Computer says no: understanding digital authority

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6 CULTURE

In 2018, a Dutch newspaper article reported on the story of woman whose car was stolen in 1998 but remained registered in her name (NRC, 2018).[91] Because the license plates in the Dutch Vehicle Authority's (RDW) database were still linked to her, government agencies kept sending her letters – for example about the road tax that had to be paid and fines for the expired Periodic Technical Inspection (APK). The fact that she had reported to the police that her car was stolen had little effect. Officials kept pointing at the information system: the vehicle was registered under her name and thus she needed to pay. As the letters continued to arrive her debts with the government further increased. Debt collectors and police officers started visiting her house. She lost her job, and her social security benefits were withheld, leaving her unable to pay for her and her daughter's daily needs (Widlak & Peeters, 2018: 28). At some point she was diagnosed with rheumatism, allegedly triggered by her stressful situation. In 2011, after thirteen years, the vehicle was finally deregistered. However, the RDW refused to terminate the vehicle registration retroactively because this would risk the "purity of the system". Her debts did not disappear (ibid).

A man falls victim to identity fraud.[92] For years, his name was consistently used by an old classmate when committing crimes and as a result he became registered as a serious criminal, illegally residing in the Netherlands. The man started receiving court notices and all sorts of fines. Together with the police he then managed to solve the identity fraud. At least, that seemed to be the case. In the years that followed, he was arrested multiple times and at the airport he was refused to board his plane leaving him unable to travel. His home was also raided by 35 officers of the FIOD who accused him of money laundering.[93] It left the man physically, mentally, and financially strained. While the identity fraud was already known for years, the government struggled to clear the man's name as it remained unclear in which systems the wrong data were located. Officials continued to approach him with caution and their actions were still guided by what appeared on their screens. At some point the man was advised to take on another name. Only much later did his name get cleared, after almost twenty years of being a victim of identity theft.

These cases are extreme but perhaps they are more common than we think. Are they, with all the other examples from this book, maybe also a reflection of a broader

contemporary culture? The aim of this chapter is to shed light on what is easily kept in the background: the cultural layer underpinning authority. What makes digital authority claims *resonate* with an audience's values and principles? In chapter 3, I emphasised that authority is always grounded in audiences' culturally conditioned expectations. The authority relations and situations as presented in the previous chapters are shaped by cultural contexts. Below I discuss how contemporary cultures form ideas of what authority is, and in such a way facilitate the evolution of digital authority.

This chapter is divided into two parts. The first considers the differences between contemporary cultures. Paragraph 6.1 begins with the observation that people in different societies grow up with different ideas about authority. Paragraph 6.2, in turn, discusses the experience of technology across countries. These first paragraphs give rise to the question to what extent cultural ideas about authority and technology influence the potential for digital authority. After all, digital authority is not limited to those contexts where there is unalloyed enthusiasm about technological innovation or social hierarchies: even in environments where such attitudes are ambiguous there are plenty examples of people listening to digital technologies. In paragraph 6.3 attention is paid to this ambiguity by turning to the "tech fixes" – "tech ruins" binary: two contrasting narratives found in many contemporary cultures that leave space for a variety of conflicting technological behaviors and attitudes. This discussion nuances the idea that digital authority is confined to particular societies or cultural environments. In fact, one could even claim that individuals' views on technology are cultivated by both two extremes that, in their own way, carry a sense of awe and reverence in them.

The second part of this chapter focuses on what unites most forms of modern life. Paragraph 6.4 highlights our changed relationship to uncertainty and risk. Under conditions of modernity human beings have become increasingly aware of the contingent and hazardous nature of their world. It has led to profound changes in how we experience and act in the world around us. In paragraph 6.5, I argue that in modernity individuals and societies are engaged in questioning and reshaping their own certainties. As traditional authorities are challenged, there emerges a pressing need for new ones. Paragraph 6.6, in turn, concludes that the emergence of digital authority is best understood as a response to modern complexity and uncertainty. The final paragraph summarizes the main conclusions of part 2.

6.1 MENTAL SOFTWARE

> Stockholm December 23, 1988. The Swedish king Carl Gustav this week experienced considerable delay while shopping for Christmas presents for his children. When he wanted to pay for the presents by check he could not show his debit card. But the salesperson refused to accept the check without

> legitimation. Only when helpful bystanders dug in their pockets for one-crown pieces showing the face of the king did the salesperson decide to accept this for legitimation - but not, however, without testing the check thoroughly for authenticity and noting name and address of the holder.[94]

