

Introduction: The Need for Implementing a Digital Welfare Critique From an Assemblage Analytical Approach

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The complexity of our individual histories cannot be losslessly translated into neat, digital formats. Likewise, our self-assessments come from layers upon layers of subjective valuations, all of which are utterly unintelligible as ones and zeros.

—Cheney-Lippold, 2017, p. 10

A commonplace rhetoric has it that the world has entered a “digital age” whose dramatic “dawning” has made the analog obsolete. This is nonsense. The challenge is to think (and act and sense and perceive) the co-operation of the digital and the analog, in self-varying continuity.

—Massumi, 2021, p. 143

Our aim in this chapter is to show and discuss what is lost in digital translations as the welfare state and society increasingly use digital technology in welfare production. We argue that there are several unintended consequences we need to be attentive to regarding digitalising society and our welfare production, distribution, and consumption. In addition, there is a need to make what is lost in digital translations more visible in welfare state practices. We use the concept of ‘practical knowledge’ to sensitise ourselves

to the effects of how digital technologies disrupt, transform, and change welfare in various ways. Aristotle's term *phronesis*, practical knowledge (wisdom), has inspired generations of philosophers and social scientists to explore alternative dimensions of knowledge, in contrast to the hard sciences' search for neutral, objective, theoretical knowledge (Bourdieu, 1977; Flyvbjerg, 2001; Foucault, 1972; Heidegger, 1962; Wittgenstein, 1997). Practical knowledge is embodied and embedded in context-dependent settings and does not necessarily travel well. Classic works like *The Tacit Dimension* (Polanyi, 2009), *Situated Learning* (Lave & Wenger, 1991) or *Situated Knowledges* (Haraway, 1988) make the point that knowledge unfolds in settings, and cannot, without problems, be transferred from one place to another without a loss of information. As such, practical knowledge is embodied and embedded in the settings in which they unfold.

Today we find that digital technologies provide a wealth of new opportunities for states to exercise and use the power of information and knowledge to influence citizens (Fourcade & Gordon, 2020). Drawing on the work of James Scott (2020) and his analysis of states as a large set of heterogeneous institutions and people working to coordinate, measure and standardise the world according to a particular social ordering, Fourcade and Gordon stress the consequences of a dataist state on ways of governing (2020). This idea of classifying and interpreting the world also engenders a particular way of seeing – seeing like a state (Scott, 2020). Digitalisation is, in this perspective, bureaucracy on steroids, enforcing the socio-technical machinery that constantly interacts with citizens. Digital technologies standardise and quantify, and thereby de-contextualise information. In this process digital technologies tend to make visible the standardised and quantifiable aspects of human lives, where complexities and irregularities potentially become anomalies. This exacerbates inequalities where ‘... it turns out in practice, the process by which states come to see is a special kind of power that has been variously criticized as intrusive, imperfect, unjust, and oppressive’ (Fourcade & Gordon, 2020). However, digitalisation is not just a question of new technology that offers quantities of data to use in governing. This also signals a qualitative difference in how statecraft is performed, and ‘... heralds a deeper transformation of statecraft itself’ (Fourcade & Gordon, 2020, p. 80), offering new ways of exercising social control (Deleuze, 1992).

In the case of Norway, which is a leader in using digital technology in its state apparatus and public services (Ministry of Local Government and Modernisation, 2019), the drive to digitalise offers the promise of better and more efficient welfare services. However, if we follow the Danish sociologist

Gøsta Esping-Andersen, and understand welfare states and institutions as ‘... predominantly preoccupied with the production and distribution of social well-being’ (1990, p. 1), then we need to ask what happens to social well-being (ensuring the social and economic inclusion of citizens) when we digitalise our welfare service state?

Digital Communication and Practical Knowledge

The word *digital* became popular with the advent of the electronic computer and the early cyberneticians, who took a keen interest in the distinction between digital and analogue information (Turing, 1950; Wiener, 1948). Cybernetics is ‘the art of steermanship’ (Ashby, 1957), and deals with how entities continuously adapt to changes in the environment based on information being fed back into a system (Pickering, 1993, 2002). Information in the feedback loop can be analogue or digital. The language of digital technology is based on zeroes and ones, as Lippold-Cheney notes (2017), information of discrete units forming the basis for computer programs and algorithms. Gregory Bateson expanded on this idea in anthropology and psychiatry, inspired also by the structuralism of Claude Levi-Stauss (1969). Digital information is characterised by being discrete, discontinuous units of completely arbitrary information (Bateson, 1972, p. 372). For example, Bateson makes the point that it is nonsense to say that your telephone number is larger than another person’s. It is just a matter of ‘... names of positions on a matrix’ (1972, p. 372). This is in contrast to the analogue:

