Living Digital Lives

Monday. The week begins. It's 6.30am. You've been woken by your phone's alarm. You immediately reach for the device, noticing there are WhatsApp messages waiting to be read. An icon from Twitter is also alerting you to something, perhaps a new follower. Your partner has been up for a while. In the living room, Amazon's Alexa has begun streaming some songs from Spotify. You know you need to check email. Then check your calendar to see what meetings you have scheduled in the afternoon. You notice your 'bedtime' tablet, which you use to watch Netflix, is flashing to be charged. "There's something wrong with the screen on the fridge," your partner says. Time to get up.

This start to the day won't be exactly the same as yours. You'll have your own array of devices. You might not use Twitter. Maybe you live on your own. And maybe you don't (yet) have a screen on your fridge. But for many of us today, regardless of how we go about waking up, we soon start to connect and interact with digital devices and services. In fact, according to a 2017 report by Deloitte, 16% of Americans reach for their smartphone immediately after waking, 42% within five minutes, and 62% check for messages, email, social media, and the news within 15 minutes.[1]

We lead digital lives. Twenty-six per cent of Americans report being 'almost constantly' online.[2] Over 80% of people own a smartphone, with the average person checking it about 50 times a day.[3] A large proportion have it at hand at all times, even when asleep.[4] We often check in during the night; a 2017 survey in the UK found that 66% of teenagers wake to check their phone in

the early hours, with 35% of parents doing the same.[5] And even if we do not own a smartphone, or use the internet infrequently, we still interface with digitally mediated services all the time – at work, moving through transport systems, using utilities, passing surveillance cameras, and so on.

Is this just the way life is now? Should it be like this? Does it matter at all?

In this book we make two related arguments. First, how we interact with digital devices *does* matter. Digital technologies are accelerating and fragmenting our everyday lives, and the data our devices gather are used to profile and target us. Second, we should step back, even if just a little, to try and seize some self-control. Our call is not a Luddite one. We are not against computing and the digital age. Rather, our call is for balance: for using today's computing power, but in a way that is managed, considered, and to our benefit. 'Slow computing' is one possible way you can be more careful about leading a digital life. But it is more than that. Slow computing is also about seeking and making changes to how our digital society and economy operate and are organized.

Slow computing is not an easy strategy, however. It is something to work at, albeit in the face of numerous pressures. Many digital technologies are designed to be seductive and addictive.[6] We're called upon, indeed often psychologically compelled, to check notifications on our phones, to answer emails, reply to messages, and see what's happening on social media, or encouraged to just jump lazily around from one app to another, perhaps casually tapping at the screen as we move from Netflix to YouTube and then Facebook. Devices draw us in: laptops desktops, tablets, phones, TVs, and yes, even fridges, demand our attention. They seduce us, making us willingly and voluntarily subscribe to and desire their logic, trading any potential negative effect, such as a loss of privacy or time fragmentation and stress, against perceived benefits such as enjoyment, convenience, and cost. We're also compelled to use digital devices to complete mundane tasks: interfacing with government; filing taxes; applying for a permit or benefits; filling in forms to update an insurance policy; buying goods or services; or looking for information such as a library's opening hours.

Participating in everyday life, therefore, brings us into contact with the digital world; and the experience of interacting with, and

through, digital media often makes us want to do it more, even if it works against our self-interest. Moreover, states and corporations often have a lot of power to set and drive agendas; this means resisting and pushing back can be daunting and involve energy we might not always manage to spare. Against these pressures, slow computing seeks to redirect attention, reclaiming time for other pursuits, and to protect its practitioners from any pernicious effects of living a digital life. It does this both personally, by providing tactics for managing how you engage with a digitally mediated world, and collectively by pooling knowledge, cooperatively acting together, and mobilizing political power to shift public debate and influence the regulation of questionable practices.