Authority is a fact of life and part of every culture. All around the world people need authorities to navigate their way through complexity. Yet, views on authority vary widely across the world. The renowned Dutch cultural psychologist Geert Hofstede has done extensive research on *culture* and "the patterns of thinking, feeling and potential acting that every person carries within him- or herself" (Hofstede et al., 2010: 4). To use a computer metaphor, Hofstede says culture works as our mental program or "software of the mind" (ibid: 5). This is not to say people are programmed like computers - a person can deviate from cultural patterns and react in ways that are novel or unexpected. In fact, cultures always come in *spectra* (or ranges) of acceptable or appropriate behaviors and there can be significant differences between individuals that allow for a variety of responses (Meyer, 2024: 29-31). Rather it is to highlight that, given one's past, certain responses become more likely and understandable. Much of our mental programs are learnt and come from the social environment in which we grew up and encounter a broad range of life experiences. They are acquired within the family – from parents who also acquired them when they were children -, at school, in the neighborhood, at the workplace and in the living community (ibid.). As Hofstede writes, culture is a collective phenomenon, covering the unwritten rules of the social game that are learnt in and shared with people who live *or* lived within the same social environment (Hofstede et al., 2010: 6). Culture, as he defines it, then becomes the "collective programming of the mind that distinguishes the members of one group or category of people from others" (ibid.).

Hofstede and his colleagues have spent much time researching cultural differences between countries. For his work at the human resources department of IBM, Hofstede traveled the globe in the 1960s and 1970s to interview people and conduct surveys on how people in large organisations behave and collaborate. The analysis of the more than 100,000 questionnaires resulted in "Hofstede's Dimensions": a widely used framework that highlights the effect of a society's culture on the values and behaviors of its members. One of these dimensions, for example, is *uncertainty avoidance*, which is about how well members of a culture can tolerate ambiguous or unknown situations (ibid.: 191). Do people embrace or avert unexpected events? It was found that a country such as Jamaica is more accustomed to ambiguity and tends to impose fewer regulations. In many Latin American and Latin European countries, on the other hand, such uncertainty causes more nervous stress and a need for written and unwritten rules to deal with unknown situations (ibid.: 192-4).[95]

Hofstede also investigated cultural views on authority. More specifically, he studied experiences of inequality and hierarchy in social relationships. Inequality can be found in

every society. There are always some people that are recognised as more wealthy, powerful or knowledgeable than others. Some are given more respect or status than others.[96] What is interesting is how people handle this fact. Hofstede focused on how, in different countries, inequality in social relationships is experienced, for instance between parents and children, teachers and students, bosses and employees, doctors and patients and officials and citizens. He asked people, for example, if they were comfortable disagreeing with their managers and whether they preferred their bosses to have an autocratic or a more deliberative decision-making style (ibid: 42). He found remarkable differences in the extent hierarchy in social relations is expected, accepted, or even preferred (ibid: 53-88). For instance, in countries such as France, Mexico, and China there is a significant gap or *distance* between people at different hierarchical levels and individuals often readily accept their position in a social hierarchy.[97] This is also reflected in organisational design with more hierarchical levels, managerial privileges, formal titles, and higher salaries.[98] In the United Kingdom, the Netherlands, and the Nordics this is much less the case; people are less concerned with status and have a more egalitarian outlook. In her bestseller, *The Culture Map* (2024), Erin Meyer observes a very similar pattern in how cultural preferences in leadership styles and formal hierarchical structures (Meyer, 2024: 1148-156). From this perspective, the salesperson's response from the beginning of this paragraph is less strange than it seemed.

In short, cultures differ in the extent to which people are socialised into following a hierarchy and recognising inequality in social relationships. This makes that in some places, authority requires little justification. Some cultures are more authority-centered or oriented – dictating a deep and lasting respect for authority figures. In other cultures, formal authorities may need to work (or perform) differently to be recognised as such. For example, in some cultures leaders may choose to renounce official symbols and gestures for the effective exercise of authority. For years, the former Dutch prime minister, Mark Rutte, typically commuted to his office by bike. This type of behavior of the powerful is very unlikely in Belgium or France, as also Hofstede concluded elsewhere (1980: 93-4). Still, the fact that authority operates differently across cultures does not seem to tell us much about the possibility of things as authorities. At most, it tells something about the different ways technologies could come to yield authority. How about general cultural attitudes towards technologies?

6.2 TECHNOLOGICAL CULTURES?

People are also socialised in different technological environments. The United Nations' *Technology and Innovation Report* series assess the state of innovation across different countries. It presents a "technological readiness index" based on indicators such as ICT deployment, skills, research and development activity, industrial capacity, and access to finance.[99] Unsurprisingly, in 2023, the ranking for 166 countries was dominated by high-

income economies, such as the United States, Sweden, Switzerland, and the Netherlands. In these countries, digital technologies are almost everywhere, and innovation forms an important societal driver. Countries in Latin America, the Caribbean and Sub-Saharan Africa are generally the least prepared to use and adopt such technologies (United Nations, 2023: xvii-xviii).

