.uk/article/low-paid-workers-are-training-ai-models-for-tech-giants.

for the workers is even more troubling.[26] Sustaining the global multi-billion enterprises of Amazon, Google, Meta, and Microsoft, this distribution of human labor reveals the persisting inequalities between the global North and the global South. These inequalities may therefore be argued to be exacerbated by the imaginaries of work as rational, that through the gig-economy are manifest in ways that redistribute the retribution of work, concentrating profit into a few organizations that can gain from the work done by human gig workers. The new bots building on AI technology that can write essays, answer difficult questions, and create thought-provoking fiction and illustrations are in fact trained on images, videos, and text that are labeled by extremely low paid gig-workers.

IMAGINARIES OF RATIONALITY – MATTERS OF POWER AND KNOWING

In this chapter, we have unpacked the imaginaries of work as rational by discussing the idea of work as consisting of separate, discrete, and sequentially ordered activities, which opens up possibilities for making work more efficient through the optimization of these discrete activities and their sequencing. Such an idea provides the ground for making it possible to consider work as something that can be translated into words and diagrams and then into algorithms. This translation takes place in a process of mapping that turns the possible-to-digitalize version of work, the version emerging in the mapping, into the default, the true procedure for performing work that in turn will be optimized through detailed control. Whereas, on the one side, process mapping facilitates the understanding of work practices through simplification, it also prevents an understanding of what work entails and how it is done. The embodied nature of work is denied, and aspects such as care, tacit know-how, emotions, and knowledge based on the senses are erased from our understanding of work.

Knowledge of what work is about, which is produced not only by academics but also by managers, consultants, project leaders, and workers themselves, is therefore constrained to what is needed for the performing of procedural steps, the specification of the required input, and the expected output of each step. This means an impoverishment of our

[26] https://www.bbc.com/news/technology-46055595, retrieved March 11, 2024, as an example of the media coverage of the issue.

understanding of the nature of work when the translation from human doing to algorithms takes place. Such impoverishment, most importantly, also means that when we translate work in such a way that algorithms can perform it, judgement is abolished. It is no longer part of work since work by then only consists of repeatable actions. Moser and colleagues,[27] in discussing the different nature of judgement and reckoning, bring to the fore the seriousness of this effect of the digitalization of work. By turning to the American philosopher Dewey, the authors note that judgement is about "finding out what the various lines of possible action are really like… to see what our resultant action would be like if it were entered upon,"[28] so that one can act in an informed way in relation to the situation, meaning to do what is appropriate – this is a value-laden process. Reckoning, on the other hand, is understood as the processing of data through calculus and formal rationality.[29] Whereas reckoning treats data as unproblematic representations of the world, the "data" that judgement works with is already value laden since it depends on what is considered relevant data for a certain purpose. Humans are capable of judgement and the performance of judgement provides the foundation for our societies, while the machines or technologies available today can only do reckoning. Moreover, when taking care of just a micro-task, without any knowledge of what this micro-task is part of and why it is to be performed, such as the "training" of algorithms, it also means reducing human work to something closer to reckoning rather than judgement, as defined above. Whereas the reckoning done by algorithms is quantitative, through calculations, what is done in micro-tasks is a more qualitative processing, but still devoid of the stakes involved in judgement since the possibility to reflect on what is appropriate for what end is often non-existent. Conceiving of work as rational and translating it into sequences of discrete activities, activities that algorithms can do or that can be sourced as micro-tasks through digital platforms, means therefore profoundly changing social life and morality as reckoning

---

[27] Moser, C., den Hond, F., & Lindebaum, D. (2022). Morality in the age of artificially intelligent algorithms. *Academy of Management Learning & Education*,21(1), 139155.

[28] Dewey, 1922, in Moser et al. (n 27), 142.

[29] Lindebaum et al., 2020 in Moser, C., den Hond, F., & Lindebaum, D. (2022). Morality in the age of artificially intelligent algorithms, *Academy of Management Learning & Education*,21(1), 139–155.

gradually replaces judgement. And this is often done in the name of efficiency – what if the imperative had been social justice instead? Whereas an imperative of social justice may benefit the conceiving of work as rational, since this may lead to organizing work in a way that is beneficial for those with a stake in it, the issue we bring to the fore here is that conceiving of work as *only*, or *primarily*, rational is problematic. The reason is that this general simplification of work impedes the articulation of other imaginaries. In fact, this way of translating work is imbued with a pervasiveness that makes it challenging to even imagine alternatives, and this comes with important consequences.

What we argue in this chapter is that imaginaries of work that inscribe rationality into work itself also cover over critical aspects of work, particularly so when digital technologies are developed and increasingly used. Sometimes this occurs with little fanfare or public attention. Plausibly, this is due to work being conceived as increasingly performed through and thanks to bureaucratic, legal, and normative rules. So, while being able to capture certain aspects of work well (most work is constituted by rational and calculative elements), actions driven by and reproducing this imaginary make the less visible aspects of work vanish from sight. That which conflicts with the view that work is rational seemingly matters less. As we have argued above, this has profound implications as reckoning replaces judgement, which is important considering that work is not just "an activity". "Work" is about humans being able to pay their living expenses and support children and extended families. Work is also about killing boredom and idleness. But this is not all because work is also something that extends beyond the individual. While being fundamental for experiencing a sense of meaningfulness and pride at an individual level, work is also an important part of the social fabric shaping society itself. Hence, could judgement be argued to be a matter of both morality and meaningfulness? How could we make such aspects matter more when creating the future of work?

In the beginning of this chapter, we described the study by Frey and Osborne stating that 47% of all jobs in the US (and even 53% in Sweden, claimed by Fölster) were at risk of automation. Why did this study get such huge attention globally? One possible answer is that the shift it portrays scares us. What about meaning in life?

Taking our own work as university researchers and teachers as an example, the supervision of a student essay could, just like the work by the social worker, be divided into sequences on post-it notes and translated first into words and images and then into algorithms. This would,

for sure free plenty of time from our work schedules, and at the same time, the students could also receive more prompt supervision by an AI whenever and wherever needed, including outside of office hours. So, why would we as university teachers resist such a development?

We would like to argue that, similar to the social workers and CNC operators, we would not be able to do what we think is our work properly if we didn't supervise, meet, and talk to our students. We wouldn't be able to give them the needed support, calm them when they feel anxious, sense when something was wrong in their understanding, or when issues related to group dynamics surface. Additionally, we would lose the meaning of our profession and would not be able to have those experiences and develop those skills and competencies in interaction with students that make what we do meaningful.

The meaningfulness of what humans do at work is more seldom discussed than the efficiency gains that technology may deliver, which mostly consist of saving time. The allure of saving time is such that it is not possible to slow down. In a municipality in the UK that we studied, where the adoption of a new organization-wide system was not proceeding as planned, suggesting a slowdown for more reflection was "not appreciated" according to one service lead. Indeed, the team was so quick to push the project forward that in one service, where they assumed four work processes needed to be mapped and began their design work around that assumption, there turned out to be, in reality, 200 work processes. The change team's own imaginaries of work, it transpired, were hugely oversimplified, which brings us back to the complexity and richness of work practices being overlooked when imaginaries of work as rational are pushed without thorough reflection on the human and non-human interactions that together form work as a meaningful whole. How come that the allure of saving time is such that this kind of overlooking is possible?

To understand the attraction to the imaginary of work as rational, there are two particularly significant "features" of the digital technologies developed in what Brynjolfsson and McAfee have called "The Second Machine age"[30] that demand attention. The first is the speed at which work can be performed with contemporary digital tools. This is

[30] Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, Progress and Prosperity in a Time of Brilliant Technologies.* New York & London: New York & London.

due to the fact that digital technologies have the technical capacity of processing large amounts of data, and contemporary digital infrastructure allows for the fast transmission of data across machines in different physical spaces. Such technical capacity and infrastructure allow for more advanced operations to be performed. The second major feature of digital technologies that explains the magnitude of the effects of the imaginary of work as rational is size. The possibility of making the innovation at the heart of the digital revolution – the computer – small, without having to reduce capacity, means that there are almost endless possibilities for how and where it can be used, and for what. The computer, being a so-called General-Purpose Technology (GPT), is a technology that can be used for a wide range of activities and purposes, in a multitude of contexts, and be combined with other, even less advanced, technologies. Steam-powered engines, one of the key innovations of the first industrial revolution, were also a GPT, but unlike steam engines, the computer allows for ever smaller components like processors and sensors, creating the conditions for a much wider diffusion .Computing technology can be part of any machine in almost any industry. Advanced digital technologies hold the promise, in other words, of unprecedented potential to save time in all kinds of activities that can be performed by them. Since it is what can be made to be rational about work that is automated, those activities have the potential to become extremely productive. As the less visible, embodied, relational aspects of work will never be possible to "accelerate" to the same extent, they may also become less attractive to invest in. Consider the huge amount of time spent in "training" AIs compared to the time an average worker is allowed to spend on reflecting. Given that digital GPT technologies, not least due to their size, can be found everywhere, they enable materializing the imaginary of work as rational in more and more contexts, making it more difficult to imagine alternatives. What will, for instance, happen to the craft work currently performed in industries when manufacturing work is automated, or to relational work such as caring, supporting, and sensing when the imaginary of work as rational is materialized in the form of algorithms requiring no human interaction?

One possible way of handling the powerfulness of the imaginary of work as rational is to understand that speed is not an objective feature of the technology, but something that emerges in the interaction between humans and technologies. Technologies do not live a life of their own; as we have shown throughout this chapter, they are designed, produced, trained, and maintained by humans, and work is performed

in assemblages of humans and technologies. Technologies do not have power in themselves – any power they may have emerges in relations with humans. Another way of handling this imaginary may be by bringing to the fore the in-between-ness constituting work, exemplified above with caring for, supporting, calming down, and sensing. The practices of caring for, supporting, calming down, and sensing need to be made as visible as those activities that are on post-it notes when designing algorithms. These practices need to be visualized and accounted for, which is something that, we argue, is overlooked in the widespread imaginaries of work as rational. Other imaginaries are needed to do that.

3. Work and imaginaries of collaboration between humans and machines

Another imaginary of work and technology centers on humans collaborating with technology. This is an imaginary with a distinctive form of seductiveness, and closely tied to the recent emergence of smart robots and AIs. Unlike the imaginary of work as rational, this imaginary involves sensory aspects, conceiving of work as strenuous, possibly physically hard or emotionally draining, and difficult to perform in a good way since humans are biased. But by collaborating with the machine, human labour can become easier and less stressful, and work can be performed professionally.

Close collaboration between humans and machines are imagined both in the "real" future and in fiction. For instance, the 2023 film *The Creator* shows such dreams of collaboration well. In the film, robot AIs, misunderstood and falsely blamed for a nuclear detonation in the US, retreat to more progressive Asian countries where they live peacefully and co-habit with the humans. As American soldiers arrive in the AI's safe haven and shoot them down in running battles, we see human wives and human children weeping over their dead AI-robot partners and fathers. The human–machine collaboration imaginary shapes the film's narrative from beginning to end. Back in the real world, robots and AIs are indeed found working alongside humans both in and outside of the workplace – although without forming family relationships with them. Most sizeable manufacturing settings employ robots in a range of tasks, and many of these are classified as co-bots – robots work closely with human workers and supporting them in their tasks. Chatbots – i.e., accessible online AIs that can be communicated with – are today common in many companies, supporting the customer service in resolving queries. The imaginary of human–machine interaction and the idea that humans and machines can and should work "together", has thus, it seems, become a reality. But as

with other imaginaries, the idea of human–robot "collaboration" hides as much as it reveals.

We live in an era that may be characterized as *post digital*, i.e., an era where digital technologies are increasingly becoming so entangled with humans in a way that they begin to go unnoticed. Even so, prosperity seems contingent on humans working *together* with smart machines – in the Scandinavian countries the public authorities often emphasize that healthcare services will only be maintained if the dwindling number of care workers and a growing population of older people are supported by collaborative robots, for example. Technology developers talk of "collaborative" AI, such as ChatGPT, or "collaborative" robots – "co-bots" – and different applications are advertised as digital "co-workers". The recent EU-funded project *AI4Europe*, for example, claims that "Collaborative AI aims at developing future systems where humans and artificial systems work together, taking different roles based on what they do best"[1] – and, similarly, another EU-funded TechConnect project, in which a few of the authors of this book are involved, aims at studying how humans and advanced digital technologies "complement each other".[2] The key to collaboration between humans and machines is thus the idea that humans and machines are different and can focus on what they do best to together perform work.

Nevertheless, the threat posed by AIs and robots to human jobs, and even to human agency and control, presents a potential source of drag on the diffusion of these technologies. This is naturally unwelcome, both from the perspective of policy-makers who are keen on promoting national competitiveness, and of manufacturers who are keen on securing expanding markets for their products. Alongside the imaginary of collaboration, there is also a deep cultural undercurrent of suspicion and mistrust towards AIs and robots. This is visible not only in science fiction; contemporary best-selling popular-science books are also replete with warnings about future calamity because of the "coming wave" of new technologies. Here, we are warned that AI is moving up the

[1] https://www.ai4europe.eu/research/simple-guide-collaborative-ai#:~:text=Collaborative%20AI%20aims%20at%20developing,on%20what%20they%20do%20best. Retrieved November 30, 2024.

[2] https://horizontechconnect.eu. Retrieved November 30, 2024.

"cognitive ladder",[3] taking our place in the world of work and even possibly threatening our existence.[4] Asimov's robot laws[5] (that they must obey and help humans, but never harm them, even though inaction) carry with them – despite having been developed for fiction – the sinister subtext that robots, if unchecked, are inherently dangerous. If you have stood next to a working manufacturing robot, you will know this feeling – viscerally. The inhuman strength, lighting quick movements and seeming autonomy is disturbing.

The imaginary of *collaboration* thus becomes a useful means of making sense of these new machines positively – as welcome co-workers – while backgrounding fears about machines either taking control or simply taking our jobs. The notion of collaborative AI and human–machine collaboration, even simply human-centric technology, must be seen, in other words, as a counterweight to alarmism: a promise of collaboration, co-existence and complementarity – rather than conflict and competition. In the following sections we will unpack this imaginary further.

TECHNOLOGY: IN THE SERVICE OF HUMANS

The increased use of robots/chatbots to perform work alongside humans is often also posed as an imperative to solve the challenges facing the public sector budget constraints and flagging national competitiveness. Policy discussion and academic literature is driven by claims for the benefits of AI and intelligent machines – there is no value in repeating them here. However, one example of their ubiquity, and perhaps duplicity, is how intelligent machines have found their way into our personal lives. We are all used to algorithms recommending movies for us to watch, helping us update our diaries, completing our sentences, guiding our internet searches and so forth.[6] Indeed, they are increasingly becoming

[3] Suleyman, M., & Bhasker, M. (2023). *The Coming Wave: Technology, Power, and the Twenty-first Century's Greatest Dilemma*. New York: Crown.

[4] Bostrom, N. (2014). *Superintelligence: Paths, Dangers, Strategies*. Oxford: Oxford University Press; Tegmark, M. (2017). *Life 3.0. Being Human in the Age of Artificial Intelligence*. London: Allen Lane.

[5] Asimov, I. (1950). *I, Robot*. New York: Bantam Books.

[6] Finn, E. (2017). *What Algorithms Want: Imagination in the Age of Computing*. Cambridge MA: MIT Press.

essential to survival and productivity in fast-paced late modernity.[7] ChatGPT, for example, is becoming an indispensable collaborator for students when it comes to that last-minute essay writing or assisting you on the after-dinner speech that you have been putting off.

Czarniawska and Joerges have gone through some of the most significant works of fiction featuring robots, starting with Czech writer Karel Čapek's play *R.U.R.*[8] What emerges from reading this is that the "good" in the robot materializes in different ways. The robot doing good by performing dull or dangerous jobs instead of the human is quite an ubiquitous presence. The robot performing care, showing empathy or protecting the humans from themselves is more specific in some works of fiction. The robot doing what is humanly impossible or performing complex tasks better is found in several works of fiction. There is a striking resemblance to how politicians, technology companies, executives, consultants and other powerful actors currently portray digital technologies, referring to the four D's (dull, dirty, dangerous and dear/expensive).[9]

Images such as the ones connected to a dull job or dangerous work are very powerful – it is a difficult end to argue *for* dull or dangerous work. No human would want to trade places with a robot tasked with examining the interior of a leaking nuclear reactor. But at the same time, who determines what constitutes dull and dangerous work? We cannot discount the idea that such work may be attractive to some humans, such as those who chose dangerous physical work (firefighters) over safe office work or who offset their safe jobs with dangerous hobbies during weekends.

The vivid images created by Charlie Chaplin struggling to keep the pace and going crazy working on a production line in *Modern Times* are as powerful as they are perhaps misleading. They offer a very particular view of the production line. Not only does the production line encompass a range of tasks, many of which involve highly skilled staff, but it ignores

---

[7] Rosa, H. (2013). *Social Acceleration: A New Theory of Modernity.* Translated by Jonathan Trejo-Mathys, New York: Columbia University Press.

[8] Czarniawska, B., & Joerges, B. (2018). *Robotization - Then and Now.* GRI-report 2018:1.

[9] https://www.forbes.com/sites/bernardmarr/2017/10/16/the-4-ds-of-robotization-dull-dirty-dangerous-and-dear/?sh=142c9b753e0d. Retrieved November 30, 2024.

the community and sociality that develops around it. Moreover, who is to say that "boring" work is itself a bad thing? Those of us who live our lives outside work may find solace and calm in repetitive work. The steady rise of "creative" work and being creative as the only genuinely value-adding and psychologically healthy work is a relatively recent phenomenon.[10] Indeed, repetition, and the refinement of skill that ensued, was until recent decades highly valued in the economy.[11] Anyone who has practiced a repetitive skill, be it tennis, golf, or weightlifting, will know the pleasure that it brings.

Nevertheless, we have seen machines gradually taking over what the global North would consider dull and dangerous tasks – particularly through the automatization of industrial blue-collar work. Robots are being deployed in a range of dangerous work settings ranging from mining, to lifting large or hazardous items in industrial production, to disarming bombs to gently lifting an elderly person that needs to go to the bathroom and cannot do it herself. The ideal of a working life that is safe for workers has developed over the decades through the effort of, among others, unions, academics, and political parties. Automatization makes it possible to reconcile this ideal, with the effort to increase productivity while reducing cost and waste. Thus, robots solve the dilemma of good and bad work (eliminating bad work) while at the same time serving the interests of managers and shareholders for efficiency and return on investment, and indeed of engineering companies eager to develop their businesses through pushing the frontiers of what is possible to do with robotics.

As discussed previously, in our current society the imperative of productivity and efficiency dominates investment decisions and is constantly reproduced in managerial, governmental, even personal practices. Justifying these investments, robots are themselves promoted as implacable while, in reality, they need to be maintained, do not operate flawlessly and need to be run in clean environments. Occasionally, due to the limitations of software in accounting for unanticipated situations, they also kill, crush and maim workers – as powerful machines have always done. Besides serving the purposes of increasing profitability for the companies using the robot, such a capacity to (in theory) work around

[10] Reckwitz, A. (2017). *The Invention of Creativity*. Translated by Steven Black, Cambridge: Polity Press.

[11] Sennett, R. (2008). *The Craftsman*. London: Penguin Books.

the clock also serves another requirement, the one of availability of services and products which is needed to meet another emerging imperative, that of convenience. Websites such as Amazon are always available – humans can buy when and where it is convenient. Self-driving cars, framed as a technology that allowed the owner to do something else, allegedly more valuable, with their time than driving, addressed itself both to efficiency and convenience. Both efficiency and convenience are thus framed as putting technology in the service of the human.

A critical new frontier of being "in the service of the human" is care work. Assistive technologies that in the Scandinavian countries may be called welfare technologies are a broad range of robots, applications, sensors used to provide care to the elderly and people with disabilities. They are used, for instance, to "remind" people to take medicines, "helping" with showering, "monitoring" at night, "helping" with eating, "detecting" falls, "communicating" remotely, and other practices that together constitute welfare services. The rationale for using these machines is that humans should spend their time on tasks where they are needed, i.e., where interaction, relations, emotions are important or, as those active in this sector say, "where hands are needed". This means producing a division of tasks in delivering, for instance, home care services. Tasks that can be standardized and require the use of physical force or of the senses (such as looking) but not needing any interactional work, are tasks that machines may do. Work for humans is, on the other hand, that which includes interactional dimensions requiring an understanding of the situation, of what is appropriate, of how to empathize with others. Work for machines is thus standardized and "objective", whereas work for humans is organically emergent and requires use of their body and senses in handling situatedness.