In this book we reveal why we need *balanced* digital lives. We demonstrate why slow computing deserves our attention and detail how we can individually and collectively make it achievable. We make clear the issues at stake, set out slow computing thinking and practices, and document the practical and political interventions that we can undertake to reassert sovereignty over our digital lives. Hopefully, the thesis we develop and the strategy outlined will convince you to join the countless others who are already starting to practise slow computing as an alternative means to experience the joys of computing.

The joys of computing

The quality and power of today's digital devices and services should not be understated. Many of us hold in our hands extraordinary equipment. On our smartphones we can communicate with satellites to identify our location; download and watch movies when we're out and about; send photos to friends on the other side of the world; make video calls; play games; attach other devices to measure weights or temperatures, or take credit card payments; use default apps such as a calculator, a calendar, a note-taker or an interactive map; and download and use thousands of other apps for exercise, cooking, reading, weather, travel, radio and podcasts, wellness advice, and just about anything else you can think of. Computers are generative technologies par excellence – they enable us to creatively and flexibly produce all manner of designs, stories, and products in ways that far exceed the capacities of previous tools. They provide

diverse forms of entertainment through a single device and allow us to pursue multiple forms of communication, networking, and consumption. They are truly remarkable devices.

Lots of us would be quite surprised (and distressed) if a device stopped working. It would be unusual for the screen to break without us having dropped it. Software programs do sometimes crash these days, but a great many work like clockwork. Batteries are not always replaceable but many last quite well, even if they do seem to need charging every day. And as digital devices become ever more robust, with powerful processors, lots of memory, and high-definition screens, we use them to mediate and augment everyday life: to produce, consume, interact, communicate, govern, police, travel, and play. And we can do this while on the move – checking a bank account, sending an email, watching live sport, or following a recipe is becoming easier and quicker.

We are, in short, living in an age of unprecedented computing power, with some indications that even people living in very remote places or who belong to the world's poorest communities will soon have devices with regular, fast, and affordable internet connections. In this sense, we are living at the start of the age of what some call 'ubiquitous' (computation available everywhere, via devices able to connect to the internet) and 'pervasive' (computation embedded in everything enabling them to be linked to the internet) computing.[7] Such are the capacities and utility of digital technologies that they have become the lifeblood of today's information society and economy, just as steam was at the start of the industrial age.[8] Digital computation, like steam, is reshaping our world – from automating manufacturing and service jobs, to making cashless payments, optimizing the delivery of utilities, creating autonomous vehicles and drones, monitoring personal health, sharing information and viewpoints, and remotely controlling home appliances.

The speed, power, and stability of many of today's devices and services is something to celebrate. We certainly don't want to go back to an analogue world, and we doubt you do, either. For all we might complain or worry about the way we now live with digital devices and services, few of us want to return to the pre-digital age. We enjoy our devices – we even find joy (not to mention love, good times, friendships, work, and crucial information) in them. To labour the point a little more here, just think of some of the

other obvious conveniences or subtle helping hands provided by today's technologies:

- The train you took this morning had free Wi-Fi. It wasn't lightning fast but you were able to update your newspaper app and pass the time.
- While at work, your employer emailed you a message to say this month's payslip is available for you to review. You saw you've been refunded the expenses from that trip abroad last month. Doing that took about 45 seconds.
- In your local supermarket you simply pick items, scan them, place them in your bag, check out, and leave. No waiting in line. No unpacking/repacking. You're in and back out again in less than five minutes.
- Your child's school has sent a convenient reminder on Facebook about next Friday's theatre production.
- Your car's GPS was updated over-the-air today and on the way to a friend's house it rerouted you to avoid a nasty traffic accident near the church.
- At work or at home you've been able to simultaneously edit a report with other contributors who are located in another office.
- The new office chair you ordered online yesterday has arrived. It came at the same time as a new 256GB Micro SD card for your camera, which lets you take and store thousands of photos.
- Using your phone, you follow the actions, thoughts, and adventures of your friends, as well as keeping up to date with breaking news on social media.
- You compare dozens of prices and book a hotel; then pay a utility bill instantly from your armchair.
- Using a networked games machine, you play a multi-player game in real-time with several friends who are all located in different countries.