These studies are about technological *practices* or the implementation of certain technological ideas in society. They tell us something about the general extent to which people may be familiarised with digital technologies, but not so much about people's general orientations. Other publications teach us more about *values* and attitudes towards innovative technologies. For example, in one survey over 17,000 people from 17 countries were asked about their views on AI systems (Gillespie, et al., 2023). Here too, stark differences were found between countries. People in emerging economies such as India, China and Brazil reported the highest levels of trust, with most people trusting AI systems (Gillespie, et al., 2023: 3). In contrast, only a minority of people in Finland (16%), Japan (23%), Estonia (26%) or the Netherlands (29%) claimed to really trust AI (ibid: 13-8). Some countries clearly hold more positive attitudes towards AI than others, with people in France being the most fearful and even outraged at times (ibid: 20). But this is only part of the picture. Across countries, younger generations and the university educated showed a distinctly more positive orientation towards AI (ibid: 21, 51). And in all instances reliance on AI systems was found to depend on the specific application or use case. In every country there was a tendency to trust the use of AI in healthcare (i.e., for diagnoses and treatment decisions) and for public and safety and security decisions the most, and the use of AI in human resources (i.e., for aiding hiring and promotional decisions) the least (ibid: 13-5).

Perhaps most interesting about this survey is that it reveals that people commonly experience ambivalent feelings towards AI, reporting optimism and excitement on the one hand, while simultaneously reporting worry or fear about these technologies (Ibid: 19). In India, for instance, people are most likely to feel positive emotions about AI applications, but they also are most fearful and have one of the highest levels of outrage compared to other countries. It shows that in many countries fear and worry about AI coincides with optimism and excitement (ibid: 20). For the study's overall population, it was found two-thirds of the respondents feel optimistic about the use of AI, while about half also feels significant worries (ibid: 3).

We might even carefully extrapolate these cultural observations to all sorts of other digital technologies. Elsewhere, a broad study on trust and reliance on technologies also found that people in economically developing countries have a more positive outlook to digital technologies and a greater willingness to accept them at an earlier stage (Edelman, 2022: 11). And here too it seems that optimism and positive attitudes within countries tend to differ per technology (ibid: 41; Juma, 2016: 5) and that concerns about societal digitisation – for example about issues such as privacy and cybersecurity – are widespread (ibid: 14).

But what does this all mean? Ultimately, how do cultural ideas about authority and technology relate to the construction of digital authority? Based on the previous sections, one might hypothesise, for example, that there is only a limited cultural basis for digital authority in countries that are most "technologically ready" as they tend also to be the most concerned. But we have already witnessed the authority of technologies not being confined to certain societal contexts. Individuals from all over the globe have displayed a strong willingness to do as a machine told. This brings us back to the idea that cultural patterns come in spectra, and apparently there exists a wide range of acceptable attitudes or preferences across countries when it comes to technological innovation. This suggests that digital authority may emerge pretty much everywhere. Surely there are relevant differences in cultural orientations towards technologies that can promote or impede accepting attitudes and responses among people - a topic that deserves more scientific elaboration. But this does not tell us much about what happens in modern societies and how individuals can become oriented towards an idea of digital authority in environments where technologies are experienced as both a positive and a negative. Let's therefore zoom in a bit on two, contrasting, contemporary cultural narratives on technology that tend to simultaneously exist in many societies.

6.3 TECH FIXES, TECH RUINS

In most places, there is no single cultural take on technology. Instead, individuals often face at least two general conflicting narratives to which they must relate. On the one hand there are the many expressions of amazement of all the great things technologies have to offer. It is easily recognised that scientific and technological progress solved many problems that have tormented humanity for centuries - abolishing diseases, exploiting new energy resources, and offering new forms of communication and rapid transportation (Johnson & Wetmore, 2021:1). Technological development became a synonym for human progress and convenience, as well as an important ordering principle of modern states to deal with concerns and shape the world for good (Scott, 2020: 3-4).

The proliferation of *digital* technologies has further substantiated the conviction that technology will fix everything. Evgeny Mozorov (2013) refers to this contemporary tendency to solve a broad range of issues with digital technologies as "solutionism". It recasts every difficulty, no matter how complex, as something that can be ironed out by the right code, and algorithms - effectively making our world friction and trouble-free (Morozov, 2013: 5-6). Similarly, Meredith Broussard (2018: 14), labels "the belief that tech is always the solution" as "techno-chauvinism" and James Bidle (2018: 4) speaks of "computational thinking" to describe the "belief that any given problem can be solved by the application of computation". We find this self-confident logic that with innovative technologies, human beings can tame even the most complex and threatening problems

in many policy contexts. The World Economic Forum (WEF), for instance, published an article with the headline 8 ways AI can help save the planet (2018).[100] It describes "game changer" AI applications to "address climate change, deliver food, and water security, build sustainable cities, and protect biodiversity and human wellbeing" (WEF, 2018). Similarly, in the field of security the implementation of new technologies is often claimed a necessity to prevent crime and other unwanted behaviors (Byrne & Marx, 2011). Smart CCTV cameras, big data applications, iris scans, DNA profiling and other biometric technologies have all been introduced as indispensable to effectively deal with contemporary security issues.