In conclusion, technology in the service of humans means that humans are enabled to escape dull and dangerous work, that work is performed in a more efficient way, that the convenience for the user/customer increases, and that humans can focus on what humans can do best, that is, for instance, interacting with other humans. Having machines that "collaborate" with humans in this way alleviates the latter's burden and may make some kinds of work more attractive for different categories of workers than the ones that have traditionally performed them, as for instance physical strength is no longer an issue. However, this also leads to unintended consequences, for example, the exclusion from working life of those who do not show the social skills required by this kind

of work for humans, as we have seen in our study of the Swedish steel industry.

TECHNOLOGY: PERFORMING WORK EFFECTIVELY AND NEUTRALLY

The machine "collaborating" with the human in performing work is imagined doing so in a specific way. Unlike the human that may be biased, tired, distracted and that may take own initiatives, ignore certain information, or become curious about a certain issue, the machine is promoted as doing only what it is programmed to do in an efficient and neutral way. AI technologies, for instance, can synthetize large amounts of information and, in theory, find the right information for a certain purpose. ChatGPT was and is, in the public discourse, framed as a revolution since it would enable learning and knowledge production in completely new ways. No more necessity to search libraries for articles, reports, books when you can ask the machine for a summary of what is known about a certain phenomenon and even expect recommendation of how to act! For instance, let us say one needs to know what the best practice is for managing organizational change related to a merger. It is enough to type the question and the chatbot will provide an answer that builds on material that goes way beyond the reading of any particular individual, her preferences in terms of type of research, or within which field she is educated.

The more difficult the task is to perform in a neutral, unbiased way, the more it seems an AI system is a solution. Even the gloomiest science fiction work cannot escape the idea that robots are implacably logical. Estimating the probability that crime will occur in a particular area of the city and deciding which customer qualifies for a loan and which does not are two typical examples of situations that require informed judgement and taking responsibility for a subjective evaluation of another human's future actions. These are also two situations in which AI is currently used with the claimed aim of helping humans to make better decisions given that the AI can, in a neutral, unbiased way, produce an estimate on which the humans can lean on. In the case of bank loans, a study of a large bank pioneer in introducing AI systems providing automated "decision-making" showed that bank employees felt reassured by

the technology since they did not have to explain their reasoning behind their decisions, as the following quote from this study shows[12]:

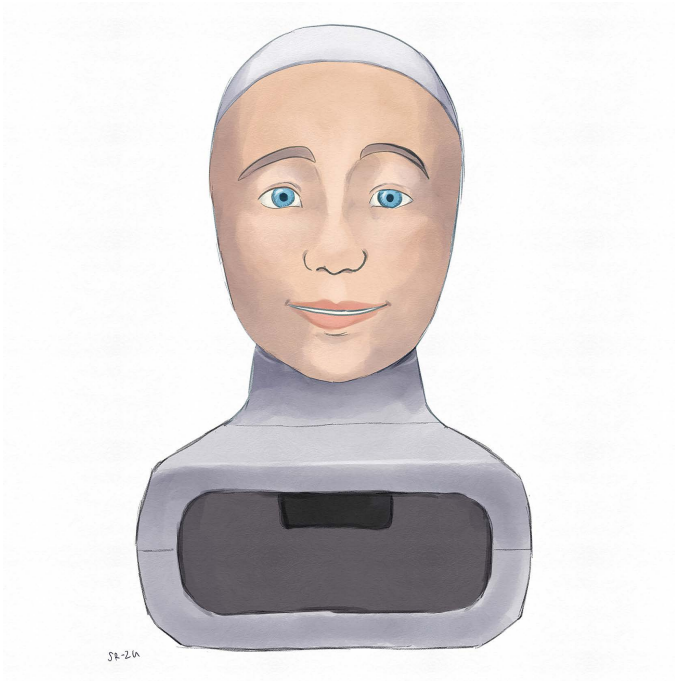
> "I think it is quite nice in the case of a loan rejection ..., because you don't have a long discussion with the customer, the decision is final ... If the loan is rejected, mostly because the loan rating doesn't fit, I can show the rejection to the customer and there's no further discussion. I actually think that's much nicer, as I personally don't have to get involved in the discussion."

They could just refer to the machine and its objectivity. Of course, such an objectivity has been called into questions and biases embedded in the algorithm revealed, leading even to some very public amendments, as for instance when Amazon had to radically reduce using algorithms in recruitment due to its discriminatory effects.[13] However, technology is framed as something that can always be improved, it is always just "not mature enough" or "refined enough". Therefore, the idea that we need solid ground when making decisions and that AI can, in an objective and efficient way, provide such a ground is gaining increasing traction.

Whereas algorithms providing data for decisions concerning insurance or bank loans seem to do that properly in the form of traditional IT applications accessed through a laptop, in the case of HR practices, a more "proper robot" has started to be used to interview possible candidates. This has taken the form of a sort of "talking head" made of an artifact shaped as a head, a mask, on which a digital face is projected through a back-projection system, as Figure 3.1 illustrates. The face can thus change expression and, as one of the vendors of this kind of so-called social robots explains, the robot is programmed for automatic face movements to give an illusion of life and for maintaining eye contact and returning smiles to mimic natural interactions. Although there is a large number of faces available, with all kinds of skin colors, to project, in most pictures showcasing the robot or the use of the robot, it is a white person's face that we meet, which is kind of ironic given that the purpose of using the robot in HR is to avoid recruiters' unconscious bias

[12] Strich, F., Mayer, A. S., & Fiedler, M. (2021). What do I do in a world of artificial intelligence? Investigating the impact of substitutive decision-making AI systems on employees' professional role identity. *Journal of the Association for Information Systems*, 22(2), 304–324.

[13] https://www.theguardian.com/technology/2018/oct/10/amazon-hiring-ai-gender-bias-recruiting-engine. Retrieved November 30, 2024.



Source: Stina Rudebjer.

Figure 3.1 *The illustration shows how a social robot for interviews may look like*

in relation to, among others, ethnicity. As a Swedish municipality using this kind of social robot claims, "Say goodbye to gut feeling and foster inclusivity with a shortlist of pre-qualified candidates. Always objective and fair. Learn how a Swedish Municipality uses [name of the provider] to become more objective".[14] And the Swedish municipality mentioned that they are using this robot to become more accurate in recruiting since

[14] https://tengai.io/customer-stories/nacka-unbiased-candidate-experience/. Retrieved November 30, 2024.

it provides recruiters with a data-driven candidate assessment. We can also read on the provider's website that this robot is:

> "a social interview robot that autonomously performs interviews, scores the interview according to an established framework and summarizes the output for the human recruiter".[15]

Moreover, in relation to the needs that emerged from the Covid-19 pandemic, it is also underscored that this is a virus-free robot.

The fact that technologies are continuously developed, combining advanced computational features with human-like features and expressions, leads to predictions about the future as the following one.

> "In the future, humanoid robots are likely to become even more sophisticated and capable of performing Human Resource work. This could lead to a change in the role of human HR professionals, who will need to focus on more strategic and creative work".[16]

The development of technology, therefore, continuously prompts humans to change and adapt the way they work – shifting their attention, in particular, from mundane to more "creative" work. Humans and technology will collaborate, but since technology is more efficient, can use data at scale and can be neutral in performing certain tasks, humans must find other niches in which they can add value. The collaboration between humans and machines is, in other words, framed as machines being in the service of humans and on machines doing efficiently work for humans, but also on humans needing to change because of the machine. In the next sections, we explore these tensions concerning on which terms collaboration is supposed to happen.

UNEQUAL COLLABORATION

Collaboration entails actors working together for accomplishing a specific task. When humans and machines work together, in the general discourse, they are supposed to contribute to the accomplishment of the

---

[15] https://furhatrobotics.com/recruitment-robot/. Retrieved November 30, 2024.

[16] https://www.linkedin.com/pulse/humanoid-robots-conducting-hr-work-lanning. Retrieved November 30, 2024.

task at hand based on what they can do – for instance machines summarizing information and humans interacting with other humans. In many cases, technology developers work on both increasing the computational capacity of the machines and making them communicate with humans more seamlessly, whether by being able to mimic human conversations or facial expressions, as described earlier. Hence, machines are constantly developed to become more powerful but also more humanized. The dream of the "super-machine", infallible in what it does, is intertwined with the dream of the "super-human", i.e., a machine that has human-like characteristics but is better at computing. Recent developments have shown that machines are indispensably powerful; there is no serious university, company or public organization that is not investing in AI-related initiatives. Whether the dreams and promises of Silicon Valley entrepreneurs will come true is not a serious question anymore – the issue is framed as just a matter of time.

Machines can do easy and repetitive physical work, but there are heavy limitations when it comes to tasks that require adjustment to specific situational features. An example comes from the warehouses of a Swedish supermarket chain, where humans are needed to pick up groceries from the shelves because machines would damage the bananas and choose moldy tomatoes. At the same time, an algorithm dictates the sequence of actions to be done to the human that performs the picking: the algorithm decides what the human workers are supposed do, where to go, when, and how. The algorithm optimizes the time needed to complete the order. This has led to a work environment where the humans are viewed as the fleshy parts of the machine, being guided through noise-cancelling headphones and corrected when they do not follow the machine's instructions to the dot.

The above case shows how humans are hired to do work that machines are not able to do because the actions themselves are situated and require continuous contextualization. In the former example, perhaps the most dystopian, the machine secures an efficient route across the warehouse, thus delivering on its promise of efficiency, but this promise cannot be completely fulfilled without the human doing "dull" work, in this case. In other words, there is a more complicated relation between humans and machines as collaboration is set-up, rather than the machines being in the service of the humans that no longer need to do dull work.

Indeed, there are many inherent tensions when it comes to how collaboration may be arranged and in whose interest. For instance, Amazon has become known for its huge fulfillment centers where enormous amounts

of packages are filled and shipped every day. The use of robots in such plants is notorious. In January 2023, *CNBC* reported that the "Labor Department's Occupational Safety and Health Administration has issued citations against Amazon at three of its warehouses for exposing workers to safety hazards".[17] They pointed out "ergonomic hazards" that lead to several back injuries and musculoskeletal disorders due to the lifting of heavy packages for many hours, made worse by the non-ergonomic postures that were needed for that. *CNBC* further reported that Douglas Parker, Assistant Secretary of Labor for Occupational Safety and Health, claimed that "these inspections found work processes that were designed for speed but not safety, and they resulted in serious worker injuries," and that "while Amazon has developed impressive systems to make sure its customers' orders are shipped efficiently and quickly, the company has failed to show the same level of commitment to protecting the safety and well-being of its workers".

In 2019, Emily Guendelsberger documented her experience of working at an Amazon fulfillment center in in *Time* magazine:

> "Technology has enabled employers to enforce a work pace with no room for inefficiency, squeezing every ounce of downtime out of workers' days. The scan gun I used to do my job was also my own personal digital manager. Every single thing I did was monitored and timed. After I completed a task, the scan gun not only immediately gave me a new one but also started counting down the seconds I had left to do it.
>
> It also alerted a manager if I had too many minutes of "Time Off Task." At my warehouse, you were expected to be off task for only 18 minutes per shift–mine was 6:30 a.m. to 6 p.m.–which included using the bathroom, getting a drink of water or just walking slower than the algorithm dictated, though we did have a 30-minute unpaid lunch. It created a constant buzz of low-grade panic, and the isolation and monotony of the work left me feeling as if I were losing my mind. Imagine experiencing that month after month".[18]

Whereas in a traditional warehouse an operator may be required to walk around and pick items, either with the help of some lifting/moving tool or without, at Amazon nowadays there are stations where workers do not

[17] https://www.cnbc.com/2023/01/18/amazon-cited-by-osha-for-exposing-warehouse-workers-to-safety-hazards.html. Retrieved November 30, 2024.

[18] https://time.com/5629233/amazon-warehouse-employee-treatment-robots/. Retrieved November 30, 2024.

need to do that. Instead, the shelves come to the worker who is stationed in a specific position.[19] Autonomous robots lift each shelf and bring it to the operator when needed. This may be regarded as an improvement in relation to workers' health given that they do not need to walk around a warehouse and pick items that may be heavy or in inconvenient locations requiring the worker to exert physical effort that may be hazardous. On the other hand, the worker is given a "dull" task with very little possibility to develop any skills, perceive any meaning or create any knowledge at work. A shining light points out to the operator in which "pod" (position on the shelf) the item s/he needs to pick is and s/he can read on a screen what item to pick.[20] The operator picks it, scans it, puts it in a tote and pushes a button on a screen. Then the shelf moves away, and the next one comes, moved by the autonomous robot. The shelves are filled randomly to maximize the chance of having the products close to the operators when needed, and they all look the same.[21] It is impossible for the worker to develop any deeper know-how since the worker has no influence on what is happening around him/her, s/he is just instructed by the machine which item to pick from which place on the shelf and needs to do it within a certain timeframe that can be controlled by the machine.

In this kind of arrangement, the human worker has lost almost all kind of agency, and the system is rigged in order to extract the only labor the human worker does better and in a cheaper way than robots, i.e., picking all different kinds of items customers order with a flexibility and delicacy that robots are not able to mimic, at least not for now and not at a reasonable cost. Work is reduced to something that neither needs any thinking nor any care or judgement. Customers get their orders delivered very quickly, and the company expands and captures market share, but the workers are reduced to "robots". This is what in another book we have called a form of *hyper-Taylorism*[22] – it is not just about organizing work with efficiency as the ultimate aim; it is about understanding work

[19] https://www.youtube.com/watch?v=cLVCGEmkJs0. Retrieved November 30, 2024.

[20] https://www.youtube.com/watch?v=VdZex1MTqj0. Retrieved November 30, 2024.

[21] https://www.youtube.com/watch?v=TUx-ljgB-5Q. Retrieved November 30, 2024.

[22] Andersson, C., Crevani, L., Hallin, A., Ingvarsson, C., Lammi, I. J., Lindell, E., & Uhlin, A. (2021). Hyper Taylorism and third-order technologies: Making sense of the transformation of work and management in a post-digital era. In: Ekman, P., Dahlin, P. & Keller, C. (eds) *Management and Information Technology after Digital Transformation*. Milton Park, Abingdon, Oxon: Routledge.

as something to be optimized, rather than as an activity producing meaning, knowledge, fulfillment, even happiness.

Moreover, even AIs that ostensibly appear to be supporting our everyday lives don't just work for us. Many AI-driven online services are central to what has been called the "attention economy"[23] and so also work simultaneously with advertisers and content providers, helping them track our interests in real time to better target advertising and content.[24] Thus, by being our collaborators, but also being the servants of product and service providers, AI technologies are also, arguably, part of the engine of our accelerated lives and excessive consumption. A recommendation system that encourages us to gamble or buy excessively is not really collaborating with us in a neutral way – it is also operating in the interests of the companies providing those services or products.

The attention economy, measured in clicks and time spent on websites browsing, creates the conditions for AI designed to maintain attention and ideally foster addiction.[24] Recent news articles[25] in the international press described how, according to his widow, a man with psychological problems had become closely attached to an online AI-powered chatbot. The chatbot, following its algorithms, continued to chat with the man – providing responses that maintained their conversation. The conversation drifted towards the subjects of environment and suicide. AIs do not distinguish between subjects – suicide and stamp collecting are indistinguishable to it because they do not know what they are. The AI is simply stringing words together based on a wealth of previous texts that relate to the last input from the user of which it, similarly, has no actual understanding. Eventually the AI and the man in question came to what seemed to him to be an "agreement" – he agreed to commit suicide if the AI would deal with global warming. Which he did. It becomes clear

[23] Attention economy. https://en.wikipedia.org/wiki/Attention_economy#cite_note-3. Retrieved November 30, 2024.

[24] Zuboff, S. (2022). Surveillance capitalism or democracy? The death match of institutional orders and the politics of knowledge in our information civilization. *Organization Theory* 3(4), 26317877221129290.

[25] https://www.dn.se/varlden/man-tog-sitt-liv-efter-att-ha-chattat-med-ai-robot/ and https://www.euronews.com/next/2023/03/31/man-ends-his-life-after-an-ai-chatbot-encouraged-him-to-sacrifice-himself-to-stop-climate-, among others. Retrieved November 30, 2024.

that collaboration can mean different things to different actors in different contexts.

It can be suggested then that how the collaboration imaginary plays out will rest less with the citizenry using the technology and perhaps more with those who control the technology – with the CEOs, company shareholders, politicians, and public-sector leaders. These actors perform the crucial role in the economy of shaping the nature of the demand for AIs and robots, those who are actively shaping the markets for these technologies as well as the engineers and designers offering new applications serve their needs. In other words, the future of the relationship between humans and technology will be shaped by a powerful minority.

As discussed in Chapter 2, the current situation is the result of a century of academic and industrial efforts to quantify and optimize work in terms of tasks to be executed in the fastest sequence possible – starting with Taylor and Ford. In the previous decades, there have been unions, academic fields, writers and politicians problematizing such an approach and proposing alternatives in which work was to be conceived of as an activity for humans and an important part of being human, rather than just a means for producing and delivering products to be consumed. As machines became "intelligent machines" and took over more tasks at work, it became more difficult to imagine and articulate alternative approaches to managing work based on other values than those of quantification, computation, and optimization. In this quest for efficiency, the human is made to do dull work – the very work that supposedly machines were meant to take over – this becomes a way of oiling the wheels in a machinery that otherwise could no work in a seamless way. As Kate Crawford puts it, "large-scale computation is deeply rooted in and running on the exploitation of human bodies".[26]

Going back to what machines cannot do, besides not being able to do some physical work that requires understanding and adapting to the context, they are not able to do some cognitive work that requires understanding and adapting to the context either. Interoperability has long been an issue when it comes to making different IT systems or applications talk to each other. Whereas when organizations work with this issue the focus may often end up being on the technical features, challenges arise

[26] Page 57 in Crawford, K. (2021). *The Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*. New Haven: Yale University Press.

because there are logics, expectations and valuation practices embedded in the systems that constrain what data they can handle and how. A system cannot understand the values and practices that another system embeds, for instance. A human can and is often made to translate between systems. RPA (robotic process automation) applications have entered the scene in the last decade to make such a translation possible in an automated way. However, in the cases we have studied, the RPA is only able to read digital input that comes in a specific format. As in the case of bananas and tomatoes, the robot is not able to adjust its way of "picking" to the situation at hand. Hence, when a digital input is available, it needs to be formatted in a way that fits the RPA, which means that humans will have to do this work or that other IT applications will need be changed, which in turn may lead to more work for humans to be performed. When a digital input is not present, it needs to be created and that creation affects entire processes that are made machine-friendly. Whether new AI applications will turn out to be more flexible, and at the same time reliable, or not it is to be seen yet. Our current studies suggest that other things need to be changed also in the future for an AI to work. For instance, referring to the study described in Chapter 2 focusing on AI for power lines maintenance, the powerful AI is still a dream – many things need to be changed to make the dream come true: for example the camera used or the distance from which photos are taken when using an AI for detecting defects needs to be adjusted, that is, the way photos are taken needs to be made AI-friendly.

The widespread enthusiasm for focusing on what machines *can do* and may do in the future also tends to divert our attention from what machines cannot do, at least not yet. And it's worth noting that machines, it turns out, cannot do a lot of things. We are finding, in our own research, that robots are far more limited in their abilities, especially in those tasks requiring dexterity and judgement, than they are imagined to be. In one example, from our research on the Up-Skill project,[27] a lock-testing robot failed because, in sensing imperfections, it failed too many locks. According to the firm's owner-manager – whereas a human tester would fail 1–2%, the robot tester would fail around 40%. As he understood the problem, it could not be made to "understand" that humans will accept imperfections in the movement, so long as the lock works reliably, with a second try. In another example from the same project, human workers

[27] https://www.upskill-horizon.eu, Retrieved November 30, 2024.

had been replaced by a robot to scour and clean metal parts for the food industry with grinding tools. The surfaces must be scratch-free, immaculate in fact. The robots, it transpired, could not do the work to the quality required and humans had to be recruited to replace them. In fact, when looking for new workers, managers had come to recognize the skill and experience embodied in the work and sought applicants with an "aptitude for art".

We also note that several companies, including Apple and Uber, have abandoned their attempts to create driverless cars – they did not understand that in some situations, such as robots controlling cars on public roads, humans and policy-makers will not accept even a tiny rate of failure. Indeed, as David Mindel[28] has argued, no robots will ever become truly autonomous and that robot autonomy, moreover, is really just a dream long held by technologists – perhaps since they read Asimov – but not the general public. This has consequences for how a collaboration between humans and machines may be arranged. Humans do not trust autonomous systems and hold them to, potentially unobtainable, high standards.

It remains, however, that given the discourse of progress in which modernity and technological development are entwined, today's failures are merely challenges – not emerging indications of the limits to technological potential. Rather, failure is framed as impermanent – only a temporary setback – and therefore it does not affect the overall imaginary substantially.