In analogue communication, however, real magnitudes are used, and they correspond to the real magnitudes in the subject of discourse. ... in kinesic and paralinguistic communication, the magnitude of the gesture, the loudness of the voice, the length of the pause, the tension of the muscle, and so forth – these magnitudes commonly correspond (directly or inversely) to magnitudes in the relationship that is the subject of discourse. (Bateson, 1972, p. 373)

Bateson insists that in the natural human world communication is seldom either analogue or digital, but rather appears simultaneously in variations (Bateson, 1972, p. 291; Watzlawick, Bavelas, & Jackson, 1967). Digital technology, however, makes possible what Tord Larsen has called processes of entification, where relational phenomena become objectified through processes of measurement and standardisation (Larsen, 2009, 2013; Larsen, Blim, Porter, Ram, & Rapport, 2021; Larsen & Røyrvik, 2017). For example,

when welfare services and communication are digitalised, the frontline worker becomes partially entangled in systems that objectify citizens through measurement and standardisation, influencing the relational work that welfare production, distribution, and consumption are based on. The discretionary judgments of frontline workers may be undermined by the pull-down menus built into the software infrastructure (Fyhn, Røyrvik, & Almklov, 2021), thus limiting their options for helping clients. Digital communication platforms may be designed to promote coordination but end up producing anxiety in an already stressful working day.

The later philosophy of Ludvig Wittgenstein (Wittgenstein, 1984, 1997) can be a source of inspiration to criticise and reflect on the production of knowledge unfolding in digital welfare society. In *Philosophical Investigations* (1997) Wittgenstein clearly breaks with his previous propositional knowledge-based approach in *Tractatus* (2010), and introduces a philosophical perspective in which language and human action are in practice intertwined. Here language assumes a broader meaning, including gestures, hints, winks, nodding to a waiter in a restaurant to get his attention, or following signs on a road. To understand the meaning of the words and signs, you need to be familiar with their usage in particular settings, with their practice. In his later work Wittgenstein criticises the idea that language can be reduced to propositions. Practical knowledge is gained through training and practise in situations where concepts are applied (Johannessen, 1988). It is then through the *use* of words and concepts that you make sense of them. If you try to take them out of a particular setting or context, however, the entire meaning may change, since the meaning is given through the setting in which the concept is applied.

A Need for Robust Information in Providing Welfare

Practical knowledge can be said to be embodied and embedded in knowledge that develops through experience and training. In *Philosophical Investigations*, Wittgenstein refers to different types of knowing to answer the questions, ‘How high is Mount-Blanc?’ and ‘How does a clarinet sound?’ (§ 78). Answering the first question is a simple fact. The second requires experience and training, and the use of examples (Johannessen, 1992). Gilbert Ryle, himself inspired by Wittgenstein, distinguishes between ‘knowing how’ and ‘knowing that’ for practical knowledge versus

propositional knowledge (1945). Telling a joke, for example, is bodily, practical knowledge that requires timing, emphasising the correct parts of a sentence, and gesticulations. Providing welfare, in the sense of ensuring the social well-being of citizens, cannot itself be reduced to a question of propositional knowledge, on which digital technologies depend. Knowledge and the process of sense-making, we would argue, is characterised by needing both the analogue and digital dimensions of human communication, both propositional as well as practical knowledge.

There is a need for the non-reducible dimensions of practical knowledge involved in discretionary understanding and tacit, relational knowledge. Both Massumi (2021) and Cheney-Lippold (2017) note a potential loss in the translation of meaning into digital formats. We must be aware of this in the production and distribution of social well-being. We argue that there is a need for *robust information*, meaning the co-functioning of the analogue and digital dimensions of the practical knowledge needed to produce social well-being. Positioning ourselves in the debate regarding a dataist government, we investigate what happens to practical knowledge when the Norwegian welfare state implements digital technologies. We are especially interested in cases which deny, undermine, or undercut the co-functioning of the analogue/digital, and how this influences the unfolding of practical knowledge for both citizens and government employees.

Four Dimensions of the Assemblage Analysis in a Welfare Context

Our proposal to unlock the black box of a dataist state is through assemblage analysis. We draw on the fertility of the cybernetic and ecological thinking of Gregory Bateson, towards assemblage thinking associated with the philosopher Giles Deleuze, which has a certain family resemblance (Shaw, 2015). Deleuze does not clearly define assemblage, as he was more interested in concepts as heuristic devices (DeLanda, 2006). However, a frequently used explanation states that assemblages are a:

...multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them across ages, sexes, and reigns – different natures. Thus, the assemblage's only unit is that of co-functioning; it is a symbiosis, a 'sympathy'. It is never filiations which are important, but alliances, alloys; these are not successions, lines of descent, but contagions, epidemics, the wind. (Deleuze & Parnet, 1987: 69)

Thus, we can understand the assemblage as a provisional analytical tool to conceptualise phenomena as unfolding, temporarily stable configurations of heterogeneous component parts, continuously transforming as components parts are added or extracted from the assemblage. Given that component parts, like digital technologies, their adding and extracting from certain welfare assemblages might have substantial effect, and this is what needs to be traced in these cases. In line with this thinking, we are interested in assemblages of the analogue/digital, where the co-functioning of the analogue and digital dimensions unfolds through various welfare state practices, and what this does to practical knowledge and the well-being of citizens in relation to governments.