But this thinking is much more widespread and goes well beyond policy ideas and initiatives alone. Studies have found that in children's books, technology is often depicted as autonomous, superior, and as something that fulfills human needs and wants (Axell & Bostrom, 2019: 32-5; Axell, 2017). There are commercial slogans like "Let's make things better" (*Philips*), "Sponsors of tomorrow" (*Intel*) and "Empowering us all" (*Microsoft*) – emphasising how technologies advance our lives. We read news headlines on how algorithms can better identify cancer (The Guardian, 2023) or about smartphones that spot early signs of Alzheimer's (The Daily mail, 2022). At the top of the charts are books that ask what Google would do (Jarvis, 2009) and highlight that "the future is better than you think" thanks to innovative tech (Diamandis & Kotler, 2012). In many movies and popular television shows, criminal cases are solved thanks to digital technologies.[101] In other words, techno-optimism, as mentioned in chapter 1, has many public shapes and forms.

There is another common narrative on technology in contemporary cultures that is radically different though, drawing people's attention to the darker side of technological development. The advert of science and technology has not just brought historically unparalleled levels of comfort and social security. It has also created new risks and the possibility of nuclear catastrophes and war, environmental degradation and climate change or bioengineered pandemics. They are anxiety-provoking because they are difficult to control and serious in their effects (Lupton, 2013: 16; Beck, 1992b: 101-2; Giddens, 2002: 34). Swedish philosopher Nick Bostrom has even argued that because of technological breakthroughs, "humankind may be rapidly approaching a critical phase in its career" (Bostrom, 2002:1). He writes that as our technological powers expand, so does the scale of potential consequences (Bostrom, 2013: 16). We may even have entered the era of so-called *existential risks* that could imperil human civilisation. For example, there have been several public warnings from experts that in the decades ahead powerful Artificial Intelligence might be developed that cannot be controlled and could result in human extinction or drastically curtail its potential. A survey among AI researchers found that a majority believed that there was at least 10% chance of an AI doomsday-type scenario (AI Impacts, 2022). In a recent essay in Time Magazine (2023), one of the founders of the field, Eliezer Yudkowsky, warned we need to shut it all down or "we are all going to die". Elsewhere, a similar message was shared by hundreds of experts and public figures who signed a

statement claiming AI poses an existential threat to humanity that "should be a global priority alongside other societal-scale risks such as pandemics and nuclear war" (Center for AI Safety, 2023; Washington Post, 2023).[102]

More generally, this critical narrative emphasises that technologies do not necessarily improve the human condition. Classical philosophers of technology long since worried about the role of technology in contemporary culture, warning that technology would alienate human beings from themselves and reality (Verbeek, 2005: 4). As Verbeek puts it, they feared that "people would come to exist only as cogs in the machine of a technologized society, reduced to the function they have in the apparatus of mass production, while reality would have meaning only as a heap of raw materials available to the human will to power" (Verbeek, 2011: 3). Above all, technology was approached as a monolithic phenomenon that is hostile to the human world. While the focus of philosophers has gradually shifted towards how different kinds of technological artifacts shape our everyday lives, worries about technological interventions to human life are still commonplace. Think for example of public and scholarly debates about surveillance or automated decision-making where technological solutions are easily portrayed as an undermining threat to human freedom and autonomy. Moreover, as argued by Morozov (2013), many things that are labelled as problems in need of a technological fix – such as inefficiency, ambiguity, and opacity – are often, after further investigation, not as problematic as they seem and may even be virtues in disguise that facilitate a life worth living (Morozov, 2013: xiii-xv). He maintains that some things just cannot be fixed – so called wicked problems that are characterised by ambiguity, complexity, and resistance to solution (Rittel & Webber, 1973) - or that in other cases a technological solution would make things worse for people. Not better.

The narrative that modern technologies are a "particularly dangerous enemy" to human beings and the environment is as ubiquitous as that of technologies as a staunch friend (Postman, 1993: xii). We learn about technological threats and failures through journalists and politicians. In schools, children are increasingly educated on all the different risks of the digital environment they grow up in (Livingstone, 2009; Lareki et al., 2017). And there seem to be as many television shows and movies confronting the anxieties around technology – from *2001: A Space Odyssey* to *Black Mirror* to *The Creator* where humans must confront future technologies - as there are productions applauding it.

What this previous discussion amounts to is that people in modern cultures often find themselves caught between these two conflicting narratives - between optimism portraying technologies as a solution and pessimism with regard to technologies' overwhelming and unstoppable power. Accusations fly back and forth, with techno-optimists being labelled reckless and naïve and techno-pessimists said to be conservative and outdated. But what these narratives share is a general deterministic approach to technology as the driver of change in society. Technological determinism is defined by Winner as "the idea that technological innovation is the basic cause of changes in society and that human beings have

little choice other than to sit back and watch this ineluctable process unfold" (Winner, 1986: 9-10). This kind of determinism is a strong claim, framing a causal relationship between technological development and societal change that leaves no room for human agency and inventiveness, neither in a role to curb technological development, nor to choose embracing it when it offers solutions to challenges that cannot be resolved without it. Having said that, this form of determinism is implicit in many societal discussions about digital technologies where innovative technologies are said to either fix or ruin the world. By accentuating these transformative capacities, technology turns into something potentially awe-inspiring. It creates a general atmosphere that can foster deferent attitudes towards digital technologies and that is hospitable to the construction of digital authority relationships.