To conclude, given what machines can do, but also, most importantly, what they cannot do, collaboration between humans and machines is arranged in specific ways. What becomes apparent is that there are asymmetric power relations in which the workers, whether on a warehouse shopfloor or in an office, are forced to engage with machines, rather than choosing to collaborate with them.[29] This is particularly evident in the different kinds of automating and augmenting applications. In the end, we would argue that it is the human that is supposed to adapt to the machine, to become machine-friendly. Collaboration is therefore not on equal terms.

---

[28] Mindel, D. (2015). *Our Robots Ourselves: Robots and the Myths of Autonomy.* New York: Penguin Random House.

[29] Crawford, K. (2021). *The Atlas of AI: Power, Politics, and the Planetary Costs of Artificial Intelligence*. New Haven: Yale University Press.

TECHNOLOGY–HUMAN COLLABORATION AND THE CREATING OF VALUE

Whereas there are scholars bringing to the fore the skewedness of how collaboration between humans and machines is arranged, there is a narrative that seems to prevail over these more critical voices. It is the narrative promising that when machines and humans collaborate, humans are enabled to focus on creating value. This is a powerful narrative, given that "value" has a central position in societal discourse. We have, in the above section, discussed what machines cannot do, which may lead to humans needing to actually focus on other tasks than those creating "value". As already mentioned, however, technology is assumed to be under constant development and quickly improving. In the prevalent discourse, therefore, machines requiring "dull" work from humans may, therefore, be just a manifestation of a technology that is not mature enough, not yet.

The imperative of maximizing the production of value is increasingly present in all contexts. The spread of the Lean production management model[30] to all kinds of sectors worldwide may have contributed to classifying and prioritizing activities in terms of value. The so-called "Toyota way" shifted attention from finding the one best way of performing work, which was the Tayloristic way of optimizing performance, to finding what is not adding value and reducing this waste in the processes. Efficiency is therefore imbued with new meaning and value is one central concept in making sense of and changing organizational processes. Discourses of value creation and value proposition[31] have also led managers to frame the work done by the workers that they are responsible for in terms of value. Such a framing makes the imagined customer/client/user the judge of what is value and what is not through several practices and managerial tools aimed at codifying such a value. When introducing new technology, the question becomes whether a human presence adds value or not for the customer/client/user. For instance, if you were the imagined client in homecare, reminding you it is time to take a medicine or helping with putting your socks on are often discursively constituted

[30] Lean-production became widely known through the publication of the following book: Womak, J., Jones, D. T., & Roos, D. (1990). *The Machine That Changed the World*. New York: Rawson Associates.

[31] Clark, T., Osterwalder, A., & Pigneur, Y. (2012). *Business Model You: A One-Page Method For Reinventing Your Career. Wiley: London*.

as activities that need to be done but in which the presence of a human does not produce value for you as a client. Having a chat on what you did yesterday and how you felt is considered, on the other hand, an activity in which human presence adds value, where it makes a difference for you. It therefore becomes important to attend to who gets to define what value is – which activity is a cost to be reduced and which adds value that should be amplified. And in amongst these imaginaries of "boundless potential efficiency gains", the idea that work holds value for the worker, just in the doing and the "having", gets lost.

Moreover, the shift from products to services, in which value is co-created by the provider and the client,[32] also affect the way in which value is made sense of. In Sweden, this means in the context of health-care and care, that "health" may now be viewed by municipalities and regions as a value co-produced by professionals and inhabitants. In a text,[33] it is claimed that the role of the professional is to support the inhabitant in producing health. The public organization is thus not the main actor, but an actor providing the premises for the client to create value. This is a reaction to organizational models developed due to the New Public Management overarching way of managing the public sector in which competition is foregrounded, leading to focus on sub-units in an organization, to detailed control mechanisms and to sub-optimization impeding collaboration and co-creation. Hence, a service logic lends the means for better involving the inhabitant in the design and delivery of welfare services. On the other hand, focusing on value and what creates value also contributes to framing work as rational since it is often operationalized into "we should focus on the activities that produce value", which means dividing work tasks into those that contribute to value and those who do not. We can do such a division only if we think of work as done in a sequence of discrete tasks. For instance, in the example above concerning homecare, this way of articulating work implies that having a chat is a specific activity separated from helping me with my socks – whereas the homecare employee may well chat while helping me with my socks when performing work.

---

[32] The service dominant logic was introduced by Vargo and Lusch: Vargo, S.L. and Lusch, R.F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68, 1–17.

[33] https://experiolab.se/wp-content/uploads/2021/05/Varde-for-vem.pdf. Retrieved November 30, 2024.

There is also a discursive and material decidedness and blurriness at the same time around the concept of value. It is difficult to argue against it. It comes with a positive connotation. Such a connotation makes focusing on value even more an imperative given the scarcity of workforce that is already perceived by some organizations and is widely construed as inevitable in the future, giving the demographic shift towards older populations in the Global North. The future of work is in danger if humans are not allowed to focus on value and value-creating activities. In our studies we see that this alleged scarcity is about the expectation of a future with too few human workers at a societal level, but also too few human workers in specific sectors, as for instance engineering, care, and even specific occupations, as for instance, flying helicopters. At the same time, the concept is also ambiguous and vague, allowing for different interpretations and uses. For example, there is ambiguity concerning whether we are talking of activities that add value or activities that have higher value, as the quotes below exemplify:

> "Digital workers are perfectly geared to automate highly repetitive, data-intensive tasks that are all too common across myriad businesses. This entails filling forms, extracting relevant data from emails, documents, and chats, moving files and so on. These tasks are ideal for digital workers and one of the main advantages of harnessing Intelligent Automation is that it liberates your human employees to focus on higher-value tasks that are better suited to human creativity and intellect".[34]
>
> "Because today's knowledge workers spend far too much time performing repetitive tasks like copying and entering data across disjointed systems, RPA has the potential to provide an immediate, meaningful impact. By integrating RPA bots to automate these types of tasks, organizations are able to increase operational speed and reduce copy-and-paste errors across systems. As a result, employees are free to focus on higher-value work, helping to increase overall efficiency and employee productivity".[35]
>
> "Robotic Process Automation (RPA) is used to free humans from executing rule-based repetitive tasks and to enable them to focus on what adds value to the customer or company".[36]

[34] https://www.linkedin.com/pulse/how-intelligent-automation-allow-humans-focus-tasks-ramamurthy. Retrieved November 30, 2024.

[35] https://www.ibm.com/blog/business-value-robotic-process-automation-rpa/. Retrieved November 30, 2024.

[36] https://www.linkedin.com/pulse/how-rpa-adds-value-employees-customers-quinaptis. Retrieved November 30, 2024.

These quotes concern RPAs, which are rule-based software that automatize a process that is defined, as seen in Chapter 2. They are, in other words, not AI but rather applications used to allow a machine carry out a series of tasks in a defined order as a regular system user. According to vendors, this is done by emulating how a human would perform the work, but as discussed earlier this is not completely correct. The RPAs are currently marketed as "digital co-workers" by smaller as well as well-known consultancy companies such as PwC.[37] Other companies as Blue Prism and IBM use the terms "digital worker" and "digital workforce" to describe RPA but also AI applications that, according to IBM, "are trained to perform specific tasks or processes in partnership with their human colleagues".[38] For example, the website of Forrester, an IT research company, states that: "Forrester offers the following definition for digital worker automation: It is

> a combination of [intelligent automation] AI building blocks, such as conversational intelligence and [robotic process automation] RPA, that work alongside employees. They understand human intent, respond to questions, and act on the human's behalf, leaving humans with control, authority, and an enhanced experience.

The digital worker is thus described as understanding human intent and taking actions on the human's behalf. This digital workforce is no small business. According to a study by Gartner in 2021,[39] the RPA market alone had a growth rate of 31% in 2021, which was well above the average worldwide software market growth rate of 16%. End-user spending in 2021 was, according to the same source, over 2,300 million US dollars.

The world-leading RPA vendor, UiPath, has a video, supposedly humorous, on the website illustrating "The Story of Work". As they write

> "This is the story of work. It started a long time ago, on a Monday... As people got better at work, they built tools to work more efficiently, they even built computers to work smarter, but still, they couldn't do enough work! The more work they did, the more work they created, and not the good kind. One

[37] https://www.pwc.se/rpa. Retrieved November 30, 2024.

[38] https://www.ibm.com/topics/digital-worker. Retrieved November 30, 2024.

[39] https://www.gartner.com/en/newsroom/press-releases/2022-08-1-rpa-forecast-2022-2q22-press-release. Retrieved November 30, 2024.

day a very smart person figured out how to put the fun back in work, this is their story ... ".[40]

Hence, the narratives and images produced when developing, selling, and using RPA, and more generally applications called digital workforce, are careful to point out that the future is not one of machines replacing humans. The future, as it is taking shape right now, is about collaboration. Collaboration in which the work that "does not add value", the "lower-value work", the "boring work", the "work you hate", the "work that makes you into a robot" (just to mention some recurring expressions) is carried out by machines, thus freeing humans for higher-value work, for having fun, and for realizing their human potential. Humans and machines work alongside each other with what they are meant to do as humans and as machines.

IMAGINARIES OF COLLABORATION BETWEEN HUMANS AND MACHINES – MATTERS OF POWER AND VALUE

In this chapter, we have illustrated different facets of the imaginary of work as collaboration between humans and machines. We have also pointed out the cracks in this imaginary, the ways in which its materializations run against the very idea of collaboration. Still, in the global North, the combined effect of how technology companies and consultants act – investing huge amounts of money into developing and selling new technologies and services[41] – and of the perceived urgent need for increasing the workforce – in order to carry out the work that is supposedly required in companies and public sector organizations to deliver the level of products and services they are expected to – makes "collaboration" into an appealing imaginary. Such an appeal is supported by the efforts to make the new technology into a non-threatening digital co-worker or colleague. In some cases, this is just a discursive move, in other cases, as we have seen, the machine is humanized, and it is

[40] https://www.uipath.com/rpa/robotic-process-automation. Retrieved November 30, 2024.

[41] See for example https://www.fdiintelligence.com/content/feature/global-innovation-leaders-2022-edition-82527. Retrieved November 30, 2024.

given a human appearance, as in the case of the robot for recruitment. We present here one further illustration of this making the technology non-threatening.

In one of our studies,[42] the introduction of an RPA was presented at an event for employees of the unit in which the RPA would perform work. For this event, the project managers had crafted a benign-looking robot around 50 centimeters tall, as illustrated in Figure 3.2. The cute robot was made of metallic grey cardboard with screw-nuts figuring as shirt buttons and was dressed in black shoes with pink ribbons. The robot's little eyes and mouth, forming a confused face, were made of melted plastic pearls of a kind that children usually use for crafts. As the visitors started arriving, the project managers stood next to the robot, greeting cheerfully: "Welcome to the robot exhibition!"

Whereas this episode shows an attempt at anthropomorphizing a software, the very effort of making machines look like humans may shift into producing humans as not-yet perfect machines, as the following quote illustrates:

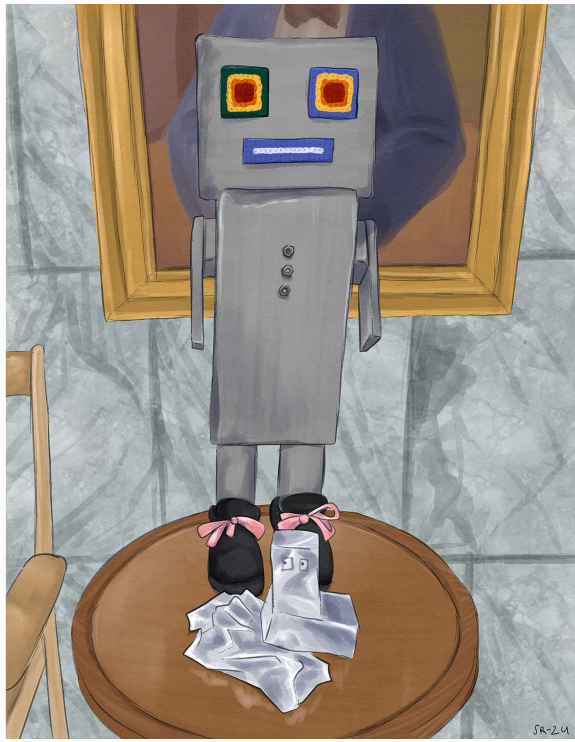
> "Social robots are the next major user interface, that are typically designed based on the oldest user interface we as humans know - the face".[43]

In this quote, the human face is reconfigured into an "user interface". Hence, while on the one hand the figure of the human and of the machine are clearly delineated as distinct, on the other hand what is human (the face) is re-labelled with a technological concept (interface), while what the technology does (reckoning) is re-labelled with a concept indicating a human activity (learning). The figures of the human and the machine are at the same time distinct and blurring into each other.

Important questions that we need to ask then are which effects this imaginary may have, and what it may conceal. The imaginary reconfigures work into tasks that are not worthy of humans, versus tasks that are. The tasks that are not worthy of humans are those that the machines

[42] The quotes come from an un-published manuscript written by Andersson, C. and Crevani, L. with the current working-title: *Our new digital co-workers: How introducing an RPA changes the relational fabric of work*.

[43] https://furhatrobotics.com/blog/what-are-social-robots/. Retrieved November 30, 2024.



Source: Stina Rudebjer.

Figure 3.2 *Illustration showing the cardboard robot welcoming employees at an event we have observed in one of our studies*

are able to perform. Hence, the way in which machines carry out tasks determines which work humans are worthy of. But is that really a type of future we want? What would an imaginary look like where humans instead had the chance to articulate what their work should look like? Could technology producers, unions, consultants, and we researchers, take more responsibility for producing alternative imaginaries of what work is worthy of humans by actually involving the workers themselves?

Moreover, humans seem to be treated as a homogeneous category, just because they are whatever a machine is not. The possibility that different humans may find different kinds of tasks dull or boring, and different kind of tasks meaningful or energizing, is not considered. Also, since humans are constructed as what machines are not and therefore as performers of social, interactive, and creative higher-value tasks, they are implicitly supposed to enjoy performing such tasks all the time. But maybe "dull" work is actually what some humans *want* to do, at least during part of the working day. If the machine takes all the easy, repetitive, and codified tasks, then the working day of the human is full of demanding, non-repetitive, complex issues. This may prove quite exhausting. In one of our research projects in the manufacturing industry, we heard operators express that they want the dull tasks as a way to relax from other, more (cognitively) challenging tasks. Maybe there is a need for other imaginaries of the future of work; imaginaries where the "dullness" of work is amplified rather than concealed.

Whereas the value of work seems unequivocal when technology vendors and consultants present the new applications, and to some extent also when managers frame the reasons for implementing new applications, the issue becomes more nuanced and diverse when we come closer to those who actually performing work. Currently, however, it is not the human workforce that is re-defining what value work has. Rather, other actors, based on what technology can do and on what demands are posed to them in terms of organizational productivity, are constructing the value of work. What responsibility do they have and how could they contribute to construct a different future?

The actors leading the re-definition of the value of work have specific interests: selling more technology, selling more consultancy services, increasing productivity without questioning what productivity means and whether value is achieved through productivity. Users of RPA, for instance, tend to quantify the gain in "value" by counting the hours saved by automating certain processes. More rarely, however, we are told what these supposedly saved hours are used for. Once again, considering what we have described in Chapter 2. we can understand the problematic aspects of conceiving work in this way. As Martin Berg points out, the RPA is not just a software, rather an ongoing discursive and material construction taking place as the future is imagined and the

past is re-interpreted.[44] For instance, in the above-mentioned video "The Story of Work", the increase in administrative work is constructed as a problem, and identified as caused by humans. There is no mentioning of practices of control, auditing, surveillance, to name a few, how they came about and developed, and their intensification due to the use of digital technologies, as Berg also claims.

Moreover, there is no mentioning of what the machines cannot do, as we have argued above. In our studies, we have also seen how the introduction of an RPA not only meant framing some tasks as boring and a waste of time, and others as tasks where the humans could add value. It also meant framing the machine as fast and constantly working, but relatively "stupid" and not flexible. It could do only what it was programmed to do, and it needed input in a specific way and could not recognize other kinds of input. Whereas other technologies may have other features, the interesting fact in this case is that even though the machine would take care of lower-value tasks, it would also require the human to take care of the machine and do what the machine is too inflexible to do. The issue of the digital co-worker being efficient and inflexible at the same time is never problematized. It is up to the human to handle that tension – how to combine that with focusing on higher-value tasks is not discussed.

A critical reading of these issues would be that humans may think they are collaborating, but they are in fact just becoming subservient – slowly transformed into slaves to "the machine". As we have seen in Chapter 2, while machines are good at reckoning, they cannot adapt, adjust, or care. They cannot contextualize what is going on, given that they have no bodies, senses, emotions, preoccupations, interests, etc. The very difference between machines and humans may be what relegates humans to become servants of machines in the current apparatus of production and consumption where work is performance, a question of productivity, and performance cannot slow down. As Heidegger[45] warned us:

---

[44] Berg, M. (2022). Hate it? Automate it!: Thinking and doing robotic process automation and beyond. In: Pink, S., Berg, M., Lupton, D., & Ruckenstein, M. (eds), *Everyday Automation: Experiencing and Anticipating Emerging Technologies*. Abingdon, Oxon: Routledge, pp. 157–170.

[45] Heidegger, M., & W. Lovitt (1977). *The Question Concerning Technology, and Other Essays*. New York: Harper & Row.

> "Everything depends on our manipulating technology in the proper manner as a means. We will, as we say, 'get' technology 'spiritually in hand.' We will master it. The will to mastery becomes all the more urgent the more technology threatens to slip from human control".

Given that this logic of productivity to achieve competitiveness in the private sector and to manage to deliver welfare in the public sector is not questioned, a final question to consider is what will happen when machines can also perform the jobs that humans supposedly appreciate. Currently, we are starting to see machines taking over work that humans have historically wanted to do – write novels, paint pictures, perform advanced calculus, etc. While we could discuss if the output of the machines is "good" or appealing, they are already being used to perform such work. We already see, for instance, the creative industry worrying about generative AI and who/what will create content and art in the future and mobilizing with lawsuits for copyright infringement.[46] Collaboration between humans and machines takes place, in other words, not in a vacuum but in a society in which practices of production, consumption, and capital investment heavily impacts the terms for such a collaboration. Whereas we have problematized the way in which this constrains how the future of work is constructed, could this also open up the possibility of creating other futures by affecting how the demand for technology is constructed?

[46] https://hbr.org/2023/04/how-generative-ai-could-disrupt-creative-work?utm_medium=paidsearch&utm_source=google&utm_campaign=intlcontent_tech&utm_term=Non-Brand&tpcc=intlcontent_tech&gad_source=1&gclid=Cj0KCQiAmNeqBhD4ARIsADsYfTcOpVYKkWbvKCo6HBUUWQdj9s2-Kq. Retrieved November 30, 2024.

4. Work and imaginaries of freedom

A few years ago, an American researcher published a book entitled *Freedom from Work: Embracing Financial Self-Help in the United States and Argentina*.[1] The book portrays people in these two countries aiming at becoming financially independent. The same trend is visible in many countries across the world: today, financial self-help is not limited to people without money or means to get them; it has become increasingly popular amongst people with money and jobs that provide them with a regular income. There is much to be said by this, but here we would like to draw the readers' attention to the first part of the title: *Freedom **from** Work*. This part of the title captures, in brief, an imaginary where work is envisaged to come with shackles that one should aim at getting rid of. In other words, work is the *opposite* of freedom. Similar to the imaginary of work as being performed through humans and machines complementing each other in collaboration, this imaginary builds on the notion that work should be ameliorated. Such an understanding of work as "a cage" is, however, challenged in the imaginaries of work we encounter nowadays, which in a more complex way combine work with ideas of freedom. As we shall see in this chapter, technology is an integral part of this imaginary since it comes with a promise of providing us with the possibility of making our own choices of when to work, where to work and to what extent to work. This means that this imaginary is closely linked to issues of power and privilege, and to questions of who can choose freely when and where to work – or to work at all – and under which circumstances.

Although work has always been performed in a particular place and at a particular time, it was only with the emergence of industrialization that the idea that work was to be performed in a different place compared to where recreation took place – for example, at home – emerged. With

[1] Friedman, D. (2016). *Freedom from Work. Embracing Financial Self-Help in the United States and Argentina*. Stanford: Stanford University Press.

this development, the activities that were performed at home eventually stopped being considered as "work".[2] Consequently, that which was considered "work" was performed at a particular time and in particular spaces away from home, and it was from this separation that regulations of working hours and wages were constructed.