Assemblage thinking has been suggested as a fertile approach for analysing the digital society (Lupton, 2015, p. 23), technologies at work in practice (Orlikowski, 2007), or how ‘hipsters’ are counter-reacting to the digitalisation of society (Thorén, Edenius, Lundström, & Kitzmann, 2019). *Welfare state practices analysed as assemblages may assist us in sensitising ourselves to the effects digital technologies have on practical knowledge and the production and distribution of the social well-being of citizens.* The assemblage analytical approach is characterised by: 1) emergence, 2) performativity, 3) territorialising, 4) desire. The concept of emergence is an anti-reductionist stance, insisting on the processual life of, for example, social well-being in all its forms in a welfare state. Cooperation, in the Deluzian-inspired processual philosophy of Bryan Massumi, is a question of the co-functioning of various heterogeneous humans and nonhumans, constantly unfolding in temporarily stable assemblages.

Secondly, digital technologies are performative in that they can potentially create and transform the assemblage they are plugged into. Matter matters, as Karen Barad points out in arguing for the intra-agency of technological artefacts, generating effects in how reality emerges (2003). Material objects and digital technologies are involved in determining reality (Mol, 2002), giving rise to what Brit Winthereik calls ontological trouble, thus questioning the fruitfulness of a data-driven management discourse that dominates current welfare regimes (2023). Thirdly, we find that digital technologies play into the re/de/territorialising of welfare state practices. Territorialising is meant literally, in that digital technologies influence the spatial-temporal rhythms of work and the quality of the welfare provided. Lastly there is a desire aspect to welfare state assemblages. Norwegians are keen to receive more, not less, welfare services. Desire (indicating wishes

rather than anything sexual) is embodied and corporeal, and the desire/wish for welfare services is experienced by different citizens differently (wicked problems). After presenting these four dimensions of the assemblage analysis, we will conclude with some remarks on applying an assemblage analytical approach to criticise and develop the use of digital technologies in welfare state practices.

1) Emerging: Digital Infrastructuring Between the State and Municipality Level

Digitalisation policies and the accompanying digital technology, and the ability to reconfigure infrastructure in various ways, have an enormous impact on how welfare state practices unfold in various settings. Assemblage analysis (Savage, 2020) can then be one way of sensitising us to how digital technologies influence the production and distribution of the well-being of citizens and contribute to sustainable lives. In Norway, hospitals (since 2002) have been removed from regional authority administration, and organised into state-owned, independently managed units, Hospital Trusts, each responsible for budget maintenance and cost containment. The central enactor of Norwegian welfare state ambitions is located on the municipality level (Vike, 2018). Elderly care, social welfare, and childcare are some of the tasks, as well as the long-term care of patients after being hospitalised. The importance of hospital – municipal coordination (*samhandling*) became apparent when the expected results of the hospital reform, in terms of cost containment, failed to materialise. This realisation gave rise to the Coordination Reform (2008–2009), reinstating coordination through mandated agreements between Hospital Trusts and adjoining municipalities.

Guro Huby discusses an attempt to tackle some of the challenges of coordination in the chapter ‘The Bridge of Knowledge: Infrastructure for the Coordination of Health and Social Care or an Easy Fix?’ (chapter 1 in this book). The Bridge of Knowledge is a digital learning platform designed to improve coordination between hospitals and municipalities by providing municipal staff with the evidence-based skills and knowledge they need to take care of patients previously managed in specialist hospital services. Huby shows that the complexity of transferring patients with multimorbidity and complex needs from specialised hospitals to generalist municipal care settings requires more than what this digital learning platform can

offer. She presents evidence that coordination, and the knowledge underpinning coordination, require attention to the construction of a shared understanding, alignment of interests, and building of commitment and trust between variously positioned actors in the healthcare system.

The difficulty inherent in digital infrastructure is that only some parts are visible, while other parts are invisible. Infrastructure is tangible in some places, and ephemeral in other places. The processual ontological status of infrastructure makes it difficult to pinpoint, because it is boring and unexciting (Star, 1999), and that it ‘... resides in a natural background, as ordinary or unremarkable to us as trees, daylight, and dirt’ (Edwards, 2003, p. 185). Infrastructure as a taken-for-granted and natural background, yet at the same time a very important aspect of organisational everyday life, means that we need to sensitise ourselves to its central position (Orlikowski, 2007). Infrastructure is critical to the unfolding of practical knowledge, since this infrastructure is a central organiser, connector, producer, and maintainer of everyday life for both frontline workers and citizens. Directing our analytical attention to infrastructuring in practice shows how politics, values and ethical standards are inscribed in governments’ technological and material systems. Analysing digital welfare infrastructure as a ‘connective tissue’ (Edwards, 2003, p. 185) of society, which continuously crafts connections (Geirbo, 2017) and creates our welfare society, albeit in a somewhat different way, provides us with tools to understand some of the changes unfolding in a digital world. A recurrent worry is that professional discretionary understanding and deliberation, the cornerstone of practical knowledge, and central to quality healthcare, is undermined.