At the same time, both narratives are essentially ideological rather than pragmatic. They are considerably different in how they portray the world and what actions are needed – inciting human beings to either follow or rebel against innovative technologies. But it is unclear how they guide human beings in their everyday lives and situations. However, recognising this duality in societies does help us in understanding the ambiguity in technological practices and attitudes that were highlighted earlier (paragraph 6.2). Being in a society with both strong positive and negative technological ideas could lead to contradictory behaviors when interacting with different technologies. In other words, many find themselves in a cultural environment that can both stimulate and limit digital authority.

Given these discrepancies, we perhaps should broaden our scope to better uncover the cultural foundations for digital authority. What if we turn to human beings themselves and how they experience the modern world? What is the role and place of authority here, and would this support the idea of digital technologies as authorities? This brings us to issues of uncertainty and risk.

6.4 A CULTURE OF RISK

Human beings have always lived under conditions of uncertainty. You can never know what life throws at you and what others will do. For a long time, people have coped with the dangers of uncertainty through religion and tradition. As Lupton (2013:2) writes, the supernatural was taken as a given, covering notions of both vengeful and testing gods, and evil demons (Lupton, 2013:2). Frightening events such as natural disasters, famines, and plagues were lived as something external, as "'strokes of fate' raining down on mankind from outside" (Beck, 1992b: 98). A system of superstition guided everyday life to ward off such evils – including beliefs in omens, offerings to the gods, totems and amulets, pilgrimages to shrines and the avoidance of tabooed places and people (Lupton, 2013: 2). Most dangers or uncertainties, however, were accepted as things over which humans had little control. At most, people hoped to indirectly influence the chances of a good life by calling on and pleasing higher powers.[103]

Over the centuries, human understanding of the world fundamentally changed. People began to view risks and misfortune more in terms of things that could be directly influenced by their decisions. The introduction of the concept of risk captures something of this changing mindset. It assumes that the future is not predetermined by a divine plan or will inevitably happen but is uncertain and open to human interference – the individual, alone or with others, can try to avoid or minimise harm (Breakwell, 2014:2). The origin of the word risk is often associated with early maritime ventures (Beck, 2003: 101; Giddens, 2002: 22; Breakwell, 2014: 2; Lupton, 2013: 5-6). Merchants commonly spoke of risks to denote the likelihood of their cargo reaching the port safely. Taking a risk meant embarking on a hazardous journey that could result in great commercial success and wealth, but also carried the possibility of shipwreck, disease or death.[104] To deal with the possibility of a storm, a flood or other perils that could jeopardise their voyage, people began to roughly assess the likelihood of such events happening and to look for ways to reduce their impact (Lupton, 2013: 6; Bernstein, 1996: 95). Trading companies then pooled their resources to manage the risk of potential losses and an insurance system developed. They discovered a method that subjected the future to human intervention. Probability calculations and statistics turned the ever-present danger of shipwrecking from an individual and unpredictable fate into an event that is generally calculable and shared between trading companies.

The emergence of modernity in seventeenth- and eighteenth-century Europe is typically linked to the further development of the idea of risk. Giddens (1991) refers to modernity as "the institutions and modes of behavior established first of all in post-feudal Europe, but which in the twentieth century increasingly have become world-historical in their impact" (Giddens, 1991:14-5). Roughly, modernity can be seen as the equivalent to the industrialised world, covering the process of industrialism, capitalism, institutions of surveillance and destructive weaponry (ibid: 15). With the entrance into modern society and Enlightenment thinking, a growing conviction developed that for human progress and social order objective knowledge of the world was needed. Through scientific study, reason and logic the laws of the natural and social world could be explored, measured and, ultimately, predicted (Lupton, 2013: 6). A calculating approach towards the world developed in the early modern era. Phenomena that were once viewed as striking individuals unexpectedly became quantifiable by considering them across populations. The consequences of events in a wide range of areas were now viewed as something broadly predictable and thus manageable by human decisions– as risks. While many threats were still considered as originating outside of human influence (Beck, 1992b: 99; Giddens, 1999:4; Giddens, 2002: 26) - although not necessarily viewed as being God's will but also as possibly coming from unmastered nature or unalterable life-situations – the logic developed that although, say, bad harvests, floods, sickness, unemployment could not always be prevented, at least their damage could be mitigated. By the 19th century, a comprehensive insurance system had developed, where

predictions based on probability calculations and the principle of "money for damages" made uncertainty about the future seem much more controllable (Beck, 1992b: 100).

Under the intensifying forces of modernity, a new phase emerged where risk became the defining characteristic of society. Beck (1992a: 19; 1998: 10) and Giddens (1991, 4; 1998: 26; 2003: 43) describe how "the end of nature" and the "end of tradition", together with developments in science and technology, gave rise to *risk society* or *risk culture*.