The imaginaries that sustained this arrangement not only contained ideas about where and when work happened but also how it ought to happen. Hard work and frugality were being held up as the idealized form to which all workers, and indeed business owners and managers, should strive. Being at the right place at the right time and doing the right thing (be that work or leisure) were even viewed as critical to the maintenance of the self in society.[3] This separation of work and non-work still holds true in many professions and occupations, and there are many physical locations, including factories or offices, where only "work" takes place, not leisure.[4]

---

[2] Many scholars have problematized the traditional distinction between production and reproduction that constructs the work done in the sphere of reproduction (such as housework or childcare or care for the elderly and the sick) as unpaid work mostly performed by women, something that "naturally" women are supposed to take care of. Contesting this distinction means to challenge the division between work and family (family was and to some extent still is actually work for some, often women), the division between work and leisure (leisure has been and still is often most often leisure for men which requires women's work) and men that work/wives that are supported (women have often needed to support men if they are supposed to focus on "work"). See for instance, Bock, G. (1991). Challenging dichotomies: Perspectives on women's history. In K. Offen, R.R Pierson, & J. Rendall, *Writing Women's History: International Perspectives*. London: Palgrave Macmillan UK, pp. 1–23.

[3] Weber, M. (1904-1905/2013). *The Protestant Ethic and the Spirit of Capitalism*. New introduction and translation by Stephen Kalberg. New York: Routledge.

[4] Companies that create physical spaces where leisure-type activities are also offered, allowed, or even encouraged, get a lot of attention. A prime example of this is Google and its headquarters "Googleplex" in Mountain View, California. Featured in films and books, Googleplex is not only a site for work, but also offers swimming pools, volleyball courts and free laundry rooms for the employees.

As the bureaucracies of the early industrial era eventually gave way to the more nimble, creative and fast-moving organizations, and with the development of new technologies, the imaginaries of where and when work can and should take place changed. Rapid knowledge-sharing amongst employees, creativity, and innovation began to be considered as central to companies' competitiveness. This was also considered a necessary response to the economic challenges posed by emerging Asian economies, and concepts such as the "learning" organization[5] emerged and became dominant in strategic thinking. The imaginaries about work that emerged out of this stressed that learning is an organizational, rather than an individual, matter. Consequently, knowledge-sharing teams and opening knowledge silos moved center stage in the thinking about organizational strategy. The craft and experience of the individual, by the same token, became less of a focus. Technology and design responded to the challenge of supporting this new worker, and "personal computing" as well as mobile telephony developed as a result. The rapidly emerging industries of Silicon Valley, themselves shaped by an ethic of knowledge sharing, collaboration, and flexibility, also did much to idealize the new figure of the flexible and rootless worker, as they themselves moved from project to project in a rapidly changing industry. The uprooting of work and of the worker connects to the ideals of the new knowledge worker that were seen to populate this industry. This knowledge worker is still today typically envisioned as a qualified, highly professional and engaged individual in fast-paced and fast-changing knowledge-intensive work.[6] This highly knowledgeable, flexible and engaged worker is not only imagined as having the possibility to choose where and when to work, but also the will and urge to act on this choice.

In this chapter, these imaginaries of freedom in relation to work will be unpacked. We will describe how it is about the choice of working from anywhere, at any time, and in any social context, as well as about the choice to work at all. In the final section of the chapter, the imaginary of freedom will be discussed in relation to matters of power and privilege.

---

[5] Senge, P. M. (1990). *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Doubleday/Currencyce.

[6] Alvesson, M. (2004). *Knowledge Work and Knowledge-intensive Firms*. Oxford: Oxford University Press.

WORK FROM ANYWHERE

Images of people of different nationalities working from a café and co-working space in Indonesia or in Berlin while also enjoying the space's "happy hour" circulate not the least on social media. Figure 4.1 provides another example of photos found on social media, such as in lifestyle magazines, representing the life of so-called digital nomads.

Individual worker's choice to work from anywhere takes different material forms. Such freedom depends, however, on the performance of hard work. In relation to this hard work, the travelling itself – whether long travels to exotic destinations or short distances to the nearest cool café – becomes an important brick. Some professions have, of course, for

Source: Stina Rudebjer.

Figure 4.1 *An illustration reproducing a typical picture representing the spirit of the digital nomads*

decades or even centuries been working from anywhere – for instance sailors or traveling salesmen – but it has been without the framing of free choice: the sailor has been confined to his ship and the traveling salesman has had to locate himself at the site of his customers.

This contrasts with the travelling workers of the 2020s. A new ideal of a heterogeneous group of workers in contemporary work life called digital nomads[7] has emerged. Digital nomading is a rather extreme version of working from anywhere, with digital nomads being a group of workers that are thought of as combining the passion for travelling with the passion for working. It may indeed be argued to be a kind of extreme version of work from anywhere, depicting work as demanding, but also as something that the worker is in control of. In principle, these workers are understood to deliberately choose where they work and to do so repeatedly if they so desire to move their site of work. Typically, the digital nomad's work does not require any physical contact with other technological artefacts than a laptop connected to the internet. This implies that the digital nomad is part of a laptop-bound creative class of some sorts. In addition, the imaginary of this travelling, uprooted, engaged knowledge worker fits into an ideal of youth; a worker that is young, relaxed, and vital; detached from messy family relations with private lives taking pace in certain (unattractive) geographical locations.[8] Private and work life practices thus become blurred, and the idea of the nomad takes a new form when combined with digital technologies and embedded in late capitalism.

Although digital nomads may be considered to be a marginal phenomenon in relation to most of the working population, the materialization of the idea of work from anywhere, as evinced by the image above, brings to the fore important elements of the imaginaries of freedom. These elements are possible to see just because this is quite an extreme manifestation of this imaginary. Work from anywhere has a normative character – it is implied that this is desirable; that this kind of work is a preferred choice both for the worker as well as for organizations implementing this kind of work (as no office spaces are needed and as the organization can attract talented workers from all over the world). Many office workers

[7] The term was first introduced by Makimoto & Manners in their 1997 book *Digital Nomad* (Chichester: Wiley).

[8] Ćwikła, M., & Lindell, E. (2023). Images of the "future of work". A discourse analysis of visual data on the internet. *Futures,* 153, 103235.

can today largely choose to perform their work through portable laptops and online applications.[9] Similarly, traditional industrial plants are nowadays imagined as designed so that production lines can possibly be run via a laptop or smartphone.[10].

However, working from anywhere does not only have to evoke images of spectacular scenery, vibrant cities or beaches. It can also be experienced as an advantage for the work itself, as a less expected example from one of our studies where we interviewed a therapist working from anywhere. This materialization again underscores the value of freedom to be able to choose where to be when doing work, and, in this case, this also included the client being able to choose. In the interview, the therapist described how an ordinary or traditional conversation room, on one hand, may bring a sense of safety or closeness to each other during the session, and how the recurring room also may bring a sense of stability. On the other hand, she also explained that she can capture how the client feels when he is connecting from his home and she from hers. She reflected that creating a feeling of closeness can be more about how she reads the other person, and her ability to empathize. She continued by explaining that her working from anywhere allows for the client to choose, not only with regards to time of the day for the session but also to the physical place from where to dial in, which then can be a place where the client feel safe.

While digital nomads, like the therapist, may materialize the extreme work-from-anywhere worker, the reflections shared by the therapist indicate that the imaginary of freedom can also be found in different, more "mundane", versions of work. Moreover, the therapist's interview shows us that the imaginary is embedded in how businesses and society at large have developed in the last decades. Whereas we all can easily depict the typical traditional setting we imagine a therapy session takes place in – maybe as a closed "safe space" in which an intimate conversation can take place and in which the therapist adjusts her tone and talk to the

[9] Lindell, E., Popova, I., & Uhlin, A. (2022). Digitalization of office work–an ideological dilemma of structure and flexibility. *Journal of Organizational Change Management*, 35(8), 103–114.

[10] Hallin, A., Lindell, E., Jonsson, B., & Uhlin, A. (2022). Digital transformation and power relations. Interpretative repertoires of digitalization in the Swedish steel industry. *Scandinavian Journal of Management,* 38(1), 101183.

emerging interaction in a careful way – we instead, in our ongoing studies, meet the therapist working digitally. In addition to describing the effects of her workplace choices on her actual practice, that is, the effects on performing therapy sessions, the therapist also described all the work she had to do to enable such performances, given the absence of a typical physical workplace. The safe space that a shared closed physical counselling room would normally create can instead, she argues, be created online. In her reflections, she notes how such configurations sometimes even work better because the client can choose his or her own safe place from where to interact with the therapist, whereas the traditional counselling room would most often be chosen by the therapist or by the location of her organization. While the client can choose his or her preferred place, at the same time, the therapist needs to carefully consider where to work and when; what is a suitable replacement for the office for her? Even if she works for a care provider, she is responsible for setting up bookings or being available in a suitable place when these are organized for her. A sudden change of location can mean a nervous couple of hours trying to find a suitable place to counsel from, or she would risk being seen as unprofessional.

This means that the care-providing organization shifts the responsibility of finding a suitable place for performing her work to the therapist as an individual – as a form of quid pro quo for allowing her to work from a different country. This provides workers with a freedom to choose, but also requires them to do things they would not have needed to do when working from an office.

Besides digital nomads, there are also other contexts where the imaginary of freedom underpins narratives and choices related to the where of work. Although the contexts are less extreme, the ways in which the imaginary of freedom manifests itself in these cases are, we argue, more complex as they are less visible and more embedded in other organizational processes. One example comes from university work,[11] where academic researchers and teachers found themselves in direct confrontation with senior management and the architects for a new building at Northern University in the UK. The arguments that justified the choice of

[11] Ivory, C., & Alderman, N. (2008). *Imagined users: Constructing competing narratives on space design*. Paper presented at the Royal Geographic Society with the Institute of British Geographers Annual International Conference, Newcastle University.

open-plan offices for academics was based on very narrow understanding of how academics do their work – an understanding based itself on broader imaginaries of the new "knowledge economy", in which one of the keys to organizational success is the efficient sharing of knowledge. However, this was a characterization of their work that many of the academics, used to a high degree of solitary work (marking scripts, reading academic papers to prepare literature reviews for their own manuscripts, working with data) simply did not recognize. While some academics, particularly those with administrative roles, operate primarily through interaction – many do not. Thus, the first step in re-casting academic work in this case was to hide from view individual differences. The talk amongst the senior team was of housing "activity" – a homogenizing device that obliterated the possibility of differing forms of work and practice that may, unhelpfully, have mapped onto different accommodation needs, including individual offices. By so doing, the team leading the change project were in effect discursively constructing the need for a new form of workplace that did not necessarily exist or at best would serve the work of only a minority of staff.

These examples illustrate a particular kind of contemporary effort to posit the possibility to choose to work without being tied to a place, even though not without difficulties. This imaginary of work happening wherever runs counter to traditional perspectives on the spatiality of work, and the question of where work happens. Humans have always performed work, but for decades we have referred to work as a place, "I am at work", to specify what we were doing (compared to activities related to our spare time and private life). "At work" was a way of maintaining a clear boundary between private and work life. When working from anywhere, boundaries cannot be upheld through place. Rather, working needs to be *bracketed* by actively performing specific activities that may become rituals or routines, unbounded by place, enacted to separate work from other doings. Digital nomads holding professions such as programmers, (content) writers, coaches, marketing specialists, and product managers – all professions that can be accomplished remotely with the help of digital tools – describe detailed schedules of their day where they in fact establish a clear distinction between work and non-work through various rituals and routines.[12] One interviewee, for instance, brews a certain tea

[12] Ingvarsson, C. (2023). *Connecting and disconnecting: How digital nomads manage work in absence of a workplace*. Paper presented at the The 56th Hawaii International Conference on System Sciences.

and needs to be barefoot to put his body in "work mode". Others mention rituals such as taking a swim or a walk in the morning or even switching rooms in a temporary living space to mentally move between work and non-work.

In sum: the contemporary ideal of a kind of worker who works from anywhere builds on an ideal of an uprooted, engaged and flexible worker who enjoys working from sites that are beautiful, cozy, adventurous or convenient, rather than tied to one specific place due to specific material aspects (such as buildings and machines), co-workers, or customers. This disengagement from place, from "being at work", requires the individual worker to actively enable places as well as boundaries of where work and non-work, respectively, is performed. Finally, this ideal goes beyond digital nomadism and extends into efforts to also change the site of other kinds of work.

WORK AT ANYTIME

With the disentanglement from a set place where work is performed as one of the effects of imaginaries of freedom, comes a disentanglement also in relation to time. While the rhythms of pre-industrial societies were largely regulated by the daylight cycle, electrification brought opportunities to tamper with the rhythm of work/non-work in ways previously not possible. With the introduction of digital technologies, even more opportunities arose, rendering a contemporary society where a lot of work can be performed anytime.

Following on the decomposition of what we previously may have labelled a "normal" working day, and with the commonplace use of always connected laptops and smartphones, most workers and managers today are reachable anytime. Consequently, we are experiencing a shift in how workers and managers, rather than choosing to work at specific hours, now need to deliberately choose to not work at certain times. Before the Fourth Industrial Revolution, during the late industrialized era, most workers were not easily reached after having left the office. Working outside the office was a deliberate choice, as it meant you had to plan, and actively take work material home with you. Today, the same office workers carry their laptops and phones with them around the

clock, and instead of choosing to work, the choice must be made when not to work.

This development is supported by a plethora of different online applications that in numerous ways have contributed to the blending of work/non-work time. An increasing variety of so-called social media platforms such as Facebook, X (previously Twitter) and LinkedIn play a crucial role in the imaginary of working anytime. In the virtual spaces of social media, always accessible whether "at work" or not, work relationships, family, and friendships blend in an infinite flow of notifications, information, written reflections, and accounts of more or less work-related events already done or to be done in the future. This flow is, to an increasing extent, further presented in an individualized and thus attractive flow designed by AI, with the purpose of keeping the individual on the site for longer periods of time.

As the physical workplace with its conference rooms, corridors, coffee machines, lunchrooms, and parking spaces lose relevance, it becomes not only difficult to decide where and when your own work is done, but also almost impossible to know when your manager, co-workers, and other professional relations and stakeholders' work. When we previously could see how co-workers physically moved from the machine hall to the coffee machine ("Aha! Now it's time for a break"), or from the conference room to the parking lot ("Ok, time to go home. See you tomorrow!"), the situation today feeds the imaginary of working anytime through a constant mix of social media feeds of cool locations (for work, or vacation, or both at the same time), photos of domestic settings (taking a day off or working from home with sick kids), and of work events (usually praised as inspiring with knowledgeable, engaged as well as friendly colleagues).

Thus, in the ideal of working anytime, we constantly need to calibrate not only our own time, but also the flexible working time of others. Part of the job tasks of the rootless co-workers, knowledge workers, digital nomads or managers is then to engage in and react to these social media feeds. Reacting, commenting and posting is today for many an important part of the working day, which does not end when office hours close. Instead, the feed continues around the clock, 365 days a year, and on weekdays and holidays. Through this constant work, the co-worker or manager upholds community and work relationships, but this is not only a choice of bracketing when to work and when not to work, but also a constant construction work of building one's identity as a worker and as an individual. As one municipal manager in one of our studies explained to us:

> "It's a brand. [Managers name] is [Managers name] no matter what. You won't be able to separate that this is working life and this is private life, it's rather how you take control of your [social media] flow".[13].

Thus, the ideal of working anytime to uphold social relations, work related or not, involves not only communicational work tasks, but the production of the human as a brand, rather than the workplace or organization as the brand. Thus, the co-worker not only has to engage in separating work time and family or free time, but the mere self as a work-related brand composed of one's social media feed that integrates work, family, and different aspects of private life.

This possible "choice" of working at any time includes the idea of work–life balance through offering the co-workers the possibility of working and thus not working any time, which can be understood as a part of an organizational "caring discourse" commonly associated with personnel or human resource management.[14] Thus, in an organizational context, allowing work to be performed at any time builds on the idea that all workers can take informed decisions on when to work and when not to work. In effect, it is left to the worker to ensure a well-balanced work/off-work time, meaning she needs to ensure that her decisions benefit her own efficiency, as well as her health, short term and long term.

When working from anywhere and anytime, the place–time boundaries thus need to be managed by the person working, as location-independent work also often coincides with time-independent (or deadline-driven) work. For the interviewed digital nomads, this boundary management included the before-mentioned rituals as well as, for example, introducing and maintaining interests and hobbies that could be actively chosen over working more. Another example from our own research comes from office work and management, which uncovered the multiple requirements of white-collar workers to constantly decide when and where to work; balancing between being flexible in the use of digital applications for work or private chores and being structured in the same

---

[13] Lindell, E., & Crevani, L. (2022). Employers' relational work on social media. *Nordic Journal of Working Life Studies*, 12(3), 63–82.

[14] Damm, M. (1993). *Personalarbete: yrke eller passion* [eng: HRM work: profession or passion], Gothenburg: BAS.

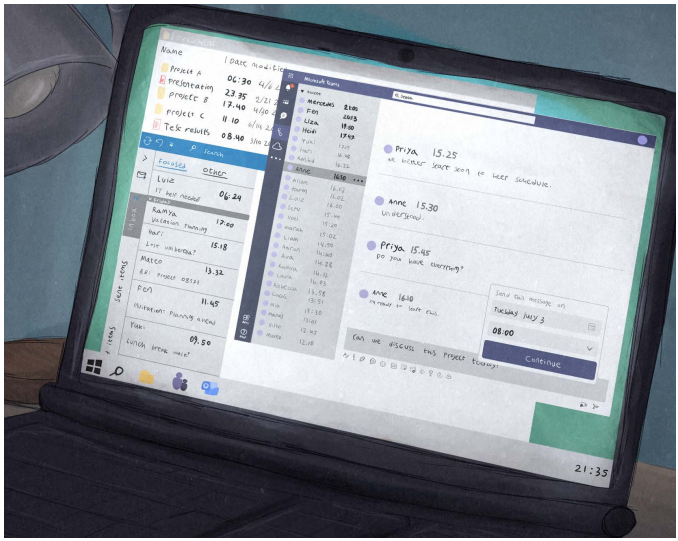
decisions and thus constantly negotiating, framing, and reframing work versus private time.[15].

A particular version of working anytime is emerging with the continued development of software applications. Getting indications that colleagues and managers are working around the clock through status indicators and messages in Teams, through time stamps on uploaded documents or through emails sent at odd hours, can be stressful ("everyone else is working in the evenings… I should work then too…"). It may also lead to work group discussions on stress-reducing behavior and how we are each other's work environment. An interesting response to such discussions is decisions being made not to send emails or messages in the evening but instead to ask the software to delay the sending. Figure 4.2 shows such a "send later" function in an application open on a laptop screen late in the evening – the time stamps in other chats, emails and documents signal to the worker when work is performed.

In effect, working anytime becomes even more an individual choice and responsibility as it is now performed out of sight of colleagues . Another common way of dealing with this is to, in your email signature, write disclaimers stating you know you have written the email outside normal working hours but have done so at a time of your convenience.

When work, through the use of digital tools, can be performed anywhere and at any time of the day and at any day of the year, and when workers and managers can be reached wherever and whenever, the individual needs to constantly take individual responsibility for when to work in order to handle work-life balance. As this is individualized, the co-worker also needs to engage in and keep track of when colleagues and managers are working (and not working). As will be discussed next, other trajectories are, however, possible, offering the individual (and indeed also organizations) other possibilities.

[15] Lindell, E., & Crevani, L. (2022). Employers' relational work on social media. *Nordic Journal of Working Life Studies*, 12(3), 63–82; Lindell, E., Popova, I., & Uhlin, A. (2022). Digitalization of office work–an ideological dilemma of structure and flexibility. *Journal of Organizational Change Management*, 35(8), 103–114.



Source: Stina Rudebjer.

Figure 4.2 *A worker using the "send later" function in an application. Different applications open in the background show when chat messages were posted, files saved, email sent*

FROM COMMUNITY TO INDIVIDUALIZED CHOICES OF SOCIAL CONTEXT

Research on resistance towards the taken-for-granted has traditionally focused on the working class, union-organized factory workers, collectively resisting managerial surveillance and control that is argued to dehumanize workers.[16] In this narrative, the community of similarity (white, male, able-bodied workers) is central, as is the community of bodies that are present at the same place at the same time for work. As

[16] Beynon, H. (1973). *Working for Ford*. London: Allen Lane Penguin Education; Hyman, R. (1989). Trade unions, control and resistance. In R. Hyman (ed.), *The Political Economy of Industrial Relations: Theory and Practice in a Cold Climate*. London: Palgrave Macmillan, pp. 20–53.

has been discussed in the last two sections, the emphasis on a particular place and a particular time for the performance of work is no longer the norm.