You'll be familiar with all these features of everyday life, even if the contexts or specifics are different. Like us, then, you probably have to admit that there's some joy to be had through networked computation. In many ways, digital technologies do simplify things. The weight of some everyday problems has been reduced. A sense of convenience is created. Time and energy is seemingly saved. To

make it absolutely clear, there's a lot to like about the way today's world of technology is taking shape.

Problems coming into focus

For all the joys of computing, however, it's also true that collectively as a society we are becoming aware of some major problems with the way today's digital technologies are configured, rolled out, and utilized. Some of these problems are personal and some are institutional and structural.

Lots of us feel tethered to and bogged down by devices. We feel harried, rushed, and constantly pestered by messages arriving and needing a response. We feel a compulsive need to check for updates, to interact, or to continue playing a game. Indeed, we sometimes seem to be addicted to digital life; in fact, we *are* addicted. We often seem unable to function without having at least one device within reach and giving the sensation that some form of salvation is only a quick click away. Indeed, 31% of Americans feel anxious when separated from their phone, with 60% experiencing occasional stress when their phone is off or out of reach.[9] In just a few years, it seems as if we have become beholden and tethered to digital devices and systems.

This tethering is compounded by societal expectation from family, friends, employers, clients, service providers, marketers, and others who expect that we are always reachable, that we will respond immediately, and that every part of our daily lives should be mediated by computation and connectivity. Homes are becoming ever more 'smart': televisions, washing machines, fridges, coffee machines, heating systems, and a plethora of other devices, are now connected to the internet and they actively try to learn and react to our preferences and respond to our requests. Work requires using ordinary computers, along with specialist devices, tailored software, and interactions and transactions across the internet. Interfacing with government requires filling in online forms and uploading information. An industry like air travel requires us to interface with digital computation at every stage: buying tickets, checking in, passing through security and immigration controls, routing baggage, and then flying in a plane that is reliant on millions of lines of code to take to the skies.[10] Indeed, such is the ubiquitous

and pervasive extent of computing that it is now almost impossible to live outside its orbit. We are compelled to be digital citizens, whether we like it or not, almost regardless of whether we possess sufficient digital literacy and skills.

A key point to begin emphasizing here is that, at every point in these overlapping digital ecosystems, data are being generated, extracted, and translated into value. Websites and apps monitor what links we click on; large swathes of data concerning usage and location are extracted through apps; and our faces, vehicle licence plates, and the unique signatures of our devices (such as the MAC [media access control] address which identifies each smartphone) are scanned in public space and tracked. These streams constitute what has been termed 'big data': that is, data which are continuously produced in real-time, are exhaustive to a system (the data relate to *every* person, object, transaction within a system[11]), and uniquely identifiable at the individual level.[12] At the same time, there are technologies that collate and process these data to make inferences and predictions about what kinds of people we are and then use these insights to make all kinds of decisions about, and indeed for, us. For example, some retailers adjust prices according to who they think we are and what algorithms suggest we can afford to pay. They try to nudge us into making purchases we were not initially intending. Some platforms fire annoying, but sometimes also knowing, ads at us; some ads are even produced by political 'bots' looking to sway our opinions, often in unaccountable ways. Data brokers use the profiles to help companies make important life-changing decisions about whether we might be a suitable employee or tenant, or are sufficiently low-risk to loan money to, or who might be a suitable date for us. Extracted data are then employed to construct personal profiles that are then used to socially sort people into various categories, who are then treated differently.[13] Our data are being monetized and their value extracted, and used to reshape how states govern society. Our life chances are now mediated by forms of algorithmic governance, and in some cases life-or-death decisions can be made about us, sometimes autonomously and based on inaccurate data, such as by diagnostic healthcare technologies or killer drones.[14]