In another example of the cooperation between Health Trusts and municipalities, we find a central assumption to be that large quantities of data can generate quality health services. In ‘Quality on the Dashboard’ (chapter 2 in this book), Gunhild Tøndel and Heidrun Åm reveal the increased use of quality indicators in the healthcare sector. They uncover a push to quantify quality, or to reduce quality care to a question of gathering enough quantifiable data as information that can somehow create the basis for quality care in the future. This is demonstrated through their vignette on the Health Platform, which is the biggest and most ambitious ICT project in Norway. The project has been implemented in Central Norway and aims to realise the government ambition articulated in the white paper, *One citizen – one journal* (2012–2013). The platform has encountered a range of problems in its initial phase, with public outcry that it represents a threat

to patients' security. The translation of inhabitants' data into one journal has proven to be more complex than what managers in the regional health sector and national politicians imagined.

'Quality on the Dashboard' alludes to the real time synchronisation of data to immediately update all involved parties. If a hospital changes a medical prescription, the patient's home care service is immediately informed. The feedback of data into the system then provides quality in that the information is immediately available, and for example home care services can make adjustments to ensure quality. Datafication and automation of information gathering enables monitoring that previously was not possible, such as monitoring the differences in how individual doctor's work. Tøndel and Åm say that one problem with the need for data is also that health workers and street level bureaucrats must produce data constantly through what they feel are meaningless reporting demands. Further, the need to report also erodes their working hours and their care work in relation to clients and patients. As such, Tøndel and Åm suggests that what is actually going on is a 'deductive statecraft', in contrast to a supposedly "inductive statecraft" (Fourcade & Gordon, 2020).

Reducing the complexities of human lives to zeros and ones has clear advantages. At the same time, these findings also suggest that we need to be aware of the pitfalls of digitalising welfare infrastructures, as this might also mean that practical knowledge and discretionary judgment is undermined or made less legitimate. Concepts like 'deductive statecraft' (categories built from the state perspective), and findings from the Bridge of Knowledge (where we find a lack of shared meaning and alignment of interests between hospital and municipality), reveal the undermining of practical knowledge between these institutions. This is problematic given that good welfare (quality health and social services) hinges on solid cooperation between hospital and municipality. Recently the Norwegian Board of Health Supervision has criticised the implementation of the Health Platform, because patient security is at risk given the malfunctioning of this digital technology (Helsetilsynet, 2023). The assemblage analytical approach, where digital technology is understood as an external relation into a welfare assemblage alongside other external relations (institutions, professionals, patients, clients, funds, laws etc.), sensitises us to the fact that we cannot assume beforehand that the implementation of digital technologies in these welfare systems is helpful or will increase the quality of welfare.

2) Performativity: Production, Relationality, Politics, and the Ability to Respond

Assemblages are performative. Technologies and materialities have a performative agency that is inextricably bound out to organisational everyday life and practical knowledge. The concept of sociomaterial assemblages, as introduced by Wanda Orlikowski (2007), underlines how materials and technology are inextricably bound to organisational life, and cannot be studied as separate entities, as has been the general tendency in organisation studies. From this standpoint, introducing automated decision systems or performance evaluation systems into an organisation will influence the very constitution of the organisation, and how it performs. If we follow the idea that organisations are sociomaterial assemblages composed of a range of heterogeneous elements, human and nonhuman, supposedly arranged with a specific strategic goal (producing welfare for citizens, or producing oil and profit for a nation), then the adding or extracting of central component parts will influence the composition of the organisation and its performance – or agency.

In ‘Talking About Algorithms’ (chapter 3 in this book), Hanne Cecilie Geirbo and Rannveig Røste explore the challenges of using algorithmic systems to make decisions in relation to casework in NAV. They study the ongoing development and implementation of an automated decision support system for the care of sick children. There are two central problems of translation, and hence loss. One is translating judicial law language into coded algorithm language. Judicial conundrums and subjective interpretations of legal solutions cannot be translated into data code without losing something. Further, professional case workers can make discretionary judgments case by case and are able to be context-sensitive to the challenges the clients experience. They point out the fact that equal treatment is not always fair treatment, and that an important part of discretionary judgment is to distinguish between fair and equal.