The end of nature does not refer to a world in which nature has disappeared, but rather to the idea that, in the last decades, human efforts of mastery have resulted in a situation where there is not much in the physical world untouched by human intervention (Giddens, 1991: 3). As Giddens points out, this gradual intrusion makes that people switch focus from all sorts of anxieties about what nature could do to them, to "what we have done to nature" (ibid.). Or as Beck (1998: 11) says, threats that were previously seen to originate from our external environment are now increasingly linked to human activities that inescapably contaminate nature. For example, floods are no longer regarded as purely natural phenomena but a consequence of human induced climate change (ibid.). And through technologies such as ultrasound and anticonception, having children is no longer something that is natural and external to us, but is invaded and subject to human decisions.

A society that lives after tradition, in turn, is essentially a world where people can no longer take traditional certainties for granted (Beck, 1998:10). Giddens explains that for a long time, many aspects of people's life were established by tradition as fate (Giddens, 1998: 26). During industrial society, life was pretty much about work and family which were typically organised around the idea that women were destined to be in a domestic environment for much of their life, have children and take care of the household. The fate of men was to work until they retired and to "essentially fade away" as Giddens puts it (ibid.). From the 1960s many of these given rules and securities about work, family and self-identity began to disappear, and people needed to make more decisions and choices themselves. With the end of tradition, Beck (1998:10) argues that we no longer live our life as fate, but now must find our own certainties in a process of individualisation and reflexivity (see next paragraph).

Both fundamental transformations in modern societies are related to the growing influence of science and technology (Giddens, 1998: 25). Advanced technologies are now central to our existence, and the things we feel and experience come increasingly under a scientific spotlight, as Giddens (1998: 23) puts it. At first this gave us the impression of more certainty about the world and a sense of control. And to a certain extent this was true – scientific knowledge, for example, led to cures for threatening diseases and higher life standards. But the situation was bound to turn against itself as science is an inherently skeptical endeavor, says Giddens, driven by a process of constant challenge and revision of claims to knowledge (Giddens, 1998: 23-4). Today's scientific claims are likely to be altered and developed in the future, contributing to a growing experienced complexity of

our environment. It makes it increasingly difficult for people to make predications in all sorts of situations. For many scientific innovations and experiments we cannot foresee the effects. Beck (1998:14) writes that society becomes a laboratory, where large-scale experiments are being conducted without anyone being responsible for the outcomes. To study the functioning and risks of nuclear technologies or find out about the theories and assumptions of test-tube babies, they have to be built or born – the established logic of scientific discovery that presupposes testing before putting into practice, where mistakes can be corrected, is lost in the age of risky technologies. Humans are now confronted with a range of new uncertainties and threats they have created themselves but cannot entirely grasp. Giddens therefore concludes that we now live "at the barbaric outer edge of modern technology" and on a "high technological frontier which absolutely no one completely understands, and which generates a diversity of possible futures" (Giddens, 1998: 25).

With tradition and nature no longer seen as a given, and with the intensification of science and technology beginning to obscure the future, a risk society develops - a high or late modern world where individuals are preoccupied with risk. This is not to say things are more dangerous than before. There are sufficient statistics available to chart out that many people are now in a much better position than in most previous ages (Rosling et al., 2019: 60-64; Pinker, 2018). Think for example of infant mortality rates, lifespan figures, homicide data and the proliferation of endemic illnesses which have all improved over the last centuries. Rather than to indicate an increase in the actual prevalence of life-threatening dangers, the term risk society refers to a change in how human beings perceive the world. People are increasingly aware of the complex and unfamiliar nature of modern life (Giddens, 1999:3-4). Beck (2003: 96) has described risk society as a "world out of control [where] there is nothing certain but uncertainty". It refers to a reality that appears ever more open and evolving – a world where all this new knowledge about our world has not left us with the increased sense of control Enlightenment philosophers envisioned. Risk society, in other words, involves living with contingency. It has made people increasingly oriented towards the future. To anticipate and control what will happen next, the future is consistently pulled into the present, and tinged with concern. In earlier stages of modernity, the future still also carried a positive connotation of opportunity. However, today's scrutiny tends to be more pessimistic, focused on identifying signs of danger (Jensen, 1997: 21).

6.5 UNCERTAINTY AND NEW AUTHORITIES

Modern life can feel inherently unsettling in a world characterised by contingency. Being liberated from the constraints of tradition and confronted with a flood of new information leads individuals to increasingly focus on creating and revising their certainties (Giddens, 1990: 38-9). The term *reflexivity* is often used to denote this response to complexity and uncertainty. Reflexivity is the process of constant critical assessment of social activity

and its contexts (Giddens, 1990: 36-7). While reflexive monitoring has always been part of human activity (Lupton, 2013: 99), modern reflexivity involves awareness of the contingent nature of knowledge and social action - that everything is temporary, incomplete, and contested (Giddens, 1991: 20). Given the uncertain future and permeance of change, the best preparation for human beings appears to be maintaining a level of flexibility – or *liquidity* as sociologist Zygmunt Bauman has put it elsewhere (Bauman, 2012:ix).[105] When making choices and for ontologically security, individuals now live in a reflexive reality where they will be continually monitoring their world and weighing up who to trust or listen to (Giddens, 1990: 38-9; Volkova & Pruel, 2019: 54).