Consequently, how we understand and experience privacy is changing. Privacy is a condition that many people value and it is

considered a basic human right in most jurisdictions, enshrined in national and supra-national laws in various ways. In the pre-digital age, citizens in western democratic countries expected a high degree of privacy – to be able to selectively reveal themselves to the world within accepted limits (such as the state's right to know certain information). The production of big data, however, challenges privacy rights because of the extensive, invasive, and granular nature of data extraction, and how the data are used for purposes for which they were not generated.[15] Big data and associated data analytics and machine learning also multiply the extent to which unacceptable practices and privacy harms – such as interrogation, identification, secondary use, exclusion, breach of confidentiality, disclosure, exposure, blackmail, appropriation, distortion, intrusion, decisional interference – can occur,[16] as well as creating new forms of predictive privacy harms through inferencing.[17] In other words, the proliferation of networked digital devices has fundamentally changed the privacy landscape and the extent to which citizens can expect to selectively reveal themselves. New legislation, such as the General Data Protection Regulations (GDPR) in the European Union (EU), are attempts to more effectually reassert privacy rights, though their effectiveness in this endeavour has yet to be fully assessed.

A multibillion dollar, global industry, the data brokerage firms that extract value from big data are now a central, if largely hidden, part of everyday life. As is the games industry, the sharing economy, digitally mediated retail, software development, apps and operating systems, web design, hardware manufacture, networking and telecommunications, and so on. We live in the age of what some initially termed the 'information economy'[18] and more recently 'surveillance capitalism'[19] or 'platform capitalism'.[20] Networked computation is underpinning and driving economic development, how the global economy is organized and functions, and how value is produced, extracted, and reinvested (even in long-standing traditional industries, such as manufacturing, logistics, agriculture, media, and tourism). In turn, the largest firms producing many of the digital goods and services we use are accumulating enormous profits, with huge market capitalizations created in a very short space of time. Google, Facebook, Uber, Alibaba, Amazon, Apple, and hundreds of others, are all young companies that have struck

gold by disrupting old industries and creating new products and markets, quickly becoming globe-spanning enterprises. In turn, these companies wield enormous economic power and also exercise political power, lobbying governments and kicking back against regulations that might limit how they produce value and their ability to expand further. And yet, their wealth is often generated in large part through our data and labour, and infringing on our rights and expectations concerning privacy and data use.

Of course, it is not simply companies that seek to collate and extract value from data. Government at all levels (local, national, supra-national) generate and process data for the purposes of public administration, managing operations, and policing and security. In part, this is to ensure that citizens comply with laws and regulations (attending school, paying taxes, obeying traffic rules), but also receive their entitlements (to services, welfare, housing, health, and so on). More and more interactions with the state are conducted online, with citizens directly interfacing with government services and databases. Analytics are applied to these databases to identify potential welfare cheats and reduce fraud. Such systems also work to monitor the performance of government itself, with data used to assess the efficiency and effectiveness of programmes and policies, and to design new ways of delivering services. On a darker note, as the revelations of Wikileaks, Edward Snowden, and other whistleblowers have demonstrated, there also has been a step-change in the extent and nature of state-led surveillance in many nations (for example, the various programmes of the US National Security Agency [NSA] and UK Government Communications Headquarters [GCHQ], and many police forces). As well as parsing government data to assess potential security and criminal threats, these agencies are also drawing on commercial data to monitor the views (via social media, email, messaging, phone conversations), associations (via social networks), activities, and locations of populations.

What this all means is that, in living our digital lives, we can be exposed to some worrying practices. Even if your, or our, exposure might not always *seem* so bad, we are often unaware of the extent to which we constitute the product from which value is being leveraged, or how we are being negatively affected in overt and covert ways, or how others might be more profoundly affected.

Among university researchers, media critics, political commentators, and many business experts, there is a growing call for a better understanding of these emerging problems. In academic journal articles, scholarly books, newspaper or magazine exposés, and all manner of podcasts, concern is raised about the effects of digital life; about the ways in which disruption of established industries or government practices is not always a good thing; about how entire technical systems might discriminate against or disadvantage certain populations; or how new platform economies can destabilize labour markets and create more precarious work. Indeed, there have been sustained calls for more investment in establishing ethical guidelines for machine learning and artificial intelligence, regulating data privacy and security, enacting data justice, and for instituting new labour laws, among others.