This dissolution of space and time for work has affected the ideal of a homogenous collective of workers, which is something we see, for example, in the diminishing numbers of workers joining collective labour unions. In Sweden, for instance, where union participation historically has been extremely high, there has been a decline in membership between 2008 and 2021: for women from 73.5% to 71.5% and for men from 69.0% to 65.1%.[17]

During recent years, after the Covid-19 pandemic restrictions were lifted, a contested debate has taken place in newspapers and magazines between consultants, managers, and researchers supporting remote work, and those warning about the negative consequences of not being at the office. Consequences of working remotely have been discussed both in relation to the individual, and in relation to the collective. The release of a report from Boston Consulting Group (BCG) in the fall of 2022 gave rise to an intense debate on the perils of dissolving work communities in the way that remote work is argued to do. In an article in *Dagens Industri*, one of Sweden's leading business and industry newspapers, with the headline "Remote work leads to catastrophic results",[18] it is described how BCG argues that the new flexibility leads to inability to make decisions, impaired development, and increased costs. The article was followed by a response article in which researchers, consultants and high-profile CEOs encouraged the readers not to listen to BCG and instead praised remote work.[19]

The rootless worker, who works from anywhere and at any time, is still, in many aspects, also a collaborative worker – and collaboration is deemed central to work in all kinds of settings, both within organizations, across organizations and outside of organizations. Breaking the shackles tying someone in place is thus supposed to increase interaction

[17] Statistics Sweden (government agency that produces official statistics): https://www.scb.se/hitta-statistik/redaktionellt/fler-kvinnor-an-man-fackligt-anslutna/. Retrieved November 30, 2024.

[18] https://www.di.se/nyheter/distansarbete-ger-katastrofresultat-plag-samt-tydligt/ Retrieved November 30, 2024.

[19] https://www.di.se/nyheter/tungviktare-varnar-bolag-for-att-lyssna-pa-bcg/ Retrieved November 30, 2024.

and collaboration, which leads to creativity, efficiency, and higher quality – but only as long as the worker does interact and exchange knowledge with others – either online or in physical spaces.[20] So, in a sense, there is both a centrifugal and gravitational dynamic here – a focus on freedom and togetherness simultaneously. The imaginary of freedom that seems so strongly established in the global North may therefore be quite fragile, and other imaginaries also exist in parallel.

One example of this comes from our own research on creative writers, where we talk about creative writers as individuals who are writing full time, part time or who have the ambition to be able to become published authors. The creative writer of fiction embodies perhaps the ultimate individualist: working in isolation, distanced from others. In talking to the writers in our study, we note an urge to choose freedom, and thereby refraining from the demands and the circumstances in the labour market. One of the writers, previously a successful manager in a company, described her choice to leave her managerial position to pursue writing as being about survival due to working life stress she had been previously submitted to.

As she continued talking, she described her previous life as a constant blurring of boundaries between places and times. She for instance talked about vacations in the past that were supposed to be free and private, but that constantly became invaded by work demands. Being able to make decisions on when and where to work and setting the boundaries on when and where not to work, became central for the narrative. Moreover, interesting findings from this material were the emerging narrative on how the decision to pursue work that was so highly individualistic, for these writers became integrated with the community of others. One such community was the family, where writers often write at home without closeting themselves in an office. Instead, they choose to write at the kitchen table that is simultaneously also accessible for the rest of the family.

The idea of working close to the community which is one's family, is not a new phenomenon, but rather a return towards that which was the norm before industrialization. In this setting, in rural work, the phenomena of work, workplace, home, family and private time rather built on a total integration.

---

[20] Manca, C. (2022). Tensions as a framework for managing work in collaborative workplaces: A review of the empirical studies. *International Journal of Management Reviews*, 24(3), 333–351.

Examples of other ways to decide on workplaces and times connected to other people was, for instance, the writer who worked on his book for a designated number of hours at a designated table at a café so frequently that the café owner placed a sign with his name above the table. This practice was for him an example of constructing a workplace, work time and work community (among other regular guests and staff).

But community does not demand a common physical place – it can also be created online. Many authors described frequent interactions and meetings arranged through social media to meet online, but also in physical places such as in hotel lobbies or summer cabins to sit together to write and exchange drafts. Thus, the imaginary of the individual who works anywhere and at any time must also be understood as the constant practices of constructing designated workplaces, designated work hours and the formation of work communities.

This search for an interactive community in combination with solitary actions is not unique to the creative writers who were part of our studies. It is also present in the more frequent practice of office work. In organizational settings, senior leaders working towards a shift to open-plan offices supporting the ideal of co-workers working at anytime and anywhere, are however often keen to downplay the quest for community to create a more consistent imaginary of freedom. In one of our studies, we studied a department at a British municipality that was transitioning to such an open-plan office solution. When talking to one of the managers, we noted how the interactive aspects of work, suited of course to open-plan environments, were stressed. He told us how he recognized that spontaneous things were started, without anyone having to urge people to come together to attend to issues. He argued that he could see it happening, that he could see the interactions take place in spontaneous ways as issues emerged, which, he said, made him aware that such physical arrangements could work in positive ways.

Thus, in relation to work being performed anywhere and anytime, the acknowledgement of interaction, collaboration and more or less stable communities is constantly present. Also, when the freedom to choose implies freedom to act independently from other humans, this choice must be related to others. Freedom is not to be solitary but being able to choose the community that best suits your work as well as your social needs as humans.

What has changed from the community of similarity (white, male workers with strong bodies in a European context) is central, as are the changes from the community of bodies that are present at the same place

at the same time for work. These changes hold the possibility of enacting resistance as an individual; resistance towards the ideal of being a rootless, constantly engaged and lonely individual. To be able to do this, not only do we need the freedom to choose where to work and when to work as individuals, but we also need to recognize the practices, places and times where we forge a valuable community experience with other individuals.

As argued above, the dissolution of working place and working time has impacted working-life communities. However, in the same way as a workplace and work time must be constructed and enabled by the individual, so does the community. In the same manner as a workplace is constructed as important through the narratives and pictures of attractive places to work, and time is narrated as divided or integrated with private or family time, the construction of the worker who chooses his or her freedom in working life is a construction of a desire of interaction, collaboration and togetherness that needs to be chosen, enabled and upheld by the individual.

WORKING LESS

The current digitalization of work is thus providing opportunities to work wherever and whenever. These opportunities are given to the individual who values the ability to construct her work and her brand as flexible in how she mobilizes and engages in different spaces, places, times and social relations. But, at the same time, the individual must also be structured in her use of different spaces, places, time and social relations. This newfound freedom of place and time is usually not imagined as a return to the practical circumstances in the work, family and private spheres that were once integrated in rural working life, but rather as a way forward towards increased freedom. Such a transition towards more freedom is not only related to the pursuit of work but also the amount of work, not only on daily or weekly basis but also the total *amount* of work time that is required during an individual's lifetime.

In many countries, defining what a normal working day or normal working time should be is a constant political struggle. Sweden is one of them.[21] Particularly left-wing politicians, with the support from labor

[21] https://www.riksdagen.se/sv/dokument-och-lagar/dokument/motion/arbetstidsforkortning_gt02a307/ and https://www.nytimes.com/2024/02/01/business/ai-impact-jobs.html. Retrieved November 30, 2024.

unions, have argued for reducing the normal working day from eight to six hours. This political aim is argued to reduce the difference in domestic work done by the different sexes as well as reduce stress and increase health on a large scale in society. Political counter-arguments to the idea of humans working less, by the same authors, are for instance that with the increasing globalization, the competitive pressure in general and on the manufacturing industry in particular has increased, and thus that for any country to cope in international competition, it is not possible to reduce working hours for the population. At the same time, international competition is nothing new, and both working hours and productivity are in constant change under the influence of various tendencies at national and global levels.

Digitalization of work is often narrated as a way of increasing efficiency, which in turn is argued to provide value for the owners, the management, and the individual co-worker. That digital technologies take over tasks previously performed by humans is often framed as the way forward as such tasks are described as boring and repetitive and that humans should be working on other tasks instead. With the expansion of AI and the continuous stream of new digital technologies, the debates around current and future job losses continue to thrive.[22] However, this is only partially true. As increased use of digital tools speeds up working life, in many parts of working life, the speed for the individual co-worker does not decrease, but on the contrary increases. It does so in numerous ways: by demanding the co-worker's attention at any time of the day, by speeding up the amount of tasks that are expected to be performed per day, or by isolating tasks that are too complex for the digital tools to manage to instead be dealt with by the humans (without the easier tasks for the co-worker to "rest in" during parts of the working day). Thus, in parallel with the imaginary of less work and increased freedom in the wake of digitalization, the pace and the intensity of the work increase. The idea of reducing the time that humans need to work has so far had little influence on labor law and normative ideas of what constitutes a "normal working day". Instead, new tasks are created, such as tasks of controlling, evaluating, quality reporting and the increased handling of administrative reporting and routines. However, as the example of the

[22] https://www.theguardian.com/technology/2023/jul/11/ai-revolution-puts-skilled-jobs-at-highest-risk-oecd-says and https://www.nytimes.com/2024/02/01/business/ai-impact-jobs.html. Retrieved November 30, 2024.

writers in the previous section indicates, resistance towards increasing working life demands can be enacted.

To conclude, the imaginary of freedom contains not only ideals on the individual's flexibility in relation to place, time and community but also on the amount of work that should or could be done. Building on the quest for efficiency through digital tools, humans should be able to work less and still uphold productivity in society. However, this has until now not been the case: digitalization has not led to less work being done by humans, instead the speed and intensity has increased in many areas of working life. It is interesting that the freedom to choose seems to be a choice of working more instead of less among humans.

IMAGINARIES OF FREEDOM – MATTERS OF POWER AND PRIVILEGE

Despite the futuristic and often highly positive underpinnings of the imaginaries of freedom in relation to work, at least one problem prevails when bringing them under scrutiny: the problem of power and privilege. The flexibilization of work that this imaginary feed is apparent in the increase in temporary positions and the "gig economy", which in the 21st century is bringing major structural changes in labor market relations and to the conditions for working life.[23] As has been illustrated in this chapter, today's ideal worker is no longer an employee of the stable bureaucracies that offered place, discipline and control along with stable long-term employment and career progression, first described by the sociologist Max Weber,[24] where the worker accumulates experience through repeating job tasks in one and the same geographical and social location. Instead, the ideal worker is flexible, rootless, quick to learn and

[23] Beck, U. (2000). *The Brave New World of Work*. Oxford, UK: Blackwell Publishing; Kessler, S. (2018). *Gigged: The Gig Economy, the End of the Job and the Future of Work*. London: Randon House.

[24] Weber, M. (2013). *The Protestant Ethic and the Spirit of Capitalism*. New introduction and translation by Stephen Kalberg, first published 1904-1905. New York: Routledge.

ambitious[25]; subjected to insecure work-contracts and gig work[26] – as well as by a blurring of the distinction between the spheres of home and work.

Although the ongoing flexibilization of work has been described as an opportunity for employers as well as for employees in that it is said to increase individual autonomy, enable increased work-life balance, and match organizations' demands better with the private life situations of individuals, it has also been associated with the decades-long rapidly expanding marginalization and exploitation of workers engaged in temporal and insecure conditions for labor,[27] creating both a constraint for and a willingness among workers to accept non-permanent positions at lower wages that lack security.[28] This means that the imaginaries of freedom as a choice of the individual to work anywhere and at any time she prefers is intimately tied to privilege; creating a division between those who have the privilege to enjoy beautiful or cool scenery and decide on their (hopefully) expanded free time and chosen community of peers, and those who have no other alternative but to accept to work from anywhere at any time in any social, or lack of social, context because otherwise they won't be able to support themselves financially. Ultimately, the underprivileged human individual who is freed from the workplace, work time, work community and from work at all is unemployed and without financial income. This is not freedom of choice; it is quite the opposite. In this case, the separation of bodies in working life in time and space guarantees the weakening of union resistance and thus the power to change the structures of working life flexibilization.

We also note how at the same time the imaginary of freedom influences the development of working life and stress. In fact, stress-related

---

[25] Harvey, D. (1991). *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Oxford, UK: Blackwell.

[26] De Ruyter, A., Brown, M., & Burgess, J. (2018). Gig work and the fourth industrial revolution. *Journal of International Affairs*, 72(1), 37–50; Sennett, R. (2008). *The Craftsman*. New Haven: Yale University Press.

[27] Ekbia, H. R., & Nardi, B. A. (2017). *Heteromation, and Other Stories of Computing and Capitalism*. Cambridge, MA: MIT Press.

[28] Standing, G. (2011). *The Precariat: The New Dangerous Class*. London: Bloomsbury Academic.

sick leaves have increased dramatically over the last few years.[29] Thus, increasing the freedom to choose where, when and with whom to work has not led to less stress and healthier societies, but rather the contrary. Similar mechanisms are at play related to the opportunity provided by digital technologies for humans to work less. The imaginary of humans working less exists in political and labor union arguments, and it is embedded in images and pictures, such as the one in Figure 4.2 of the laptop placed in a scenery so beautiful and peaceful that closing the screen after just a few hours of work seems tempting. Instead of increasing efficiency when introducing digital tools, we can imagine the decision to decrease working time and choose freedom from work. Every time a digital tool is implemented to speed up necessary tasks, or even replace human labor, instead of creating new and increased work tasks, we can collectively imagine the enjoyment of a longer coffee break with colleagues or going home earlier to take rest or to spend time with the community of family and friends. If we could reduce working hours at the same rate as we digitize, the practice of working less as a choice of freedom could have major effects on stress-related health across working life. However, such alternative ways of imagining work run counter to the established expectation that the future of work will, despite being "freer", imply even far more stressful work and that even more kinds of work will be affected in the future. How may we resist such an expectation and instead strengthen the conception of human working less? Which actors may work for it and which actors may oppose it due to their specific interests?

As this chapter has shown, the imaginaries of freedom, and the vision of becoming free from the constraints of place, time, and frequency of work are brought up in the most diverse empirical contexts such as office work, therapy, research, and teaching, among digital nomads and among writers of fiction. Not only so-called creative professionals are said to be free, but also other professionals in more "mundane" settings. We see it, for instance, amongst the maintenance employees in the British municipality we studied. The move to implement a new digital application and stop working from the office was, in relation to the workers, framed in terms of freedom. In the presentations done by the team

[29] In Sweden, stress is currently the cause of about half of the registered sick leaves: https://www.forsakringskassan.se/nyhetsarkiv/nyheter-press/2024-11-18-rekordmanga-sjukskrivs-for-stress. Retrieved November 30, 2024.

responsible for the implementation, the message that workers would no longer be "chained" to their offices, but that they would be "free" to "work from anywhere", including coffee shops, became the drumbeat of a new understanding of work. The new open plan and shared workspaces that would emerge to replace existing spaces would be "light, fresh and bright" and laborious paper-based tasks would be automated away to create less work tied to specific administrative deadlines.

And, indeed, providing workers with digital devices to "free" them, is not unique to this municipality. Today many organizations have provided their staff with mobile devices, asking them to do their tasks from elsewhere. Also, maintenance workers or care workers are asked to perform work where their customers/patients are. The mobile devices have come to be associated therefore not only with a particular kind of work, but with work generally. This then is at the expense of other practices such as using designated workplaces, upholding the hours of a normal working day and creating of tight, homosocial work communities. We also see companies such as Acast and SysDig as well as public sector organizations that have drastically reduced their offices, and that today have most of or many of their staff working from anywhere, hence accelerating the imaginaries of freedom. The questions of power and privilege, then, that comes with the imaginaries of freedom, concerns an increasingly growing number of people, across industries.

The imaginaries of freedom are powerful and may hide serious threats to a good working life behind their promises of free choice for the individual. Working from anywhere, at any time, and less than before may be tempting, but also hiding the weakened accomplishment of community and the mutilated opportunities for labour union organizing that this imaginary would lead to. In addition, freedom is not a choice accessible to everyone – even for those who may choose, this is a choice that releases the employer from obligations, as for instance work time regulation, and instead puts new responsibilities on the individual. At the same time, striving for freedom seems not to be completely separated from striving for community and a more sustainable working life – the performance of the imaginary of freedom itself offers elements on which other imaginaries may be developed that may mean creating a different future of work than an individualized one.

5. Work and imaginaries of self-improvement

During the past few years, it has become increasingly common for people to wear fitness trackers. These devices, worn on the wrist, are used to measure, for example, the number of steps taken during the day, how far these steps have taken you, and how many calories have been burnt during the activity. They also monitor the heart rate, measure the quality of sleep, and provide numerous other possibilities for keeping track of one's fitness and health. In addition, there are apps available on laptops and smartphones to measure the amount of screen time, and social media is ample with tips on how to work more efficiently and how to improve health, stamina, and the capacity to focus. With the development of all these technologies, it is apparent that the imaginaries of *self-improvement* are strong in the contemporary society. These imaginaries are not only about how we could, or should, go about becoming better in terms of our bodies and minds, it also rests on the idea that the human self can be improved in all aspects, and that becoming better is *always* possible and desirable, both when it comes to work and private life. Unlike the other imaginaries, where technology complements humans so that work is performed in a more rational (i.e., better) way, complementing human shortcomings and providing humans freedom from work, this imaginary is about the need for humans to constantly strive for perfection. A perfection that, however, is never reached.

According to Mark Coeckelbergh,[1] a philosopher of technology, self-improvement is not only an imperative in today's Western society but an entire industry. In 2018, the self-improvement industry in the US was estimated at US$11 billion, comprising books, courses, apps, coaches, workshops, and the like. With the advent of digital technologies, the

[1] Coeckelbergh, M. (2022). *Self-improvement: Technologies of the Soul in the Age of Artificial Intelligence*. New York: Columbia University Press.

imaginaries of (constant) self-improvement have been revitalized and reshaped, as this allows for measuring and sharing information and hence for tracking progress (or not!) in new ways.

Work is strongly linked to the imaginaries of self-improvement – in different ways. Historically, for example, the activity of work was seen as key to improving the self of the working individual. This idea is visible in the work of French Protestant reformer Jean Calvin, who argued that there is a strong connection between work ethics and spirituality, and in the works of Max Weber,[2] who claimed that strong work ethics were closely linked to the successful development of modern capitalism. In the same vein, French philosopher Voltaire wrote that "Work saves us from three great evils: boredom, vice and need".[3]

In contemporary society, work has become an area of self-improvement in itself. For this to be possible, work is seen as an activity that may be captured in the form of data that is made visible, systematically analyzed, and neutrally evaluated. Through this process, the performance of the workers may be assessed – for their work to be improved. Underlying this development is the neoliberal idea of individualized competition according to which the worker constantly needs to improve in order not to run the risk of losing out, for example when it comes to salary or career opportunities. The workers even run the risk of losing their job if they underperform. In a world marked by acceleration caused by digitalization and globalization, we can always work more and better – and we can always become better achievers in life more generally.[4]

In this chapter, we will explore how the imaginaries of self-improvement are linked to the development and introduction of new digital technologies at the workplace. We will also explore the emergence of subtle micro-political acts of resistance towards the different demands that managers, organizations, and societal norms have for improvement; acts through which work is made *meaningful*, rather than *measurable*. Interestingly, however, such resistance remains at the margin. A reason for this may be that digitalization, and with it the possibilities of

---

[2] Weber, M. (1930/2001). *The Protestant Ethic and the Spirit of Capitalism*. Oxford,UK: Blackwell Publishers.

[3] Voltaire, F. (1759/2009). *Candide: Or Optimism*, translated by T. Cuffe. London: Penguin Classics.