As algorithms and the datafication of public services entangle our everyday lives, many of us do not notice their influence on welfare. Digital technologies give us the promise of enhancing the quality of health and social services through the datafication of citizens. Algorithms as ‘... logically structured formal instructions for mechanically translating specific “inputs” into desired “outputs” – are now used to assist and replace human judgment and expertise in countless areas...’ (Hasselberger, 2019, p. 977). They are also built on a specific understanding of ethics, which systematically

undercuts human deliberation of ethical dilemmas. If ethics deals with human deliberation bound to a certain dilemma in a concrete setting, the use of an algorithm to act ethically has some serious pitfalls. Heather Broomfield and Mona Lindtvedt (2022) ask, ‘Is Norway stumbling into a digital welfare dystopia?’. In their review of policy documents relating to the use of predictive models (AI) in the Tax Administration and the Norwegian Labour Administration they find a lack of concern and critical thinking in these government documents. They call for re-politicisation, transparency, and public guidelines in the use of predictive models.

In their contribution ‘Technologies of Control and the Invisible Transformation of the Labour Market from Welfare State Principles to Welfare Capitalism’, Jens Røyrvik and Alexander Berntsen (chapter 4 in this book) discuss the organisational life of the Norwegian oil company Northoil and their performance management system called People@Northoil (P@N). In this management system workers are evaluated by co-workers according to numerical assessments by other employees and their managers. The score the employees achieve decides their salary and is important to their career. Røyrvik and Berntsen demonstrate how this digital infrastructure bypasses the trade union in negotiating salaries in the Norwegian welfare state model. This paves the way for welfare capitalism where individuals are rewarded individually – based on their calculated performance – rather than achieving rights based on collective bargaining through trade unions.

The undercutting of trade unions and the workers’ individual negotiation of salaries through P@N sidesteps the tripartite collaboration (employees, unions, and government) that has characterised the Nordic welfare model. The trade unions oppose the use of P@N, since it undermines the collective position of employees, and bargaining possibilities. P@N then is a tool for digitising, the process of encoding an (analogue/digital) event or action into digital formats (ones and zeroes) that can be read, processed, transmitted, and stored through computational technology, and becomes a powerful tool for management at Northoil. This shift in salary negotiation from trade unions based on notions of fairness and solidarity between workers is replaced by ‘correctness of calculations’. The digital infrastructure of P@N also signals a shift from the welfare state to welfare capitalism, emphasising individualisation and marketisation of human capital. The authors warn that when number evaluations (grading) of workers become equal to money, the communal actions embedded in labour unions and their social sense of safety are undermined, as is the very foundation of the welfare state.

The seemingly apolitical NAV and depolitical Northoil both constitute an attempt to avoid the political implications of digital technologies in their organisations. In the case of NAV, the digital decisions support system developers seem unaware of the political injustice these automated systems might create, a tendency that is indicated by other researchers (Bjørkdahl, 2021; Broomfield & Lintvedt, 2022). In the case of Northoil, the company seems eager to depoliticise negotiations by transferring them from the unions to individual workers and the company, leaving the tripartite model. Whether apolitical or depolitical this signals a need for technical politics, which also takes into account *knowledge from below*, and the experience of the subordinate participants (Feenberg, 2017, p. 10).

Practical knowledge (the co-functioning of digital and analogue) then plays a central part in the development of this technical politics. Trade unions possess a range of practical knowledge central to the development of a sense of community and ethics. If the social well-being of citizens is the goal of digitalising the Norwegian state, then we need to develop a political sensitivity to how the end users might experience these technological translations. However, the intended as well as unintended effects of digital technologies can be difficult to detect, as they become embedded in the very rhythm of everyday life, as we shall discuss in relation to the production of space-time.

3) Re/de/territorialising: When Spatial-Temporal Rhythms Reconfigure Work on the Frontlines

Digitalisation influences the spacing of welfare institutions and professionals' work processes, as well as clients' experience of welfare services. Architectural design and the interior layout of public buildings promise the creation of more efficient workflows and rhythms when digital technologies are introduced. At the same time, digital technologies introduce new rhythms that destabilise old ones, and influence the very efficiency that was originally promised (Orlikowski, 2007). The processual, relational, and productive aspects of space and its impact on everyday life have been discussed in the social sciences for a while (Feld & Basso, 1996; Ingold, 2002; Lefebvre, 1991; Massey, 2005). As an extension of this discussion, we draw attention to how a digital society also influences the very spatial-temporal organisation of our welfare society.