We think one way to cut through and make sense of all of the criticisms and alarms is to suggest that digital life is creating worrying problems along two principal axes. On the first axis, the issue is what we'll refer to as '*acceleration*': a sense that, for all the convenience of digital technologies, they also cut into our lives in ways that increase the pressure to always do more, always remain connected, always stay on alert, leaving us struggling – at times, really struggling – to switch off, relax, and not re-connect. Emailing eats into our holidays; sending messages on WhatsApp disturbs our family time; devices beep and ping when we're eating out; completing everyday tasks means going online, jumping between websites, clicking here and then there in a rush, with a sense of urgency and almost panic because we know it shouldn't take long but the internet's slow for some reason and we need to run for a bus, but this online form has an error and we can't submit it and … and … pressure builds. Digital life seems to compress and fragment our time.

If acceleration is on one axis, we think '*extraction*' needs to be on the other. As we have noted, as digital life has emerged it has become reliant on a business model that opportunistically mines data about all aspects of our lives, including our tastes, ideas, and thoughts. We enjoy the fact that many digital services and apps are free to use. They are not free to create and run, however, and it's impossible to cover costs or make a profit with no income. So *we* have become the product, as well as the consumer and user, and in the case of some platforms the producer (for example, we

create the content that is consumed on social media). In this sense, there is an exchange of data and labour for a service.[21] Even so, this exchange can be lopsided, and the implications not entirely clear and transparent to the user. The exchange can lead to billions of dollars of profits flowing to the companies that make the most of these opportunities. And what this relationship means for all of us is still not at all clear. To repeat, it is us who produce the data, become the targets of tracking and surveillance taking place behind the scenes, and us who are worked on by algorithms and analytics designed to game us in some way, often autonomously and in many ways without regulation or oversight. We're caught up in a data grab.

When we take stock of acceleration and extraction, therefore, we're struck by the way individual users – you, us – are in the centre of things with serious pressures bearing down from two directions. But we also know that individuals can choose, to varying degrees, how they act in response to acceleration and extraction, and can also work with others to counter these pressures. It is precisely this sense of acceleration and extraction inviting a response that we explore in this book. We're convinced everyone can and probably should work to find a balanced digital life; that the joy of computing exposes us all to acceleration and extraction, but also that we have options to establish new digital selves. The way we respond now and in the future is the core issue.

Slow computing

Slow computing is a way to characterize a type of response to digital life that prioritizes your needs and interests, as well as the public good for society as a whole. The term was introduced by Nathan Schneider in 2015 in a short article in *New Republic*.[22] He used it to refer to using a computer that has been self-configured with open source software. In a related article in *America* magazine he describes slow computing thus:

> What I mean by this is making choices about using computers, and the networks they connect to, with more awareness of how they affect ourselves and others around us. Much as the Slow Food movement emphasizes local economies, traditional knowledge and

ecology, Slow Computing means not merely opting for the most competitive, profit-driven hardware and software, but instead building a commons. It means cultivating digital lives that reflect our analog values.[23]

Schneider explicitly links slow computing to the slow living movement. Since the mid-1980s, this movement has been growing, with the ideas and values of 'slowness' being applied to different facets of everyday life and work.[24] So we can find people calling for and practising 'slow living' in general,[25] 'slow food',[26] 'slow scholarship',[27] 'slow urbanism',[28] 'slow tourism',[29] and so on.

We share Schneider's desire to couple digital life with the ideas and ideals of the slow living movement. For us, slow computing is a suite of aims and a set of principles designed to transform how, on the one hand, we engage and manage computation in all aspects of our lives (for example, home, work, leisure), and how, on the other, society collectively responds and sets the framework in which computation takes place. As we discuss in detail in Chapter 6, at its heart is an ethics of digital care – of self-care and of care for others. We have chosen to link this ethics of digital care to the notion of slowness, because the wider slow living movement is principally about pushing back against the stresses and pressures that seem to be multiplying across everyday life. It is about seeking an alternative path to the speed and busyness of the modern world that prioritizes a different set of values – enjoyment, patience, individual and collective wellbeing, sovereignty, authenticity, responsibility, and sustainability.