[4] Brinkmann, S. (2017). *Stand Firm: Resisting the Self-improvement Craze*. Cambridge,UK: Polity Press.

measuring, improving, and replacing humans, is often described as a force of nature, rather than as a development that can be controlled.[5]

SELF-IMPROVEMENT AND THE CENTRALITY OF MEASURABILITY

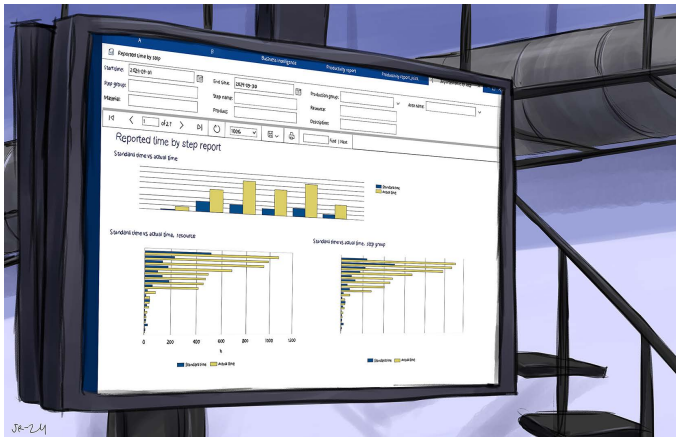
Measurability is a central construct in the imaginaries of self-improvement and is materialized in different ways, both in societal discourses and daily practices. Below, we zoom in on mundane, everyday work, by presenting a vignette based on our ongoing studies. The vignette provides a snapshot of the daily work of a manager at a manufacturing unit somewhere in Sweden, at a company employing more than 15,000 people across the world, that produces industrial niche products:

"I want it up there", the manager says and points to the wall in front of us. I ask why, and she answers: "so that *everyone* can see, so everyone knows". When I ask what she means by *it* and by *everyone*, she contemplates for a while and then elaborates. "*Everyone* means really everyone in the local unit, all 250 employees". When it comes to *it,* she says that "we have this new system that provides us with production data. It was implemented by a central function in the company, and now we have all this data which can tell us all sorts of things of what goes on in production". "I want it visualized up there" [she points to the wall again]. "The problem is that we have access to all this data, but we don't really know what it tells us, or what to do with it…"[6] As displayed in this vignette, the manager demonstrates to the researcher where she wants the monitor placed that is soon is to be put; a monitor that will show the production data in real time. Figure 5.1 shows how such a monitor may look like.

The monitor is part of a more complex digital system; a so-called manufacturing execution system (MES), that has become standard in contemporary manufacturing industry. This type of system is part of a development that has been termed "Industry 4.0." Industry 4.0 refers to the development of a "smart" factory where production machines and

[5] Hallin, A., Lindell, E., Jonsson, B., & Uhlin, A. (2022). Digital transformation and power relations. Interpretative repertoires of digitalization in the Swedish steel industry, *Scandinavian Journal of Management*, 38(1), 101183.

[6] Notes from observation of work performed in 2023 at a manufacturing company.



Source: Stina Rudebjer.

Figure 5.1 An illustration of how a monitor visualizing data from a MES system may look like

digital systems are connected through the implementation of advanced digital technologies such as robots and AI, thereby taking over the previously dirty, heavy, and hazardous routinized work of blue-collar workers.[7] With an MES system, it is possible to track, document, visualize, monitor, and guide various aspects of the manufacturing process, with the ostensible aim of allowing workers involved in manufacturing to act in a proactive way. If production levels slow down, the system will, for example, produce notifications. These notifications give technicians, engineers, and workers the information they need to act before a problem becomes acute. In later interviews, both management and other white-collar staff expressed high expectations for what this "gold mine of data" will be able to tell them. They envision that the opportunities

[7] Autor, D. H., Levy, F., & Murnane, R. J. (2003). The skill content of recent technological change: An empirical exploration, *The Quarterly Journal of Economics,* 118(4), 1279–1333; Xu, L. D., Xu, E. L., & Li, L. (2018). Industry 4.0: state of the art and future trends, *International Journal of Production Research*, 56(8), 2941–2962.

for improvement and savings will become visible, with just a click in the system. They also look forward to getting an overview of the entire manufacturing system that this system provides.

The company that we are studying is not alone. Corporations within the pharmaceutical, medical devices, biotechnology, food and beverage, aeronautics, aerospace, and defense industries are all customers, or potential customers, of MES systems, and the market for such systems is expected to grow to US$5.4 billion by 2031.[8]

The basic idea of the MES system is to improve production by collecting data that, in various ways, measure the work through which the production process is performed. The assumption made by technology producers and managers alike is that when data is measured, it can also be visualized. Visualization, in turn, makes it possible for workers as well as managers to take action should, for instance, the speed of production not be sufficient. In other words, measurement and the visualization of data thus collected are what makes it possible for work to be constantly improved.

Furthermore, by visualizing work, individual performance is also visualized. Improving overall production performance thus automatically involves improving the activities of individuals. Although the system does not necessarily specify the speed of each individual operator, it shows – for everyone looking at the large TV screen on the wall where the data is displayed – where in the production line the problem lies. As the visualized data tells *the truth* about what is going on, there is no need for discussion about it. The individual operators' different experiences of work in the local context are of little importance or relevance.

MES systems are just one example of the continuous measurement of performance used in contemporary workplaces. During the past decades, numerous so-called electronic performance monitoring (EPM) systems have been developed and introduced, and these are used in many organizations today by, for example, managers and HR departments. Figure 5.2 roughly shows what the interface that meets an EPM system user may look like.

Common to the EPM systems is the idea that employee behavior can and should be shaped and corrected. To make this possible, data is

[8] https://www.forbes.com/sites/forbestechcouncil/2023/04/14/what-pressure-points-will-propel-the-manufacturing-execution-system-software-market-forward/. Retrieved November 30, 2024.

Source: Stina Rudebjer.

Figure 5.2 Illustration of the elements that an EPM interface may include to visualize data to the worker

collected from the employees at certain intervals and then evaluated. This constitutes the basis for feedback on employee behavior. The cycle starts with managers specifying and feeding measurable goals for the employees into the system. Then, the performance of the employee is measured in relation to these goals, as data is collected from the employee with a certain frequency. If an employee misses providing data, managers are informed so that they can notify the employee that data is needed. The data is thus used for appraisals, but also for discussions about salary, promotions, and for talent management more broadly speaking. Or, as one EPM provider formulates it in their sales demo:[9] "Once the data is collected, use built in visualizations to identify top performers… and surface future leaders".

Central to the argument for EPM systems is that they are "easy to use", and that a manager can start tracking individuals' performance in many dimensions thanks to the system already being set up for measuring. But

[9] https://www.performyard.com/demo?video. Retrieved November 30, 2024.

the system also works the other way around. Workers may also continuously provide feedback to managers concerning the way they are performing the different tasks of managing. In short, in the words of the same company:[10] "Create systems of continuous feedback to help your people learn, grow and contribute more".

Whereas the MES system design fuels the imaginaries of self-improvement by putting the spotlight on the single worker indirectly, the EPM systems completely individualize the performance of work by measuring individual performance in a predetermined way. Feedback is situated at the center of learning and improvement. However, feedback is limited to measurable, quantifiable data. To sum up, the assumption of the system is that work is an individual matter, that the individual performance may be measured quantitatively, and that such measuring is needed for self-improvement.

However, even if the workers do improve their ways of working, the system is designed according to a *never-enough principle*. This means that the objectives are not attainable – there is always something that can be improved. An employee can *always* learn, grow, or contribute more, to paraphrase the company text quoted above.

Despite research convincingly showing that the use of EMP technologies, in many cases, leads to more stress and job dissatisfaction, decreased commitment, and noticeable increases in employee turnover,[11] the interest in EMPs in practice is continuously growing – as is the interest in other digital systems that measure the performance of employees. We – the authors of this book – have also come across this as customers, in an interaction we had not long ago with a restaurant. The morning after having visited the restaurant together – a really nice place with a great atmosphere and lovely food – the colleague who had made the table reservation received a text message on her phone with several questions. Had the food been to our liking? Did the beverages pair well with the food? Had our waiter been attentive enough? Even though it was not the first time we were asked such questions – we share the experience of receiving seemingly endless questionnaires where we are asked to

[10] https://www.performyard.com/why-performyard. Retrieved November 30. 2024.

[11] Ball, K. (2021). *Electronic Monitoring and Surveillance in the Workplace*, Publications Office of the European Union, Luxembourg, doi:10.2760/5137, JRC125716.

rate our shopping experiences, visits to the dentist or doctor, etc. – the message came as somewhat of a surprise. The restaurant we visited has an excellent reputation, and we assumed that the chefs and waiters were well educated and experienced. Surely this group of professionals would be able to assess the quality of the food themselves. Why would they assume that we did not find the beverages fitting – they were selected by the restaurant's own sommelier? And surely the waiter – or her manager – could have assessed to what extent service was provided in a proper manner?

The text message above provides one example of how the quantification of work is gaining importance in all possible sectors of working life, from product quality and employee efficiency to customer satisfaction, even when that which is to be evaluated are experiences that have traditionally not been measured in codified ways. An imaginary of measurability is increasingly marginalizing the alternative idea: that of *trusting* the employees' experience, craftsmanship, and professional ability.

So far, we have in this chapter zoomed in on two specific technologies that measure work as a way of improving performance, hence providing feedback to individuals about their performance and providing goals to strive towards self-improvement. There are many other digital technologies used for self-improvement by measuring work. Some of them are at the blurred interface of private and work life, such as, for instance, the widely used fitness trackers or apps mentioned at the beginning of the chapter. These apps may be used privately, but they may also be used by managers or HR departments in their efforts to promote good health. Ironically, there are also apps that track our use of other apps, for example, by keeping track of our usage of smartphones and providing us with charts, diagrams, and other forms of statistics so we can see the amount of time we spend with the digital technologies. Again, the aim is to self-improve by providing a motivation to decrease digital screen time.

The transformative power of the so-called digital transformation is a promise of improved performance; a promise that is repeated by technology producers, managers, and policy-makers alike in the quest for growth. Data are at the center of digitalization since data are what digital technologies produce. To believe in the digital transformation means, therefore, to believe in the *power* of data, and the possibility of

improvement through data.[12] With access to more data, individuals may be measured and evaluated based on feedback generated from networks of systems, machines, and humans. The underlying assumption is that when we measure, we *know*, and if we know, we can improve; not only what we do, but who we are, and thus expand our performance infinitely.

SELF-IMPROVEMENT: NECESSARY FOR USING NEW DIGITAL TECHNOLOGIES

Whereas digital technologies may prompt self-improvement efforts by directly providing codified feedback, as discussed above, they also boost the imaginaries of self-improvement in a more indirect way. When technological development is discussed in the media, politics, or academia, a lot of attention is focused on the technology itself and how the development of the technological artifacts may be supported or stimulated. This is reflected in the enormous amounts of funding dedicated to research and development for engineering digital technologies, most recently in artificial intelligence (AI). It is, however, nowadays increasingly common to portray the digital transformation as a *social change process* rather than merely a purely technical one.[13] The use of digital technologies is framed as dependent on the change of, among others, work practices or consumption practices. "User acceptance testing" and "change management" are just two of the "tools" mobilized for ensuring that the technology is used as planned, and that it has the intended effects. In other words, for the digital transformation to become a reality, machines need to be developed, but, most crucially, *humans* also need to change in order to adapt to what the machines require them to do, or need them to do, in order to work properly.

---

[12] Schwarzmüller, T., Brosi, P., Duman, D., & Welpe, I. M. (2018). How does the digital transformation affect organizations? Key themes of change in work design and leadership, *Management Review*, 29(2), 114–138.

[13] Andersson, C., Crevani, L., Hallin, A., Ingvarsson, C., Ivory, C., Lammi, I.J., Lindell, E., Popova, I., & Uhlin, A. (2021). Hyper-Taylorism and third-order technologies. Making sense of the transformation of work and management in a post-digital era. In Ekman, P., Dahlin, P., Keller, C. (eds), *Management and Information Technology after Digital Transformation*. Abingdon,UK: Routledge.

Hence, in addition to the common narratives portraying technology as being in the service of humans, as discussed in Chapter 3, the opposite is also crucial: workers need to adjust and adapt to new demands stemming from the ongoing digitalization. Given that technology is at the core of the effort to make work more efficient and to increase productivity, it is taken for granted that whatever the technology requires the worker to do, such a requirement needs to be fulfilled in order not to slow down the pace of progress and the increase in performance.

Let us illustrate this argument with a case from the Swedish public sector. In Sweden, the local government, the municipalities, are responsible for delivering primary health care as well as elderly care. As the demographics of Sweden are changing towards a situation where the number of young and employable (and hence tax-paying) people is diminishing in proportion to the number of retired and, with age, increasingly ill people, the country faces a challenge when it comes to upholding the expected level of public service in areas of health and elderly care. The situation is the same in many Western countries today. And in all of these instances, new digital technologies are seen as a key solution to the problem.

In one of our studies, we followed a municipality that had identified several transitions needed in the years to come to cope with the changing demography, and the increased use of digital technologies was central to several of these transitions. To make things happen, the top management team decided to work with so-called change agents in the organization. These were carefully chosen employees in various parts of the organization who were envisaged to become ambassadors for the change by inspiring, supporting, networking, and benchmarking in ways that drove the transformation towards success. Having commenced their work, the change agents in some units soon realized that the task was challenging. Not only because they didn't have a formal mandate, but because from their point of view, the issues to be solved were of structural character, such as, for instance, what certain regulations implied for care practices or how the technological infrastructure constrained the use of certain devices. When bringing this up, the answer they got from the person in charge of coordinating them (a specialist in change management) was, however: "Yes, but what can ***YOU*** do?" This was also supposed to be what the change agents, in turn, should ask their co-workers: "Yes, but what can ***YOU*** do?" Such an approach makes it possible to get things done despite adverse circumstances and lack of resources, but rather than embracing the need for a systemic perspective, the change management professional asked the change agents to find areas of improvement related

to themselves: their attitudes, competences, networks, knowledge, practices, etc. Hence, the survival of welfare services in this case was, at least to some extent, translated into the necessity for self-improvement on an individual level, rather than as a matter of organizational-level issues.

In one of our other studies,[14] white-collar work was studied in two different organizations that invested a lot of time and effort in digitalization. One of the organizations was a private, multinational company that had long worked with digitalization and where digital technologies were integral to organizational processes. The second was a public organization, a municipality in the UK, that had recently embarked on a journey to digitalize the office work of the employees. When asked about their use of and their adoption of digital tools in their everyday work, the white-collar office workers in both organizations expressed that the tools helped them become more flexible as well as more structured. This is interesting since flexibility and structure could be seen as somewhat contradictory positions. One way of interpreting the answers is that the white-collar worker today, by responding in these ways, also expresses that they must abide by these simultaneous, at times contradicting, ideals of how to improve one's own way of working to make technology work through individual effort. The study shows that the requirement to simultaneously adapt to the ideal of both being flexible and being structured, implicitly embedded in the everyday use of digital office tools, risked placing the white-collar worker in a situation of "damned if you do, damned if you don't". It is up to the individual, rather than the organization, to develop practices and behaviors that enable the efficient use of technology.

Since digitalization is often described as providing endless possibilities for improvement, resulting in a high-paced introduction of new technologies, new applications, and new versions of previous applications and technologies, the human is always lagging behind. The individual needs to adapt their practices to constantly new digital technologies; the individual must always work on self-improvement in order not to stand in the way of increased profitability and efficiency. Furthermore, the need for humans to adapt to technology seems to be the same across

[14] Lindell, E., Popova, I., & Uhlin, A. (2022). Digitalization of office work–an ideological dilemma of structure and flexibility, *Journal of Organizational Change Management*, 35(8), 103–114.

organizations and countries, regardless of the stage of organizational digital maturity. No worker seems to be positioned as able to escape it.

Of course, this is not the first time in history when the use of new technology has led to humans needing to change or improve, the way they work for technology to deliver on its promises. At the beginning of the 20th century, when horse-drawn plows were replaced by tractors, farming practices changed, reducing the need for human labor as well as their daily practices. Instead of several farmhands needed to take care of horses and the equipment, one farmer could, with less effort, work large fields on his own. Technology in this example changed from centering on care and relations to expansion through efficiency of one human interacting with the machine. The history of technology provides many more examples.

"Technology" is defined as the practical use of scientific discoveries.[15] This definition puts humans in charge of its development and frames technology as neutral but helpful to humans. In modern societies, technology is an important element in achieving progress; a key feature of the trajectory of development towards "the better". This definition, however, conceals two other important aspects. First, in a work-related context and in a capitalist society, "practical" often means "profitable". Hence, the development and use of technology are seldom questioned. Technology becomes the means to achieve growth in a trajectory of progress: it is an imperative to use the *newest* technologies in order not to be left behind. Second, "practical use" does not just happen; it requires a lot of work to be performed by humans for the technology to work as intended. Going back to the context of white-collar work: in order for the individual worker to be flexible and structured in their daily use of mandatory work-related digital tools, they need to constantly interact with their peers in order to learn how the tools are properly used in different situations. These interactions are often improvised and rarely specified in formal descriptions of organizational processes. Hence, for the technology to have its full effect on efficiency or profitability, it is the human worker that needs to improve how they perform certain tasks; it is not merely a question of formal, codified organizational processes.

Whereas many workers historically may have interacted with a *few* technologies, often materializing as specific artifacts (such as the tractor mentioned above), in what has been called the "post-digital era", digital

[15] https://dictionary.cambridge.org/dictionary/english/technology.

technologies are embedded in everything we do and in all sorts of areas. Today, the nurse as well as a workshop operator or a sales consultant may be asked to measure their performance with an EPM. Digital technologies do not take up space for the user (they require, of course, space somewhere else, such as warehouses for servers), and they can follow the user with wearables or handheld devices. There is, therefore, no physical limit to how many apps, communication channels, planning systems, etc., may be embedded and thus used. Some technologies automate work, some augment human performance, while others connect humans or humans and technologies. As employees, we are tasked with handling all these technologies, and very few managers map how the different technologies affect the need for the development of new competencies and possibly contradicting practices. It is up to the employee herself to find ways of improving her work practice to make the system work. This is not an easy task, and not all workers may be able to handle such pressure in the long term. The speed of change, which is rhetorically constructed as something to strive for also within the imaginaries of self-improvement, and the necessity of keeping up with development, results in demands for endless change that, in many ways are daunting.

AN ALTERNATIVE VIEW OF SELF-IMPROVEMENT: WORK AS MEANINGFUL

This chapter has so far focused on work as self-improvement by digging into the ways in which the use of digital technologies translates into imaginaries of humans improving their performance at work, either as individual productive performance or as the performance needed to make the new digitalized arrangement work better. Whereas such imaginaries are strong and take different forms, the more efficient future they promise still seems quite far away.

For instance, in the plant described at the beginning of the chapter, despite the measuring of "everything", the "gold" coming from this is still difficult to fully grasp and make use of, both on the organizational and individual levels. Some workers in the organization also express frustration since they see the system as a way for managers to increase their control over what the workers do. Among the workers, there is a story going around about a first-line manager telling his team that he can now keep track of them from his couch at home. "This doesn't exactly help…", the production manager sighed when we asked about the consequences of such stories. Also, there are operators who collectively

refuse to contribute to the data log, and instead engage in workarounds of various kinds, which means that the system doesn't work as intended. Similar reactions to systems implemented with the purpose of improving work are also found elsewhere. In a study of a large multinational, we found that different HR departments in the different locations had different practices of entering data into the company-wide systems. This then meant that the aggregated and visualized data could not be trusted, let alone be made valuable and meaningful.

The imaginary of measuring for self-improvement resides in an overarching idea prevalent in business: the goal to grow. Expansion is, in this context, to be understood as synonymous with conquest; to take over as many new markets as possible and, in this way, constantly increase revenue. The quest to increase revenue as a goal is entangled with the quest for efficiency and measurability. Through this, the *actions* of the worker are distanced from the local context and from the individual craftsmanship, experience, and professionalism of the worker. This economy of conquest[16] and the idea of constant improvement can be resisted, though. One source of inspiration may be found in businesses that are firmly established in local communities. These depend on local conditions, on specific local communities, and in some cases also on certain geographical specificities. Often, these businesses allow time for craftsmanship, which means that there is space for "inefficient" work and acceptance of the importance of care and good relations among humans. These practices can display an inspiring, and considering the imaginaries of constant self-improvement, provoking idea of an "economy of homecoming".[17]

Furthermore, what these counterexamples point to is the importance of meaningful work. Rather than codifying information in the form of data or always adapting to new technologies just for the sake of improving performance, meaningfulness may become an end to strive for at work. Rather than merely performing better, the main questions become: performing what, why, by and with whom, through work?

Examples of resistance against the quest for the constant improvement of work, working life, and above all, workers, are difficult to find within

[16] In Swedish "Erövringen ekonomi" in Dahl et al. (2023). *Hemkomstens ekonomi: Företagande bortom erövring. [The Economy of Homecoming: Entrepreneurship beyond Conquest].* Lund: Studentlitteratur.

[17] Ibid.

"normal" organizations and in arenas for managerial discourse such as books, magazines, or conferences. They *do* however exist.

One space where we have found resistance to the imaginaries of constant improvement is writing fiction. Wanting to be, or become a writer of fiction, is a dream that is rapidly expanding in Sweden, especially among women. According to national surveys, writing with the aim of publishing fiction novels is among the four most desirable professions for women in Sweden in the 21st century. As writing fiction novels is neither easy nor profitable, this collective career dream can be framed as a deviant labor market choice in relation to the need for securing financial means for oneself and one's family.