Sociomaterial assemblages are in a constant movement of territorialising, reterritorialising and deterritorialising space. Territorialising is here meant in a physical sense, where people's lives are embedded in their surroundings, and re/de prefixes indicate that this is a constantly unfolding process. The architectural design of public institutions and organisations is something we seldom reflect on, even though they are central to citizens' care and welfare (Nord & Högström, 2017). Analysing digital tools as sociomaterial assemblages that continuously reconfigure our welfare network exposes the fact that though the assemblage is constantly being amassed and built, its temporary stability partakes in and influences work practices and the production of reality. In practice, as Annemari Mol (2002) argues, '... objects are framed as parts of events that occur and plays that are staged: if an object is real it is because it is part of practice. It is a reality *enacted*' (Mol, 2002, p. 44). Similarly, we want to investigate the enactment of everyday reality for citizens when welfare infrastructures become digitalised. Welfare is a practice, and we always need to be aware of how welfare plays out in situ. The human and nonhuman exist in a network, and can mutually transform each other. Agency in this perspective is a *property of relations*, not something limited to either humans or nonhumans. And any entity in these assembled networks, like a hospital or Nav office, can potentially affect the constitution of the entire network (like society).

When it comes to the digitalisation of society, we discover new modes of territorialising. Hanna Ihlebæk (chapter 5 in this book) shows how nurses negotiate expectations that digital technologies increase the speed of work. The nurses in the chapter, 'The Fast, the Feeble, and the Furious', constantly negotiate multiple clinical rhythms. Ihlebæk argues that the implementation of information communication technology (ICT), digital devices and platforms, reconfigures work practices. Ihlebæk identifies three responses of the nurses in their interactions with digital technologies as strategies for *being ahead*, *falling behind*, and *working the system*, corresponding to the fast, the feeble, and the furious. Digital technologies influence the practical knowledge of nurses in the clinical situation vital to the production of care, and which is outside formal medical care logic (Ihlebæk, 2021). Ihlebæk argues for a critical examination of the digital technologies being implemented in organisational infrastructures to optimise and standardise work processes, and how this implementation produces care. The care work of nurses goes beyond the formal and propositional knowledge articulated by digital technologies. Informal and tacit relational work becomes less visible,

and is allowed less space to unfold through the ICT specialised hospital. Ihlebæk concludes that we need to understand the reactions of the fast, feeble, and furious generated by digital technologies, if we will ever be able to tackle the challenges of future health and welfare work.

This is also the case with NAV and the introduction of the channel strategy discussed in ‘Machinic Bureaucracy, Affective Atmospheres, and the Impact of Digitalising NAV Services’ (chapter 6 in this book). Sørhaug, Lindstad and Slettaøien discuss the encounter between state employees and citizens in a particular type of space. Inspired by assemblage theory, they draw attention to how a digitalisation and efficiency strategy plays out in the architectural and interior design of the reception area. A dance of agency (Pickering, 1993) unfolds between different component parts, and the dance itself is not very well choreographed. Security guards, electronic gates, and a clinical environment allow few opportunities for good encounters between state and citizen. This analytical effort draws attention to how emerging wholes are generated through the interaction of component parts. Introducing or extracting component parts can potentially alter the assemblage and its capacity to act. For example, digitalising welfare services can have a major impact on the quality of the services rendered, their effects, and how they are experienced.

The provision of welfare involves infrastructural technology, texts, buildings, machines, computers, laws, and other nonhuman elements. Seen from a relational view we can see that ‘... affordances and constraints are construed in the space between human and material agencies’ (Leonardi, 2011, p. 153). The bridging, imbrication, decentring of agency over the human/nonhuman divide is potentially fruitful in discovering the mechanisms that generate the quality we term *welfare*. The point of dislocating agency from the human is *not* about locating agency in the nonhuman surroundings. Rather it is about exploring how relations unfold through the myriad of human and nonhuman agencies. Assemblages are wholes whose properties emerge through the interaction of component parts (DeLanda, 2006, p. 10), having a temporary, stable configuration. Given that the properties of an assemblage emerge from interacting parts, adding component parts to or extracting parts from the assemblage will influence the properties of the assemblage, and its territorialising dimensions.

For example, the Norwegian Board of Health Supervision, which is legally bound to supervise NAV, criticised the channel strategy for excluding citizens who were not able to communicate digitally (Helsetilsynet, 2022).

Given that many of the NAV offices had drastically reduced or even closed their reception area, many vulnerable citizens were not able to get their welfare benefits. The absence of face-to-face meetings was problematic for a number of citizens, and being unable to explain this problem was itself problematic. This criticism then led NAV to reopen and expand opening hours in reception areas. Annemari Mol discusses embedded and incorporated knowledge in medical practices, and the need for thinking about the activity of knowing widely (2002):

To spread it [knowledge] out over tables, knives, records, microscopes, buildings, and other things or habits in which it is embedded. Instead of talking about subjects knowing objects we may then, as a next step, come to talk about enacting reality in practice. (Mol, 2002, p. 50)

To know is to territorialise, and to territorialise is to know. We could then argue that subtracting, diminishing, or displacing the analogue dimensions of human communication and practical knowledge, may well have a negative impact on our social well-being, and the welfare being produced.