In the past, the unpredictability of everyday life and the existence of phenomena felt to be beyond human control strengthened traditional authorities. Religion, the family system, and the local community were most significant for stabilising authority relations and establishing trust, respect, and strong normative standards in traditional contexts. While these cultures also harbored skeptics and magicians for those diverging from religious orthodoxy, these dissenting influences were hardly viable alternatives to the pervasive influence of tradition and the dominant religious system, which provided a guiding framework in many aspects of social life (Giddens, 1991: 194:5). They offered an alternative to doubt. In fact, individual experiences of living in a world full of external dangers were often actively nurtured by traditional authorities while presenting themselves as the only ones capable of understanding and successfully controlling these. Giddens for example speaks of religious authority creating "mysteries while simultaneously claiming to have privileged access to them" (Giddens, 1991: 195). This observation takes us back to the discussion in chapter 3 on authorities claiming to have differentiated access to something from which others are barred.

In modernity, in many areas of social life there are no longer such fixed or determinant authorities. While religion and tradition still have a place in today's world - and even may gain prominence in certain environments precisely because of modernity's complexity and doubt - there is a fundamental difference compared to earlier times: they have become authorities among others (Giddens, 1991: 194). In a reflexive society, guidance by tradition is largely replaced by expertise. In a world that is more open and offers more choices, people must constantly seek reliable knowledge of a variety of others "as guides to the risks that they run, the hidden dangers they face and the safest course of action available" (Garland, 2003: 74). In contrast to pre-modern and early modern times, people now cannot simply rely on local knowledges, tradition, and religious principles to conduct their everyday life. Rather, as Lupton writes, "they must look principally to experts they do not personally know and are unlikely ever to meet to supply them with guidelines" (Lupton, 2013: 100). Yet as we have seen, in conditions of modernity there is no such thing as unquestionable knowledge and expertise – things are never definitive and always potentially imperfect (Beck, 1992a: 155- 182; Lupton & Tulloch, 1998: 19). The more people learn about science, the more they find out about the things we do not know, and that science is fallible. In a context of imperfect knowledge, there

are increasingly competing knowledge claims (Beck, 1992a: 29, Giddens, 1991: 31-2; Jarvis, 2007: 32).[106] The fact that experts are bound to disagree becomes familiar to almost everyone (Giddens, 1994: 86). Imprecise predictions and contested claims make people cynical about the idea of inexorable human progress through rational knowledge and science, stimulating the continual reflexivity of individuals and institutions (Lupton, 2013: 99-100). Paradoxically, modern risk society is thus characterised by both an increasing individual need for experts and authorities to cope with uncertainty, while at the same time, a growing awareness of their potential fallibility and susceptibility to chronic revision and change (Giddens, 1990: 20).

In this situation, where risk is experienced as downloaded on individuals who now must reflexively decide whom to listen to when making decisions, a space has opened up for a plurality of new authorities to emerge. Barbara Adam (1996) already argued that while much has been said about the shift from traditional "external authorities" to the reflexive "internal authority" of the individual, there is another, equally identifiable tendency, towards a constant search for new and different "external" authorities that prevent individuals from being in doubt all the time (Adam, 1996: 139). Our mental software thus gets updated. We now, for example, see television stars, journalists and social media influencers playing authoritative roles in society. Furthermore, I contend below that digital technologies also fit into this modern pluralistic landscape of authority. For some people it is psychologically difficult to accept the existence of such a diversity of, often mutually conflicting, authorities, and they end up finding comfort in more overreaching frameworks of authority, submitting to one single authority whose rules and provisions provide guidance in most aspects in life (Giddens, 1991: 196). Others might become overwhelmed by choice or paralysed by doubt and withdraw from social life all together. However, most individuals navigate their way through modern-day life by, among other things, relying on a series of different and new authorities.

6.6 DIGITAL AUTHORITY AS CULTURAL PHENOMENON

Digital technologies have now emerged to address pressing questions that were once the exclusive domain of human authorities. For example, when it comes to the diagnosis or treatment of disease, people now access not only to religious figures or doctors but also comprehensive digital medical systems. To forecast weather conditions, one no longer need to rely on local wisdom, elders, or television weather presenters; instead, one can simply open a digital app. When technologies prove effective, or when established authorities fall short or give rise to doubts, they become an attractive alternative source to trust and respect.

Furthermore, digital technologies have also entered environments where authority was previously non-existent. Consider the case of parking enforcement, where officers who used to rely on human senses and memory now depend on digital output for their operations. And also in the context of future crime and the identification of potentially dangerous

individuals, predictive algorithms and risk assessment tools now provide directives to an extent that was previously unprecedented.

Digital technologies stand out because they are readily available to answer our questions, which has led to the possibility of a more intense form of authority. Instead of occasional guidance, these digital technologies enable instant and continuous guidance. When we are lost, instead of asking a local for directions, we receive direct instructions from our GPS. When children fail to understand something at school, they can consult an AI-teacher while doing their homework late in the evening. Where people used to have little choice but to rely solely on themselves or patiently wait for authoritative directives, this is no longer the case. In modern times, digital authority is more than just a potential new external authority among others; it also serves as an accessible and constant source of ontological security, offering human beings not only clarity *about* their world but also comfort *within* it.