The slow movement is about more than managing time and speed. It is also about experience, quality, and a set of expectations and principles. For example, the slow food movement seeks a more leisurely approach to preparing and eating food, but also desires better ingredients and food stuffs (for example, organic, sustainably farmed), more tasty recipes, and a more enjoyable dining ambience, as well as promoting a healthy living lifestyle and opposing the values and economy of fast food. Slowness is about taking a more measured pace, but it is also about enacting a different kind of society, one that is more reflective and tries to create a better quality of life. In this sense, slow computing is about practising politics with a small 'p' (living your life with respect to some aims and principles), but

also in a big 'P' sense (actively and openly promoting and debating those principles and how they should be enacted), with respect to the effects of computation and data on society and economy.

As such, there is a general underlying philosophy to the idea, one that has a built-in ethics of care to oneself, to each other, and to the planet. It's not simply a matter of changing pace, but also changing perspectives about what matters and then trying to enact a more sustainable, enjoyable, and fulfilling lifestyle. In contrast to Facebook's original motto, 'Move fast and break things', slow computing therefore embraces Ruha Benjamin's counter-motto of 'move slower and empower people'.[30] For us, slowness when applied to digital lives is about countering acceleration *and* extraction. It is about creating a more productive relationship with digital technologies; about using devices and apps without feeling harassed, stressed, coerced, or exploited.

The term 'slow computing', then, seeks to capture the diverse actions of a wide range of people who are aiming to moderate, oppose, evade, alter, or otherwise navigate their way around problems such as acceleration and extraction, and other issues encountered when living digital lives. Following our twofold division of the key harms, these resistances take the form of slowing down and temporally reconfiguring digital participation *and* performing intricate 'dances' around and within the proliferating platforms and constituent units and infrastructures of data extraction. Neither of these moves is problem-free, with both practices posing difficulties for technology users. Nevertheless, slow computing is a viable and necessary option if you want to interface with computing on *your* terms.

The axes of acceleration and extraction mean that digital life is coming toward you at a rapid pace and in ways that can seem like you're losing control. How *can* you respond? It is important to recognize that you already have *some* scope – and possibly more if you connect with others effectively – to counter the pressures bearing down on you.[31] In the first place, we will argue that responding does mean taking individual ownership of and responsibility for the issues. You are the one feeling time- and work-stressed from always interfacing with computation; your choices about what data to share are at issue.

That's not to deny that some of this pressure is asserted by others, such as employers, or that some data are extracted whether we like it or not. To be sure, we are bound up in structural conditions and relationships that place limits on our agency and our ability to resist the ways in which digital technologies impact on our lives. For example, governments can compel us to engage with them through digital systems, employers can insist that we are always connected and responsive, and family and friends can pressure us to use particular platforms and services. Different groups also have varying levels of autonomy and capacities to exert control over their digital lives. Those with insecure jobs can be more tightly bound to a digital leash, people of colour and ethnic minorities are more likely to be profiled and targeted in negative ways, and poor and marginalized communities are less likely to possess the tools and skills to practise slow computing. Others possess the social standing and resources to live digital lives that are more under their command.

Nevertheless, we are all active agents in our own lives; we have some ability – even if to a limited degree – to shape relationships, counter prevailing conditions, and make decisions about how to act. There are steps we can all take, many of them minor, that enable us to take back some control and autonomy. Some of these steps will give rise to inconveniences, irritations, hurdles; a few are difficult. But in many cases it's simply about learning new practices, including new 'click-ways' (that is, you need to click here, then there, then choose this option, then that one, and as you click your way through options you start to practise slow computing), or learning when you simply need to stop clicking and just 'switch off smart' (that is, not just switching off digital devices but doing so in a way that lets others know why you're not responding). As you read the following chapters you might recognize some of the slow computing tactics we detail and realize you have already been practising them without necessarily thinking of them in these terms.