4) Desiring: Where Are the Missing Body Masses?

In ‘Citizen From Hell: Experiencing Digitalisation’ (Winthereik, 2023a) Brit Winthereik suggests a critical adjustment to Bruno Latour’s *Where Are the Missing Masses: The Sociology of a Few Mundane Artifacts* (1992). Latour laments in his 1992 essay that there are too few accounts of the impact of technological artifacts and agencies. Winthereik, however, says that after 30 years sociologists now have become so skilled in doing tracings and accountings of technological artifacts and their agencies ‘... that human experiences of living with technology may have gone missing instead. Today, we might ask ourselves, where are the *missing body masses* in digital welfare research?’ (Winthereik, 2023a, p. 1, our emphasis). These missing body masses are what we are trying to articulate in our exploration of what is lost in digital translations. The analogue and practical is very much associated with our bodies and particular settings, and does not necessarily travel well, like the digital and propositional dimensions of human communication. These missing body masses, connected with analogue, practical knowledge, are what become distorted, diminished

and/or displaced through using digital technology, causing a lack of robust information to orient the production and distribution of social well-being.

In Deleuze's philosophy, the concept of desire is a productive force actualised through assembled practices. We can argue that there is a connection between desire (understood as a wish rather than sexual) and social well-being. The welfare state apparatus is a desiring machine, with a stated purpose of producing welfare desired by its citizens. A common trait in Norway and other Nordic countries is that the concept of welfare is positive, and there is general consensus among political parties and the citizenry that welfare for the population is desirable (Sandvin, Vike, & Anvik, 2020). In the assemblage analytical perspective, assemblages are compositions of desires: 'The rationality, the efficiency, of an assemblage does not exist without the passions the assemblage brings into play, without desires that constitute it as much as it constitutes them.' (Deleuze & Guattari 1987, p. 399). Assemblages, according to Martin Muller and Carolina Schurr, are to be understood as expressions of desire/wishes co-functioning with the possibility to either stabilise or destabilise an assemblage (2016, p. 224). Desires/wishes co-function with bodies, objects, and social institutions, and arise through these assemblages. One desire/wish that suffers when digital technologies are introduced into the welfare assemblage is the ability to be understood, acknowledged, and recognised.

One way to analyse contemporary governments around the world who use digital technologies to capitalise on more effective and cost-beneficial public management and welfare production, is as a strategy to tame the 'wicked' problems that plague modern public welfare institutions and agencies (Rittel & Webber, 1973). For example, in *The Cyborg Manifesto* the philosopher Donna Haraway (1987) examines the problem of reducing the world to code where pure information flows without friction throughout the world. Her criticism is directed at the use of quantifiable information allowing universal translations. This '... translation of the world into a problem of coding...' generates '...instruments for enforcing meaning' (Haraway, 1987, p. 19). Digital technologies are *instruments for enforcing meaning*, undermining the possibility to negotiate an understanding of social problems as various groups of citizens experience them.

In 'You Become Very Powerless in the Digital System' (chapter 7 in this book), Fugletveit and Lofthus build on their argument, investigating how clients with co-occurring disorders experience their encounter with the digital welfare state. They show how service users with co-occurring diseases and complex social problems experience becoming digital users in

NAV. The analysis indicates that becoming a digital user in NAV involves situations where they are confronted by their lack of digital skills, thus making them powerless, and even excluding those without these skills. In other words, to become a digital user in NAV one must deal with digital interaction, also referred to as ‘faceless interaction’ (Fugletveit & Lofthus, 2021). Becoming a digital user is coping with a ‘faceless position’ in a welfare context.

Hence, the increased standardisation and evidence-based knowledge that dominates digital welfare distribution in Norway, creates new challenges addressing individual needs in order to develop sustainable lives. What is lost in becoming a digital user in NAV is the ability to recognise the complexity and variation of the needs of service users, by placing them into ‘homogenising categories’ (Harris, 2020, p. 2). According to these findings there is a need for a more nuanced understanding of becoming digital service users, which also includes more emphasis on ‘systemic injustice’ (Haslanger, 2023) to prevent further marginalisation of people in vulnerable positions by the digital social welfare services.

The fragility of information, distorted or diminished by digital channels, impacts its quality, and shapes interactions between citizens and frontline workers. In ‘Becoming In/dependent’ (chapter 8 in this book), Foss and Sørhaug highlight how digital technology profoundly impacts the lives of tech-savvy users with speech and mobility challenges. Their ethnographic study reveals how even minor changes in their technological setup can disrupt communication and hinder their path to independence. Some technologies empower them to maintain personal autonomy, but introducing new digital technologies can also destabilise it. This lack of analogue communication can render social intervention ineffective or worsen the situation due to inadequate information. In essence, recognition and understanding are crucial, echoing the plea from a citizen in ‘Becoming In/dependent’, ‘You must hear me!’.