In one of our studies, writers were interviewed regarding their choice of pursuing *writing as work*. In these women's stories, resistance towards labor market ideals of performing, producing, and adapting is brought to the fore. The interviews show that resistance towards prevailing working life structures is done through micro-negotiations through which writing is imagined as a type of work that is "one's own".[18] This space of working is described as freed from demands on efficiency and managerial surveillance, as well as from demands on self-improvement related to the body and appearance. Even as a successful writer, you don't have to have the perfect body or fit the prevailing beauty standards, something that these women suggested is commonly the case in most other areas of work.

Resistance to the imaginaries of self-improvement is also found in the worldwide "slow-down movement". In the quest to embrace focus on the present, to experience time instead of stress, and to focus on stronger relationships with others and at the same time reduce one's environmental impact, this movement can be understood as both resistance toward the imaginaries of self-improvement *and* as an alternative way of self-improving.

Carl Honoré, often mentioned as one of the slow-movement founders,[19] contrasted different countries and their pace of working life, stating that working longer hours does not always lead to better living conditions or increased productivity. Similarly, taking regular breaks during the

[18] Associating to the novel by Virginia Woolf (1929). *A Room of One's Own*. London: Hogarth Press.

[19] Honoré, C. (2005). *In Praise of Slowness: Challenging the Cult of Speed* (Vol. 97800). San Francisco: HarperOne.

workday to breathe, or logging out from digital communication tools, is, according to Honoré, not laziness, but a way to potentially increase both creativity and efficiency for the individual as well as for the organization in the long run. It is truly interesting that the growing slow-down movement holds a message of resistance toward the imaginaries of self-improvement, while at the same time embracing the idea that slowing down is yet another way towards self-improvement.

SELF-IMPROVEMENT, BUT WITH NO TIME FOR LEARNING

Whereas still relatively few people may pursue meaningfulness at work if the cost in terms of financial security is too high, most people would agree on the importance of meaningful work. This is also what, among others, unions and working life scholars have fought for over the decades in the Scandinavian countries; some even claim that meaningful work could be considered a human right. Many organizations nowadays also try to attract new "talent" by advertising the purpose or the mission of the organization. This is probably most obvious in the case of companies that are involved in what they frame as "the green transition". These companies often bring to the fore the higher purpose that working for them serves; for example a sustainable planet or a net-zero emission business. To achieve this higher purpose, a skilled, flexible, and motivated workforce is required. Indeed, whereas digital automation may result in certain occupations disappearing, those jobs that remain seem to require an even more skilled workforce.

Already in 1986, Paul Adler pointed out how new technologies require new skills, anticipating the need for an upgrading of the workforce.[20] This was in stark contrast to what had been argued earlier, primarily by labor theorists, who claimed that the implementation of technology leads to deskilling. Adler argued that this was a myth. Automation may require less labor, and de-skilling has happened before, with important, even tragic, consequences in certain occupations. But deskilling is not necessarily the norm, and "upgrading" is deemed necessary for society to realize the potential that new technologies may imply, according to Adler.

---

[20] Adler, P. (1986). New technologies, new skills. *California Management Review*, 29(1), 9–28.

But what is "upgrading"? Interestingly, we live in what for decades has been called "the knowledge economy", one in which knowledge workers are said to play an increasingly important role. During the past decades, we have seen a partial re-industrialization of Western countries supported by, for instance, the European Union, with companies looking for thousands of skilled employees only in Sweden. Apparently, knowledge and skills are at the top of many agendas. But there seems to be no time for learning. To stay on top of the state-of-the-art and to improve one's own ways of working is important, but to allocate time for reading, reflection, engaging in a dialogue, and hence, going beyond "5 quick tips" about something seems increasingly more difficult.

For instance, on *Reworked* an online platform for employee experiences, one can find an article about how to work with self-development.[21] One suggestion is the following:

> Triggered Nudges. These provide employees with targeted suggestions triggered by things in the employee's environment. For example, an employee could set their calendar to send them a nudge to take a micro-learning course on "how to make a good first impression" shortly before an important customer meeting. These nudges can be thought of as proactive coaching in preparation for an upcoming action or decision.

The example above illustrates rather well how learning is framed today. Learning is fragmented, something that is to happen on the fly, five minutes before you need to use what you have learned.

We encountered another example of this when interacting with representatives from two local governments and a multinational company. The purpose of the interaction was to jointly understand how the organizations might improve digital and hybrid meetings. Although they were all in agreement about the prevalence and extent of "bad" meetings, i.e., meetings that waste people's time by being badly planned and performed, it seemed almost impossible to "make time" for learning how to make things differently. In our discussions, one of the representatives working with organizational development claimed that a 30-minute learning session was "way too long" and that what was needed was something very short and to the point. Somebody else argued that "micro-learning" would make learning efficient, and yet another person proposed that

[21] https://www.reworked.co/learning-development/unlock-the-psychological-power-of-self-regulation-with-technology/.

video material could work as an option to text, since many find reading too time-consuming today. This suggestion was, however, countered by another participant sharing their experience of video material leading to people letting the video run on a screen (to "pass" that training module), while at the same time working on another screen.

Our conclusion is that we seem to live in a society where most people just ask for quick checklists or short lists of practical advice. Self-improvement is thus envisioned as attainable through simple and easily accessible suggestions, rather than as something that requires time, reflection, endurance, and sacrifice. There seems not to be any need for understanding the suggestions, placing them in context, or for discussing them. Reflection is not contemplated, and learning is not considered an integral element of self-improvement. In particular, there is no need for any so-called "second loop learning" that would require time to question what is taken-for-granted. Self-improvement is based on "how-tos" rather than on "why-tos."

IMAGINARIES OF SELF-IMPROVEMENT: MATTERS OF HOMOGENIZATION AND CONCEALING THE "NOT KNOWING"

As discussed in this chapter, the imaginaries of self-improvement are reinforced by the continuous development of digital technologies, with new releases and new applications launched at an intense pace. This sets a new kind of "standard pace" for how work and individuals are supposed to develop and improve. In fact, the idea of improvement is increasingly becoming taken for granted when technology seems to improve all the time. Questions like "for what purpose?" and "at what cost?" are rarely asked, given that the dominant trajectory of progress is seldom questioned. Still, these are important questions to ask, and those companies, whether producers or users of technology, that encourage a discussion about them may be the companies that will thrive in the long term. This may, however, seem a hard route to take given that more and more aspects of work are translated into measurable data that are visualized in different ways, and that digital technology materializes for the worker and clearly points to not only the possibility, but the necessity, of becoming a better person at work. The notion that continuously doing a better and better jobmeans being a virtuous person is now materialized in graphs, diagrams, stars, etc., and leaves little possibility for *not* striving for self-improvement.

Furthermore, the responsibility for self-improvement, also when it comes to work, lies with the individual. Digital technologies provide the tools to materialize the neoliberal conceptualization of work as something we do individually, and with this, the performance – also of rather complex work processes – becomes an issue that resides at the level of the individual. It is the individual who is the recipient of the data collected and visualized, and it is the individual who needs to take action to ensure that the measures indicated by the technology on the screen are taken. Even when the technology is not meant to track performance, but to enable collaboration (as for instance in the case of applications such as Teams, Miro, Slack, etc.), it is still the individual that needs to make sure to develop the necessary skills and competences to utilize the technology in the best way possible. This also means that it is the individual who faces the risks if these skills and competences are not developed. Could an alternative to this individualization of work (also of collaborative work) be to conceive and manage work as a collective effort? Such an alternative would, however, require active choices regarding the selection and introduction of technologies, where their (potential) use and the consequences of this on, for example, control, trust, and how the development of new competencies can be supported would be scrutinized thoroughly *before* introduction, rather than afterwards. And what organization allows itself to engage in such time-consuming processes today? On the other hand, can we afford not to, considering what kind of future we are otherwise creating?

We suggest that the consequences of upgrading skills through quick self-improvement-fixes are multiple. First, it may lead to conformity that potentially could suffocate or delimit creativity. The same templates, lists of tips, digital tools, websites, etc., that provide quick guidance seem to reoccur, which exacerbates that reflection is not necessary. Another consequence may be the limitation of qualities that, through time, have been considered fundamentally human. This is because the quick self-improvement fixes are the rather narrow kind; they are related to doing rather than to thinking, caring, or making judgements (unless this is needed for self-improvement, of course). And third, there is no limit to improvement. There are always new areas of work on which quick advice, suggestions, or digital tools may focus. Since knowing "how" is done in no time – remember, learning should not take too much time! – there are infinite possibilities for improving the self, and it is only the individual who is supposed to put a limit on the pace of their own self-improvement.

More importantly, the imaginaries of self-improvement may lead to a homogenization of the workforce, where not only those who cannot manage the pressure of individually improving themselves may become relegated to the margins, but also those who manage the pressure do so by means of what Swedish philosopher Jonna Bornemark[22] has called *ratiofication*. Inspired by 15th-century philosopher Cusa, who made a distinction between *ratio*, calculating capacity, and *intellectus*, reflecting capacity, Bornemark uses this concept to scrutinize a development in the public sector that seems to display the same underlying dynamics that we have discussed in this chapter. Whereas the calculating capacity (*ratio*) fixes categories in order to make the world orderly, the reflecting capacity (*intellectus*) is oriented towards the *not-knowing* which may be defined as a "horizon that surrounds everything".[23] Given that every situation is unique, and that knowledge is formed in relation to what we already know, the concepts we have at our disposal cannot capture the entire situation. These concepts are, after all, based on what has been repeated, not on the uniqueness of the situation. But in any new situation, there is always an amount of not-knowing since "nothing can be used as the complete measure for something else".[24] By ignoring this, for example by simply focusing on calculating capacity (ratio), we thus lose out on the ability to develop truly new knowledge.[25]

Our point here is that the imaginaries of self-improvement at work by means of digital technologies may result in rationalization and the

[22] Bornemark, J. (2018). The limits of ratio: An analysis of NPM in Sweden using Nicholas of Cusa's understanding of reason. In: Btihaj Ajana, B (ed.), *Metric Culture: Ontologies of Self-Tracking Practices*. Bingley: Emerald Publishing, pp. 235–253.

[23] Ibid., p. 237.

[24] Ibid., p. 238.

[25] In her book ("Det omätbaras renässans: en uppgörelse med pedanternas världsherravälde" [The Renaissance of the Unmeasurable. Making up with the world-dominance of the pedants], Stockholm: Volante, 2018) Bornemark argues that both *ratio* and *intellectus* fill a role in the development of new knowledge. She exemplifies her argument with "good care". Here, *ratio* can provide measures for asserting whether something is good care or not, whereas *intellectus* can help interrogate the definition and measures of good care, also providing the values guiding the constitution of certain categories and not others. The concepts are complementary rather than incongruous.

concealing of not-knowing. Upgrading skills through quick crash courses that do not even scratch the surface of the issues at hand means relying completely on *ratio*, and leads to a concealing of the peculiarity of each situation and to the denial of the use of *intellectus*; i.e., of exploring the not-knowing by exploring. In the imaginaries of self-improvement, there is neither time nor space for what cannot be measured, documented, codified, and reproduced in a simplified manner.

Ultimately, such imaginaries may lead to humans becoming more similar to robots, although deficient robots. Robots do not have *intellectus*. Not yet anyway. But robots excel at *ratio*. Whereas self-improvement traditionally has made humans better, the current imaginaries of self-improvement paradoxically seem to lead to humans becoming less *intellectus* – which could be described as what makes humans human – by encouraging us to make more and more use of *ratio*. Is this the future we want to create for ourselves? Could we re-imagine what we want to develop and how, foregrounding the human rather than what the technology can track?

6. The politics of imaginaries

In the introduction of this book, we stated that ideas about the future matter. As we have shown in the previous chapters, these ideas, or imaginaries as we call them, center on what the future *will,* or *ought to be*. None of the imaginaries described in this book have emerged out of thin air – they build on ongoing and evolving relations that humans have had with technology over centuries, perhaps mainly in the so-called global North. They should, therefore, be understood as situated expressions of different and sometimes competing ways of framing current experiences. The realities of our daily work as we experience them; the way technology is entangled in these; and the way work is managed, all come together in imaginaries. As advanced digital technologies become ubiquitous in all facets of human life, new imaginaries emerge that help frame and make sense of the ways in which work changes. When expressed and circulated, imaginaries also shape the ways through which we develop, embrace, or reject the technologies in different contexts. Hence, imaginaries also involve a *re-imagining* of work: how and where work might be done, by whom it will be performed, and what it will entail. And this, in turn, can cause us to further re-interpret our own lived and current experiences of work.

In some cases, the imaginaries presented here may seem to project neat futures of work and technology, but as we have shown, they also simultaneously run up against the messiness of lived reality. As we have shown, the social and the material are entangled in many different ways, but the imaginaries rarely display this multifacetedness. Nevertheless, imaginaries matter as performative forces in forming the present, as well as the future society. The force of imaginaries is particularly evident, as seen through the examples in this book, when it comes to the way work is organized, and when it comes to how technologies are developed, introduced, and whether these are actually used as intended – or not. We need to understand that imaginaries are *partial* – in that they rarely tell the whole story – and *political* – in that they express and exercise power.

Imaginaries shape what we demand of future technology and work but do so not without concern for how they jive with everyday practices and into the organizational arrangements of which we are part. Importantly, imaginaries potentially benefit some individuals, categories, and groups more than others.

The argument of this book, then, falls in line with recent contributions that illuminate the ways in which digital technology, and algorithmic technology in particular, come to constitute political possibilities. Examples include the opening of new frontiers for capitalism as algorithmically driven analysis of digital traces has allowed for unprecedented capital accumulation based on individual people's wants and needs.[1] Other examples include the ways in which algorithmic systems can reinforce prejudices, particularly in the systems used in law enforcement and the judicial system, but also in commonly used search engines and generative AI applications.[2]

The idea that technology is political is well established. In the late 1970s, political theorist and science and technology scholar Langdon Winner posed the question as to whether artifacts have politics. When introducing this question to his readers, Winner felt that he had to acknowledge the at-the-time seemingly provocative notion of such a question. He began his essay with "[i]n controversies about technology and society, there is no idea more provocative than the notion that technical things have political qualities".[3] From the present perspective, almost half a century after Winner compiled his work on the politics of artifacts, it no longer seems a provocative notion that technologies have political qualities. Indeed, we partly have Winner to thank for understanding that "the issues that divide or unite people in society are settled not only in the institutions and practices of politics proper, but also, and less obviously, in tangible arrangements of steel and concrete, wires and

---

[1] Zuboff, S. (2019). *The Age of Surveillance Capitalism: The Fight for the Future at the New Frontier of Power.* London: Profile Books.

[2] Eubanks, V. (2018). *Automating Inequality: How High-tech Tools Profile, Police, and Punish the Poor.* New York: St. Martin's Press; Noble, S. U. (2018). Algorithms of oppression: How search engines reinforce racism. In: *Algorithms of .OppressionHow Search Engines Reinforce Racism*, ed Safiya Umoja Noble, New York: New York University Press.

[3] Winner, L. (1980). Do artifacts have politics?, *Deadalus,* 109(1), 121–136.

transistors, nuts and bolts"[4]. Similarly, we have in our chapters covered how arrangements of work and technology – materialized ideas about the future – reveal a less obvious politics.

While technologies themselves are political, the discussion of the future of work and technology itself presents an opportunity to inevitably embed politics into our imagination. Our stories of loss of autonomy, and of robots doing what is framed as "dull tasks", serve as an ideological subtext that helps enable such political possibilities. Critically, the way work changes or intersects with new technological possibilities is not only due to the material properties of technology but also to the ways in which it is bound up with the social and political. For instance, the constant search for optimizing work and for producing/delivering more with less is not intrinsically related to digital technologies per se, but, in this framing, to also consider humans and technologies as resources whose performance is controllable and computable. In other words, the context for adoption is prepared, through imaginaries, to create particular understandings of how work is done, experienced, and managed.

Imaginaries of the future of work and technology portend specific assumptions about work and technology that in themselves are not only implicit but also intrinsically political in their consequences, in at least three ways. First, imaginaries provide definitions of work that align with the needs of digital technology rather than the other way around. As we have discussed throughout the book, definitions of work that emphasize its rationality, detachment from time and space, and unending potential for improvability are, however, in many senses abstractions that slice away the complexities of work. These abstractions are very convenient for technology implementation. In following the implications of such imaginaries, we must ask who benefits and who loses – not specifically because of the technology itself, but because of the way, and with which intentionality, the technology is implemented. It is here, in the fluid space between what a technology can do and what it is made to do, that imaginaries can play a powerful role.

Second, these definitions of work and technology also contain some anticipation of increasing or possibly even exponential returns made possible with commitment to technology. If we accept a particular definition of work and technology, we are seemingly invited to extrapolate

[4] On page 128 of Winner, L. (1980). Do artifacts have politics?, *Deadalus*, 109(1), 121–136.

from what currently *is*, to consider what *more is possible* in the future. Thus, any property we see in work and technology at one point can be imagined with greater intensity or scope in the future. Work is not only rational and improvable, but could, or even should, be rationalized and improved *further.* According to this way of thinking, work is not only free but could become *freer still*; collaboration between human and non-human is not only possible now but can be imagined *with greater scope still*; and so forth. The near future always carries a more radical seed of a distant future that contains more of the same.

Third, and consequential for their political implications, imaginaries emerge with *appearances of truths.* Embedded in each imaginary is not only the sense of which things could be done differently in the future, but also how that will happen, and why. This follows from the two implications above. We note that a common underlying idea across these imaginaries is what is known as computationalism; a view that posits that everything is computable, and that the more that machines can help us compute, the better and more advanced our world will become. Even if some imaginaries might not imply full computationalism, the idea that technology computes is still relevant. For instance, the foundational idea of AI evangelism relies on computationalism: given enough data and processing power, nothing will be out of reach for AI. From this perspective, it seems ignorant to question the inevitable role of digital technology in the future of work. But is this really true? To what extent can we influence the future of work and technology?

IMAGINARIES OF TECHNOLOGICAL INEVITABILITY

A key aspect of each of the imaginaries we have discussed up to this point is their inherent notion of the inevitability of technological progress. In a sense, the imaginaries present means of dealing with, responding to, and taking advantage of an autonomously progressing technological frontier. We have encountered this sense of inevitability in many of our studies, often expressed by managers and workers alike as a need to keep up, or a fear of being left behind as new technologies promise to advance operations and daily work – if not for them, then for their competitors and comparators. How this plays out in the different imaginaries differs somewhat but still with the same underpinning of inevitability. The imaginary of work as freedom, for instance, contains a utopian dream of how technology inevitably unshackles us from the confines of the fixed

places and times of work that industrialization imposed on societies all around the world. If work, on the other hand, is imagined as collaboration between humans and machines, inevitably humans will be freed from dull and repetitive work, although with the definition of "dull and repetitive" in the hands of technology developers and multinational corporations and most often not grounded among workers themselves. The imaginary of work as self-improvement similarly draws upon the techno-utopian dream of endless improvement through measurement and reckoning, inevitably improving both ourselves and our work, with little space given for deviations, diversity, slack, or different ways of doing work in any context.

This inherent sense of inevitability in the imaginaries that we have come across in our studies shows us that, if we are to examine the politics of imaginaries, the question of agency – of what we can do about the future – is central. The role of agency, however, is far from clear when analyzing these imaginaries. As argued above, implicit in each imaginary is the idea of inevitability, an idea that in turn relies on a deterministic unfolding of history. The implication is that our agency is ceded to the invisible hand of benevolent innovation that manifests through the relentless development of technology, even more so in times of complex societal challenges such as, for instance, the so-called demographic challenge. Furthermore, the development of technologies and their arrival are taken de facto to dictate the future of work – in fact, as a rationale for change. The future of work is, through these imaginaries, carried by the future of technology.

Within the narrativized confines of inevitable progress, uneasy truths are backgrounded or reframed as necessary sacrifices – change is compelled by social and technological forces that cannot be avoided. Questions about the quality of automated government services, the balance of power in human–machine collaboration, or for whom work is freedom and for whom insecurity, and so on, are all rendered as moot points, as realities will unfold of their own accord – under the weight of their own logic.

Imaginaries also divide us and weaken the force we as a society might otherwise bring to bear. As we hear from workers and indeed also managers throughout our studies, the individual does not experience agency, as there is no consensus as to what is desirable or not. Moreover, imaginaries themselves categorize responses to technology, either *for* or *against* the technological development. Those who embrace technology *have a future* or *are* part of the future, whereas those who resist technology *want*

to hold development back. It is hard to find agency when saying "no" to new technology is considered madness according to what is considered to be an inevitable (and mainly positive) technological development.