Digital authority fills a void generated by a world that is inherently uncertain, where known authorities are constantly questioned and easily challenged. It is the result of an unceasing search for new forms of authority that prevent people from feeling overwhelmed or threated by their world. In modern risk culture, digital technologies are perceived to make the world a bit less overwhelming and a bit more predictable. They become important mediators between individuals and an overwhelming unknown future they seek to tame (Ericson & Haggerty, 1997: 6 c.f. Gray, 2003: 319). In their role as authorities, digital technologies can reduce everyday complexity for us and offer an enhanced sense of control. In other words, a culture of risk provides fertile ground for digital authority to emerge.[107]

The observation that digital authority is rooted in modern uncertainty has an interesting parallel with Hofstede's cultural dimensions discussed in the beginning of this chapter. Hofstede stated that uncertainty avoidance is the most influential dimension in determining technology adoption (Cardon & Marshall, 2008; Hofstede, 2001: 632-3). In environments where people are uncomfortable with unknown situations, it becomes more likely for them to embrace technology. Building on the previous sections, I will extend Hofstede's observation beyond its national scope and assert that what most societies in modernity share is a general growing discomfort with uncertainty and risk. While differences between countries may still exist in the extent to which this discomfort is evident, uncertainty and doubt are indicative of our time. Against this backdrop, as digital technologies become increasingly capable and present in various potential authority situations, trust and reliance on these technologies are likely to become an integral part of daily life for many.

In short, under modernity, there has been a shift of orientation towards risk, which can be detected at all levels: at a personal level, as a shift towards a more self-reflective attitude and an openness towards new (digital) authorities; and at a more societal level, as a shift in the organisation of public life and services. Routinisation and risk assessment in organisations are often considered a response to the contingent and uncertain nature of modern society. Digital technologies provide relevant guidance for organisations to deal

with all sorts of risks. They help shape organisational cultures in which professionals are socialised in working with and listening to digital technologies. This certainly involves organisations in the field of security, where potential consequences are experienced as pressing. When risks are perceived as significant, it becomes likely new authorities will be explored. Digital authority, then, is an indispensable response to the unsettling risks in contemporary societies.

6.7 CONCLUSION PART 2

The second part of this book further explored the idea of digital authority following authority's layered structure. We now find necessary elements for the potential construction of authority in human-technology relations, situations, and contemporary cultures. I described that digital technologies have gained the ability to issue communications to be followed or believed and can become the focus of our experience. It has given rise to *relations* with digital technologies that are potentially asymmetrical by nature. As with human authority, this relational asymmetry can be traced back to ideas of differentiated access to knowledge and power. I described that in our interactions with digital technologies, we can experience that the technology possesses superior access to either a wealth of data and algorithms that persuades us in advance or to some ascribed or programmed coercive force that latently secures compliance.

Similarly, digital authority *situations* can now emerge. The right authority cues present in the situation can lead individuals to engage in scripted behavior that stimulates compliant or accepting responses. As research shows, digital technologies are quite capable in tapping into those pre-existing social scripts and motivate individuals to do or think as they are told. The moment when in a situation digital technologies become associated with typical authority cues (symbols, titles, positions, etc.), could trigger similar responses as if it were with a real person. Distinctions between human and digital authorities then seem to become less relevant.

The cultural layer reveals how people are conditioned within societies towards the idea of digital authority. In many places, we find contrasting narratives of technological innovation that facilitate ambiguous attitudes and behaviors. Here, we may come to recognise digital authority in certain technologies and places. Zooming out reveals that digital authority is also inherently a product of modern cultures. Modernity has sparked a growing awareness of uncertainty of the world. As traditional authorities lose their legitimacy, we are now increasingly oriented towards new (digital) authorities to reduce everyday complexity.

The findings of part two are summarized in table 2 below. The last part of this book will now focus on the limits of digital authority: the moments where people do not, or no longer, recognise digital authority. It concludes with a discussion on the mitigation of the risks of digital authority.

Table 2. Digital authority

	Relation	**Situation**	**Culture**
Characteristics	Experienced relational asymmetry	Defining an authority situation	Expectations of authority
	Consequential communications	Impressions	Conditioned values and beliefs
	Differentiated access to knowledge and force (persuasion and coercion)	Symbols (uniforms, titles, insignia, behaviors, places, etc.)	Dynamic and open to change
Digital Authority	Digital authority as asymmetrical human-technology relation	Digital technologies tapping into pre-existing authority scripts.	Narratives on authority and technology
	Digital communications to be believed or followed	Computers are social actors	Risk society and reflexivity
	Differentiated access to knowledge (epistemic niche/opacity data and algorithms)	Situational authority cues (positions, titles, symbols, behaviors, etc.) from digital technologies	Contingency and uncertainty facilitating openness to digital authority
	Digital access to force (authorisation/ technoregulation)		

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