While we think individual responses are a crucial element of slow computing, there is no doubt that collective moves are also needed. Some of these are practical; others are institutional, political, and philosophical in nature. They can be led by communities, companies, non-governmental organizations, political parties, governments, or civil society. Some involve new partnerships.

For example, individuals can come together to create open data or develop open source or citizen science interventions that alter how digitally mediated services are delivered. Companies can implement market-led regulation and voluntarily adopt and promote practices such as privacy-by-design (baking individually controlled data extraction into the product) as a means to achieve corporate social responsibility, as well as competitive advantage. Non-governmental organizations and foundations can produce or facilitate privacy enhancement tools such as ad blockers, cookie blockers and removers, malware detection and interception, site blocking, encryption tools, and services to opt out of databases held by data brokers. Political parties can adopt slow computing ideas as policy proposals and push for their adoption by states. Governments can formulate and implement policy interventions relating to fair information practice principles, privacy-by-design, and working hours and conditions, as well as enact new legislation that protects people's rights, and adopt modes of governance in relation to its own programmes and practices that implement and promote slow computing. Academics and civil liberties groups can expose problematic issues and practices, and formulate and debate an ethics of care that sets out the ideal principles for creating and enacting slow computing.

Some communities have been actively practising slow computing since the invention of digital technologies. Their approach demonstrates that slow computing can be actively executed and, depending on how deeply the values are held and enacted, can radically change everyday life. For example, Orthodox Jews practise the non-use of digital technologies on the Sabbath for religious reasons. Interestingly, digital technology is also the solution to the potential downside of observing these beliefs and practices, with automation being used to record television shows and phone messages for later consumption, or for automatically turning lights on or off.[32] The Amish also practise the non-use or limited use of digital technology, partly for religious reasons, but also to preserve cultural autonomy in the digital age.[33] As Howard Rheingold[34] observes, the Amish are 'techno-selectives' rather than technophobes, using digital technologies that they believe will bring the community together and sustain Amish values or that are an economic necessity, and avoiding those that they think will create

distraction from family or community time. Important here is not just how technology is used, but a sense of how it may change the person or community. When digital technology is used, such as a mobile phone or laptop, it is often a shared resource and used in a particular, limited way.[35] For example, a single mobile phone might be shared by all workers and only used for work-related calls.

You do not have to use digital technology in the narrow ways adopted by the Amish in order to practise slow computing. However, it does mean being techno-selective in how you use technologies. Moreover, there are lots of moves underway that are not bound up in religious beliefs and cultural communities but actively enable slow computing practices, and most of them will appreciate your support. This support can vary and can include: active participation in creating interventions; helping to fund open source projects; promoting the agenda or principles of slow computing; or adopting new tools and practices in your everyday life. Other kinds of intervention will no doubt emerge as digital life motors on. Trying to build toward slow computing means staying alert to these developments and taking steps with others to lay the right foundations and then to strengthen them where or when they are needed. The onus really is on all of us to find ways of responding together in imaginative ways, while we still can. A key point to make here is that the joy of computing – the speed of access; the spreading of ideas; the sharing of information and insights; the way we can connect with others – creates serious scope for all of us to bounce ideas around and debate and develop new practices and principles. It might be tempting to keep clicking or swiping without any thought for what's taking shape around us, but our hope is that fewer of us will take that approach. Only via individual and collective actions will we be able to shift gear and create a more balanced digital society.

To be clear, then, we are not advocating for total withdrawal or making only slow progress. As Carl Honoré, a slow movement guru, argues, 'Slow is about relearning the lost art of shifting gears. … Speed is wonderful, thrilling, liberating, fun, and it can be immensely productive.' Like him, we are not anti-speed. We agree that, 'you've got to have a range of speeds. Like any piece of music, you can't have just one tempo.' For Honoré, slowness is about 'doing things at the right speed – what musicians call the *tempo giusto*' and

avoiding the 'trap of trying to do more and more things in less and less time, putting quantity before quality in everything we do'.[36] What we're advocating for is a new way of moving and ultimately more effort to become reflective about what the journey through digital life entails. It is about recognizing that slow computing can obtain real benefits for individual and societal wellbeing.