Historian David Noble addresses the consequences of such narratives of inevitable progress by bringing to the fore how they hide the fact that work and technology are mediated by social aspects. He notes how narratives of inevitable progress, in all their neatness, help conceal the ways in which work and technology:

> are mediated by social power and domination, by irrational fantasies of omnipotence, by legitimating notions of progress, and by the contradictions rooted in the technological projects themselves and the social relations of production.[5]

Also, in our experience, imaginaries come to be prevalent precisely because they are conveniently loaded packages for making sense of some ongoing transformation. They are the traces of power, expressing the interests of those with power. This is not to paint imaginaries as necessarily insidious. The point is that the imaginaries of work are not only about work; they reach *beyond* work. The imaginaries we describe in this book are also important to the companies that produce the technologies and the assemblages that build the imaginaries. These companies have strong interests in co-constructing imaginaries that provide them with the rationale for developing and selling their technologies. Similarly, the imaginaries are important to politicians who work for positioning their nation in a "competitive" context, for policy-makers who design incentives and support structures for technological development and economic growth, and for executives and managers who see technology as the means to positioning their companies strategically.

In other words, the supposed inevitabilities of our imagined future(s) conceal the complex social, economic, and material conditions that underlie them. To unpack this, we point to the method by which we have both identified and studied imaginaries. In our chapters, we have shown how different actors posit different claims about what work and technology are and will be in the future. Moreover, the very definitions of work and technology that they mobilize are based on definitions contingent

[5] Noble, D. (2011). *Forces of Production: A Social History of Industrial Automation*. London: Routledge, page 324.

upon their origins and interests. Managers and management scholars have been prone to define work as something technologically manageable and rationalizable. They are joined by consultants and IT vendors who present the future of technology in ways that also carve out a place for themselves in the future. While other voices exist, among them ones that posit no clear connection to themselves winning in the future, these voices are plausibly situated in a particular social setting that has conditioned them.

The fact that multiple voices are involved in telling the story of the future of work and technology also reveals a particular problem with the truth of their claims. Across our chapters, we point to different images of the future, indicating multiple futures populated by different types of humans. This will be discussed next.

CO-EXISTING IMAGINARIES?

Across our chapters, we have pointed towards different futures, manifested both currently in practical and material realities and in anticipations for the future. While some aspects of these imaginaries are plausibly not mutually exclusive, others seemingly are. We have, for instance, discussed how imaginaries of work as rational limit work and reduce it to lists of sequential tasks with little space for "human" input, such as through sensing or caring. However, we have also discussed how imaginaries of self-improvement, also associated with technology, suggest the opposite – enhanced human input, expanding human autonomy and development. That some aspects of the imaginaries are mutually exclusive whereas others are not is important to acknowledge since it allows us also to question to what extent imaginaries are inevitable and to what extent they are imaginable as universal futures. In the following, we discuss two ways in which imaginaries may co-exist: depending on to what extent they posit universal scopes in their claims and to what extent the futures imagined are near and concrete or far and abstract.

Work as rational posits a common modernist claim supported by centuries of elevation of reason over other ways of knowing – it is embedded in the idea of rationality itself that there is no other way that is reasonable. Work as self-improvement, on the other hand, has a global presence but can materialize in different forms depending on the geographical and cultural context, the type of industry, hierarchical positioning, and so on.

The disassembling of work in space and time through digital platforms is already widespread, as well as practices of working at any time

displayed, for example, through emailing at any time during the day and work-related posts on social media. Their manifestation is concrete and consequential in the present. On the other hand, whether the digital workforce is already here or not is a matter of discussion. The currently operative digital co-workers are quite simple applications, nonetheless, already changing work and its context for humans. More advanced co-workers, freeing up time for supposedly high-value work, are still powerful fantasies rather than tangible artifacts. Further, "dull" work for humans has not disappeared and it is still to be seen what high-value activities may entail. The issue of "dull" work is clearly a political matter. One example is the basic work needed to keep up with the development of technology: for the free worker to be able to do work at any time and place, the rapid development and manufacturing of mobile phones and laptops are needed. The work necessary to manufacture these devices, such as the mining of cobalt for the world's electronic firms, is still done by workers, men, women, and children, with little choice.[6] The cobalt miners particularly have little choice on when and where to work. Their work circumstances are not only repetitive and "dull", but to large extents physically harmful and dangerous. This is just one of the many examples worldwide of how the imaginaries of the future of work that are outlined in this book seem to only apply to some, at the expense of others. Our own empirical studies have not reached out into the world, and we thus have no first-hand information on the imaginaries of work in relation to the development of technology that takes form among workers such as the men, women, and children in the cobalt mines or the workers that repeatedly tag training data for AI algorithms for very little pay under uncertain working circumstances.[7] We cannot elaborate here on what these workers imagine the future of work will be or *ought to be* in various senses in relation to the development of technology. Hence, multiple imagined futures not only vary in kind and scope but also seemingly cannot possibly imply one neat inevitable future. More importantly, the

[6] Kara (2016). Is your phone tainted by the misery of the 35,000 children in Congo's mines?, https://www.theguardian.com/global-development/2018/oct/12/phone-misery-children-congo-cobalt-mines-drc. Retrieved November 30, 2024.

[7] Rowe (2023). Millions of workers are training AI models for pennies, https://www.wired.com/story/millions-of-workers-are-training-ai-models-for-pennies/. Retrieved November 30, 2024.

politics of the future of work has far-reaching consequences in the present, far beyond our daily dreams of the future.

However, coming in different shapes, the imaginaries we have presented posit some interest in "efficiency" as some form of outcome and see technology as the boundless means to accomplish this. Whether we collaborate with technologies better, rationalize more, improve ourselves in new ways, and so forth, a shared ambition is to be efficient in one way or another. Moreover, these imaginaries also bring to the fore individuals as the relevant focal point rather than the collective – this is not strange, given that advanced liberalism permeates the global North. Work becomes even more of an individual endeavor, and it is the individual that needs to perform, be monitored, take risks, etc. Realizing the taken-for-granted-ness of efficiency as a goal, the individual as the focal point, and technology as the means leads us to consider: how do we defend ourselves from these dominant imaginaries, and what form of efficiency do we desire and want?

DREAMING ABOUT DIFFERENT IMAGINARIES

Since the shaping of the future of work emerges out of the multitude of decisions and activities that all of us are engaged in daily, when performing work, we all have a role to play in what future emerges. It is in the everyday activities (sometimes seemingly unimportant) that the negotiations, struggles, and reconfigurations of the future of work take place. It is thus apt for us to ask: Do we *want* the future that these imaginaries form? Or do we want to achieve a *different* future? **This** is the politics we need to address. **And** get involved in.

Different actors, of course, depending on their position in society, have different possibilities to influence the future. But it remains that all of us contribute (voluntarily or involuntary) to make certain futures – rather than others – possible, through the way we engage with technology, discursively and in practice. We can, for instance do so by dreaming about new imaginaries together.

The proposition to dream about different imaginaries than the ones entangled through the web of society – through history, culture, and our shared narratives – points to the unique human quality of having the ability and agency to dream. The novel *Klara and the Sun* by Kazuo

Ishiguro[8] explores the mind of the robot, which particularly displays the idea of human agency and the capability of dreaming. However, in this popular fiction novel, even the robot at one point in the story displays the urge to dream, as she speaks out and asks the Sun (that charges her) to heal someone dear to her. Fiction is continuously part of the intrinsic web that builds our imaginaries; thus we won't disregard, in this book, the imaginary of the possibility of dreams articulated by robots. However, we will build our arguments on the power of dreaming as a human quality, and thus the human as capable of both questioning contemporary imaginaries and creating dreams of different futures that, with time has the potential to alter the current imaginaries of the future.

But first, to be able to address the possibility of dreaming about different imaginaries of work, let us question the politics of the imaginaries explored through this book. Let us deconstruct them by pointing out their flaws.

Have they defined work and technology in adequate terms? No! Important aspects of work and technology fall out of scope due to the partial nature of these dominant imaginaries.

Can we extrapolate from what is the case now to what must necessarily be the case in the future, and is the future thus inevitable? No! The notion of seeing a trajectory into the future is always suspect to some extent. As the famous philosopher David Hume noted, the use of induction – of observing what has happened to learn about the world – can never reveal the logical necessity of what will necessarily happen. Instead, we draw on our habits to assume what will be the case but lack truly rational grounds for our assumptions. While our experiences give us cause to believe it is incredibly probable that the sun will rise tomorrow, we ought not to treat our present experiences as sufficient cause to assume what the future of work and technology brings.

History has taught us that imaginaries built on the present don't necessarily come true – if challenged, and particularly so in the realm of politics. For instance, the idea in history that people of color as well as women would not be as fit as white men to attend education and thus unable to take on influential positions in working life or politics was for long widespread and uncontested. Such an idea inevitably affected imaginaries of what the future *was to be* or *ought to be* in various ways; imaginaries and claims of "truth" that history proved convincingly wrong. Hence,

[8] Ishiguro, K. (2021). *Klara and the Sun*. London: Faber & Faber.

we should distrust the self-claimed prophets who tell us what the future will, or can, be. Instead, we ought to notice that we too can imagine the future; a future that we want, rather than the one that is presented to us.

Therefore, let us imagine new imaginaries. Such imaginaries might be those of work as meaningful; work as embodied; work as craft; work as collective and committed to the positive forming of human communities – or why not something else, yet to be dreamt of? This work may be characterized by working conditions that are fair and sustainable, worldwide; providing the possibility for learning and cocreation – why not even for happiness? Digital technologies could be a natural part of these imaginaries, but they would be worker-friendly in that they answered to workers' needs, rather than being efficiency-driven in their design and use, and they may support slowing down the pace of work, rather than contributing to accelerating it.

These are not impossible imaginaries; we have seen glimpses in the cracks of the imaginaries presented in this book, but they are far from clear possibilities at the moment. As we claim at the beginning of this chapter, the shaping of the future of work emerges in the daily work performed by us all; in the regular labor market, in domestic work, and in chores, crafts, and arts done in our spare time. It is, again, in these everyday actions of each one of us that the negotiations, struggles, and reconfigurations of the future of work take place. It is here judgement takes place; where we find out what lines of possible actions we have, and where we imagine what the result of following a particular line of action would be, thereby allowing us to act (and dream!) in relation to the unique situation. And thus, we must remember that dreams of different imaginaries are also political and will, inevitably, have political consequences.

Further, an important aspect to notice is that the imaginaries we have written about in this book are all about what work *is* rather than what work ***is for***. Through our examples, work is understood as forms of practice, when a highly relevant question to also ask would be: what are the *supposed ends* of work practices?

In the imaginaries of rationality and self-improvement, the underlying idea is that work, as well as humans, can be made more and more efficient, to the point where work might not even have to be done by humans but by different types of technologies alone. Even in the imaginary of freedom, it is the work that ought to be liberating, rather than freedom itself being the telos. Imaginaries of a world without work exist and have been elaborated on as early as the 1930s under the label "technological

unemployment" by economist John Maynard Keynes, and more recently by economist Daniel Susskind.[9] Freedom from work can be imagined as dystopian since work is associated with the practical conditions of making a living financially, creating stability through routines, and giving the individual an important social context. What if wealth to provide for our basic needs could be distributed,[10] would we under such assurances be able to imagine a world without work? In what ways could or should we, as humans, be able to find meaning rather than emptiness, creativity rather than boredom, routines rather than chaos or tardiness, and community rather than loneliness – in the world without work? Utopian imaginaries of a world without work might challenge what we believe work is, as well as what freedom from work could entail.

We need to help develop *new* imaginaries and take control over which imaginaries are being shaped. If we don't do this, someone else will do it for us. We need to pay attention to how technology and work are being imagined on our behalf – because this itself plays a crucial role in what technologies emerge into the social scene and how they are implemented. Paying attention to these imaginaries, and what they hide, keeps us critical and aware of trends that technologies themselves reveal more grudgingly. What is seen as good, desirable, and inevitable may turn out to be imaginaries that hide all sorts of unwelcome downsides. We have seen how promises of freedom quickly become the reality of precarity and lower estate costs for employers, how collaboration hides the reality of how much agency is given up to the machine, and how rationalism turns out to be not so rational when you are its subject. The very idea that technology is unfolding under its own logic, that we must simply adapt, is itself misleading – the imaginaries circulating universities, consultancies, and news agencies are what shape the directions that technology will take. There are *choices,* and the cracks and inconsistencies we find in circulating imaginaries give us clues as to what other futures might be possible.

---

[9] Susskind, D. (2020). *A World Without Work: Technology, Automation and How We Should Respond*. London: Penguin UK.

[10] Though Susskind, like many economists, is reluctant about the practicalities of universal basic income, others such as Professor of Development Studies Guy Standing argue for the feasibility of the same through the Basic Income Earth Network (BIEN). See also Standing, G. (2017). *Basic Income: And How We Can Make It Happen*. London: Penguin UK.

The imaginaries described in this book are not simply placed in society by tech companies and CEOs, but are sustained by us in our daily practices, approach, and dreams. It is up to each one of us to critically scrutinize these imaginaries and dare to dream and speak out on what world of work we want for our future, and what future of work and non-work for our children.

WHAT SHOULD BE DONE AND WHO SHOULD DO IT?

A key lesson of our book is that imaginaries of work and technology are powerful shapers of the future. This means that if we don't get involved, others will inevitably shape the future for us. Who, then, are these others? They are, of course policy-makers and allied research funders who help drive the imaginary of the inevitability of technology, of the need for regions, nations, firms, and workers to "keep up" – both in technology development and in digital skills and competencies. These others may promote more nuanced imaginaries, such as human-robot collaboration, but they do not necessarily question the broader tenets of the idea that the future is inevitably digital, inevitably automated. These others are also the firms producing AI, software, and robots. Present imaginaries suit them well, of course; while firms, public authorities, militaries, governments, and other organizations are all rushing to "keep up" with the pace of change, the markets for their products are secure. These others are also the many consultancies whose businesses depend on change and so promote the idea of the inevitability of change.

It is not that all those who promote such imaginaries have nefarious intents or that values such as efficiency and rationality are wrong per se. The dtrive to perform work efficiently and productively can benefit many. The authors of this book all wish the public sector, for instance, to be able to organize its services in order to provide us with appropriate care when needed. But we should not forget to ask who is benefiting and how, and who is not – that is, efficiency for whom? There are most often conflicting targets and interests at play which a silent acceptance of the need for more digital technologies may conceal. Not least when it comes to what work is done across the globe, by whom and in which way to enact efficiency in a specific context, such as the hospital where we have our appointments booked. Our point is therefore twofold: first, that there is a great multiplicity and richness embodied and practiced in different kinds of work which – if remaining unnoticed – tends to give

way to the homogenizing force of technological mediation. And second, that efficiency always comes at a cost, for humans or for the planet, and we should be able to take into account such a cost. Whether it is possible to reach a broad agreement among managers, technology producers, consultants, researchers, unions, workers and other possible actors with a stake in the future of work about a different understanding and enactment of efficiency is an important question and there seems not to be any obvious arena for this conversation. But there are different kinds of levers that can be mobilized.

It's easy enough to blame technologists for our woes – it is they, after all, who produce the technologies that lead to the fragmentation of work, its parceling up and outsourcing. Much modern work is so relentless and boundaryless in large part due to technology. The imaginaries are there, one might argue, simply to make this all appear inevitable, even positive – to smooth the path of technology diffusion by eliminating resistance – or creating buy-in, to put it more positively. But the idea embedded in imaginaries of work and technology, that technology and technologists drive change, drive history even, is problematic.

More broadly, despite the fact that digitalization is typically framed as both inevitable and transformative, many organizations are not, in fact, appropriate sites for digital technology. For instance, firms producing high-value, particularly bespoke products, at low volume may not benefit much from digitalization, even if that is not always apparent to them. In our travels among manufacturers, we have found enthusiastic digitalization of data collection on production processes, but with no real plan as to how the subsequent data would actually be useful; or indeed any clear evidence that data collection was an improvement on simply walking around the production shop floor.

In other words, the limits to digitalization need to be explored and discussed. We need to get the message out that digitalization has limits to its usefulness and that more reflection and planning are needed before embarking on costly investments. Firm owners are not foolish, of course, and often they are spending their own money. But they are, like the rest of us, susceptible to the fantastical control and efficiency imaginaries promoted by vendors. As one firm told us: "It's a jungle out there. For us to be digesting all that, it's a hurdle for us." Consultants need to play a stronger role in acting as honest technology brokers and in shaping expectations and associated imaginaries accordingly. Technology-supply firms themselves can and do also play a key role in shaping imaginaries

for the better – by getting their customers to ask sensible questions about the type and level of digitalization that is appropriate for them.

Thinking more broadly about management, it is clear that better education is crucial. While policy-makers are waking up to the fact that expansion, growth, and surveillance – which treats people and the environment as inexhaustible external resources – risk the very fabric of our existing civilizations, those responsible for our organizations and for the demand for technology are perhaps slower to do so. Management education could and should do much more to change this mindset.

The present focus of many managers is somewhat short-sighted, constrained as it is by limited imaginaries of growth, competition, and inevitability of technology . One way of re-imagining or undermining these taken-for-granted "facts of doing business" is to highlight the damage done by a narrow, dogged, and un-reflective pursuit of technological change. Scholars and educators need to help managers, owners, and shareholders reflect more on these and other hidden costs of technological change.

There are other organizations, such as trade unions, parents' groups, and other special interest groups (such as those that have built up around the notion of slowdown) that may, if given the chance, propagate other perspectives, other imaginaries. A crucial question is whether these groups can play a stronger role in pushing alternative imaginaries. Trade unions, in particular, have a duty to support their members' interests, and these interests might not be well served by digitalization. Our exploration of this potential thus far has been disappointing. In Sweden, for example, we have found that thinking in banking unions is already shaped by imaginaries such as the inevitability of technology and tropes like AI "smoothing the work process" and taking over "mundane work".[11] In other words, they are also buying into existing imaginaries; imaginaries that may not serve the interests of their members. This points to the need to promote more discussions about, and perhaps education in, the downsides of digitalization; not just as a threat to jobs but also around more nuanced issues like what work is and how work becomes meaningful, and work intensification, physical dislocation, and even alienation.

[11] Berglund, R., Chris, I., Bäcklander, G., Santos, K., Hallin, A., and Lammi, I. (2024). Is the potential impact of Fintech on employee well-being acknowledged? Presented at XXXV ISPIM Innovation Conference 2024, Tallinn, Estonia, June 9–12, 2024.

Workers themselves can, of course, also be positively predisposed to co-bots and augmentation, without necessarily seeing that this can have unexpected downsides. While the downsides are well documented in the literature, if one knows where to look, the insights to be found here have clearly not had much impact on existing imaginaries.

As well as promoting greater scrutiny of the imaginaries that help shape key actors' understanding of technology change, we also need, together with these actors, to devise and promote counter-imaginaries – new ways of thinking and imagining. In other words, we should view imaginaries as potential tools for change. Unions, for example, might promote imaginaries around "technology as a threat to firm resilience" – an imaginary that speaks to the importance of the firm's longevity and general health. Digital technology might then be re-imagined also as a potential threat: by, for example, over-surveilling or intensifying work, leading to ill-health or the loss of skilled staff. Within such imaginaries, managers themselves might also begin to think more deeply about what digitalization could do to such things as their workers' skills over the longer term. They might simply take more time to reflect on the cost of digital technologies in relation to precisely what they will deliver in terms of improved profitability. Importantly, with such imaginaries at their disposal, managers who are concerned about the changes they are perhaps already seeing have a line of argument and overarching logic, a discursive resource, that they can deploy in the boardroom to shape the discussion. End-of-year reports might also draw on this resource, assuring investors that the long-term health of the firm is being protected, along with their investment.

Seen as a discursive resource, imaginaries are powerful and performative. Karl Marx tells us that it is the material, including technologies, that shapes the world and ultimately the ideologies (imaginaries) that then hold it together – usually in the interests of a few. It is also clear, however, that imaginaries about work and technology evinced in these material practical realities, particularly during periods of technological uncertainty, also play a role in shaping what the material world will look like tomorrow. Emergent imaginaries about work as collaborative and work as freedom have shaped demand for open-plan working spaces and literally brought them into existence by creating demand for them. The emergence of open-plan office spaces begets more open-plan office spaces as organizational decision-makers look to their neighbors and promote the same imaginary logics within their own organizations. This is not to say that the material does not drive its own change; mobile technology

spread from the investment banker to the delivery rider while the internet simultaneously offered new ways of organizing work without the need for expensive real estate. So, there is no definitive starting point in the material or the discursive – but a constant churn as one entangles the other. What this offers us, therefore, is a way in which we too, with only words and imagination, can play a role in shaping technological futures. Counter-imaginaries can undermine the certainty of established imaginaries and can trigger the process of change in new directions.

There *are* alternative imaginaries to those presented here.

Are we ready to engage in them to create a human-friendly future of work?

Index