The influence digital technologies have on welfare communication infrastructure is immense. However, at the same time, we need to be attentive to the fact that these technologies also influence the quality of communication, which again influences citizens’ experience of being understood. In cyborg bureaucracies digital technologies are instruments of enforcing meaning. However, if meaning is understood as emergent and negotiated then we need to be attentive to this if we are to grasp the complexities of citizens’ lives. This requires an attentiveness to the limits and influence of digital technologies in the construction of meaning. It also requires an

attentiveness to resistance, and how people articulate feelings of powerlessness and lack of participation in the process of implementing digital technologies.

The Need for Practical Knowledge in Developing Digital Welfare Solutions

The push to digitalise welfare state practices is a global trend, influencing how statecraft is performed and enacted, influencing the lives of millions of people. At the same time, the implementation of digital technologies in the state apparatus and its periphery seems to happen without much attention, or even discussion. The omnipresence of digital technologies combined with public somnambulism makes it imperative to develop a critique of these global trends. We have confined ourselves to the question of digital welfare production in Norway, and how digital technologies tend to suppress, distort, or ignore the analogue and practical dimension of knowledge as it relates to emerging, producing, territorialising, and desiring welfare. There is a problem when digital technology is portrayed as the solution to a particular challenge, rather than dealing with more fundamental issues. For example, the implementation of digital technologies to enhance the coordination between Health Trusts and municipalities avoids the basic question of whether Health Trusts are a good idea at all. The very framing of the problem becomes a technological issue, rather than a fundamental political and organisational problem. As Huby points out, there is still a need for the *construction of shared understanding or aligning interests* between the various interested parties. Similarly, we find in ‘Quality on the Dashboard’, that quality indicators are the product of managers, IT experts and health professionals acting at a distance from the users who are the subjects of these indicators, creating a kind of *deductive statecraft*. The practical knowledge of nurses and doctors is subverted in these emerging, technological, classificatory regimes of health platforms.

The question, however, is not whether we have too much invasive and extensive quantitative data. Rather, it is a question of whether we have good quality and robust information to guide our welfare institutions in addressing the question of whom welfare is for and why. The assemblage perspective provides us with tools to examine the quality of digital data in the larger assemblage. We have seen how digital technologies influence the very quality of welfare state practices as performance evaluations

systems (P@N), and decision support tools (NAV). Organisations implementing algorithms or algorithmic type software sideline practical knowledge, which previously had a more prominent role in decisions concerning either employees or their clients. Though the use of digital algorithms is portrayed as a support or tool, algorithms can potentially become treated as silicon oracles, undermining other types of practical knowledge, such as professionals' discretionary judgments or the social, communal solidarity of trade unions. The question of a digital society is also a question of how best a society can manage life and death. How does the bio – life – become part of public digital management of a welfare society? We need a positive biopolitics, because the reality of viruses, depression, poverty, and desperation impacts all our lives whether we want it to or not.

Social workers and nurses, as well as clients and patients, engage in different types of work-arounds through acts of tinkering (Mol, Moser, & Pols, 2010), repair (Jackson, 2014) and hacks (Finken & Mörtberg, 2014, p. 313) when encountering the consequences of digital technology. Digital technologies even influence the very spatial-temporal outline of public institutions like NAV and hospitals, in that their architectural planning and interior design hinge on the use of these technologies. The challenge for NAV as a machinic bureaucracy, or for hospitals' efficient architectural designs is that the needs of citizens, and hence welfare, are left behind. There is a risk that we are building a society in which humans must adapt to machinery, rather than establishing and maintaining a well-choreographed dance/communication/interaction between state and citizens in the area of welfare production, distribution, and consumption. Given that digital technologies influence how citizens experience welfare, as well as the very composition of what welfare is, we need to develop a critique that considers the experience of clients' in/dependence and feelings of powerlessness. Some resist digital technology. However, to resist these technological changes is difficult, and often, though portrayed as a choice, is not one in practice. The pull-down menu becomes an instrument for enforcing meaning.

As we see it, the assemblage analytical approach provides tools to evaluate and criticise how digital technologies influence welfare state practices. Such socio-technical assemblages are temporary, stable entities that generate unforeseen effects. Thus, it may be necessary to adjust and tinker with the assemblage so that it creates the desired effect. We need a critical perspective, which not only documents and sensitises us to the ongoing tinkering, work-arounds, and hacking unfolding not only from

below, but also from above. We need a critique that enables us to really understand the unfolding relations between humans and nonhumans in practice. This is in no way a question of abolishing or stopping technology because it does not work in the way it was originally intended. Rather, there is a need for tinkering, exploring, adjusting, and reassembling. In this way digital technology might play its part in positive welfare biopolitics, which is necessary to improve and strengthen public health and welfare services.

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