Overview of the book

So what actions are possible, what might we *need* to start doing together, and what obstacles are in the way? We answer these questions in the following chapters. We begin with the problems and obstacles.

Chapter 2 explores the acceleration of everyday life. We highlight what's been happening over the last few years and explain why our lives do seem to be speeding up, examining the transformation in the pace, tempo, scheduling, and connections of work, home, and social encounters. In turn, we explore the positive impacts of these changes, such as quicker movement, on-the-fly encounters, more efficient and timely accomplishment of tasks, and the optimization of services, before examining some of their negative outcomes, such as never-ending engagement, time-stress and scarcity, little time for contemplation and deliberation, and the introduction of more technocratic forms of governance. We note that there is probably no way of *entirely* getting around acceleration while also making use of – and finding some joy in – digital life. But striking a balance? That's within reach.

Our focus turns to the theme of data extraction and its significance for slow computing in Chapter 3. We examine how digital technologies are producing digital footprints and shadows about our everyday lives and how these data are put to use within multibillion dollar data brokerage and advertising industries. We explore the apparent benefits of trading data for services and also its dark side with respect to four key issues: privacy; difference, profiling, and sorting; governance and politics; and production. These issues present significant obstacles for slow computing, but also gateways through which a more balanced digital society can take shape.

In Chapter 4 we identify a number of specific moves that all of us, mostly on our own as individuals, can make to push toward slow computing. Our attention is first on the temporal component: on the slowing down of things. We introduce the idea of 'time sovereignty', and emphasize reflection, auditing, and identifying contingencies that provide more control over the pace and tempo of digital life. Next, we focus on data extraction and how to manage or evade excessive data harvesting, utilizing the concept of 'data sovereignty'. We outline four sets of interventions that we can all perform to try and protect ourselves: curation, using open source alternatives, stepping away from digital technologies, and practising obfuscation. Even using these tactics, slow computing can be hard, and we examine why this is the case, before finally considering how you might go about contemplating and formulating your own slow computing strategy and the tactics required to realize it.

Moving from the personal to the collective, Chapter 5 outlines a wide range of practices you can participate in as you move toward a more balanced digital life. Some of these practices are for the expert technology user, but most of these need support from the casual user. One trope about digital life is our apparent powerlessness against the might of corporate giants or governments. However, we're already seeing moves by lawmakers in some countries to alter the terms on which citizens are expected to lead digital lives. Collectively we can make a difference. We examine two connected components of collective moves to decelerate: slow computing practices and rights, and the creation of slow computing spaces. We then consider collective actions to evade data extraction from different perspectives: industry-led moves; regulation by government and policy makers; and data sovereignty expressed by communities, civil society, and non-governmental bodies. Finally, we consider what a slow computing world might look like.

Thinking about the future of digital life is the focus of Chapter 6, where we develop a normative argument about what our digital society and economy *should* be like. Here, we try to reimagine digital life through an ethical lens focused on care, fairness, equity, and justice. Our aim is to provide the moral arguments for creating and sustaining slow computing. We first set out an ethics of time sovereignty that justifies slowing down, then an ethics of data sovereignty that provides users with more autonomy and control

over their data and its uses. We explore the extent to which slow computing can extend to all, regardless of gender, race, class, or abilities. Do we all have the same opportunities to tackle acceleration and data extraction?

In the final chapter, we conclude our case. Having identified a range of personal moves and collective practices, and after emphasizing the need for a new ethics of digital care to take shape, we explore the creation of a more balanced digital society and some of the persistent obstacles to implementing slow computing and how to overcome them. The joy of slow computing is within our grasp. It is something for all of us to work toward. But to realize it we need to understand the issues and react to counter the forces of acceleration and data extraction. Hopefully you will join us on that journey.