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Digital State Spaces: State Rescaling and Advanced Digitalization

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Abstract: Over the past decades, advanced capitalist states have increasingly used digital technologies to deliver state services and restructure public sector institutions. This practice has had profound institutional as well as political consequences. So far, however, little research has been conducted that examines the forms of statehood and governance to which the use of digital technologies gives rise. To fill this research gap, this paper examines governmental digitalization through the lens of political economies of state rescaling. In doing so, it engages with the production of state spatiality, ultimately advancing the concept of digital state spaces, which links scholarship on state restructuring with work in digital geography. Drawing on several years of empirical research, the paper demonstrates the connection between these fields with an in-depth case study of digitalization efforts in Denmark, a country that is often cited as an example of a highly digitalized European state. It traces how national policy efforts have created new digital state spaces in Denmark and examines the local consequences these state interventions have had. Taken together, these conceptual and empirical insights contribute to a more nuanced understanding of governmental digitalization as a regulatory instrument implicated in the production of new spaces of governance

Keywords: digitalisation; state space; political economy; technology; governance

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Introduction

This article examines the new forms of state spatiality that have emerged in advanced capitalist states as a result of national policies intended to digitalise public sector institutions. The concept of digital state spaces is presented to describe the ways in which pre-existing state spaces and modes of governance are reconfigured through the use of digitalisation as a nascent regulatory instrument. The article thus aims to relate existing scholarship on the 'political economy of state rescaling' (Jessop, 2002, p. 172; Brenner, 2004a) to the domains of digitalisation and digital geographies (Ash, Kitchin & Leszczynski, 2018; Jefferson, 2017; Ash et al., 2018), demonstrating how historical forms of statehood are being reconstructed through the increasingly pervasive use of digital technologies. This conceptual work is combined with an in-depth case study of digitalisation efforts that have been undertaken in Denmark. European indexes intended to benchmark and rank countries' digital performance have repeatedly named Denmark as a frontrunner and leader (Schou & Hjelholt, 2018a). The country began pursuing wide-ranging and systematic digitalisation reforms to public services in the 1990s, and has since made digital self-service solutions the standard mode of communication between citizens and public institutions. Utilising both qualitative interviews and policy analysis, we aim to demonstrate how Denmark's digital agenda has produced new digital state spaces and identify the impact these new spaces have had.

The issue of governmental digitalisation has become increasingly relevant in light of recent developments in the practices of advanced capitalist states. In the last several decades, governments have increasingly used digital technologies as a means of both delivering state services to citizens (Eriksson, 2012) and restructuring public sector institutions (Henman, 2010; Henman & Dean, 2010). Characterising this trend under such diverse labels as 'e-government' (Margetts, 2009), the 'virtual state' (Fountain, 2001), 'digital governance' (Milakovich, 2011), 'digital era governance' (Dunleavy et al., 2006) and 'digitalisation' (Hansen, Lundberg & Syltevik, 2018), a growing body of research has examined the accelerating use of digital technologies within state institutions. Dating back to the early 1950s (Margetts, 2009), government officials have often thought of digital technologies as offering simple, technical solutions to complex organisational problems. Such officials have touted digitalisation as an almost magical means of making public institutions more flexible, innovative and efficient. Existing research on 'e-government' and 'digital era governance', however, has tended to neglect questions of statehood, politics and spatiality. To borrow a phrase used by Peck and Theodore (2012, p. 23), this research can be characterised as 'normatively positive and methodologically positivist.' Researchers in this field have generally taken questions of state

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spatiality for granted, treating state institutions as reified spatial containers and technological infrastructures as simple mediators or technical solutions.

This neglect of spatiality stands in stark contrast to the work of radical geographers and critical sociologists. Such scholars have consistently emphasised that state spatiality is a continuously unfolding, variegated and conflictual set of processes (Brenner et al., 2003; Brenner, 2004a; Jessop 2002, 2016; Peck, 2001; Lefebvre, 2009); in addition, researchers in this area are producing a growing body of work concerned precisely with the new digital geographies that are now being constructed (Ash, Kitchin & Leszczynski, 2018). Exploring phenomena such as ‘Smart Cities’ (Vanolo, 2014; Tironi & Valderrama, 2018) and surveillance technologies for mapping urban crime (Jefferson, 2018; Wiig, 2018), this research has demonstrated how new spaces of discipline, intervention and state power are coming into being. Our aim in this article is to contribute to the ongoing conversation regarding the spatiality of capitalist states *in general* and the emergence of digital spaces *in particular*. We wish to do so by focusing on some of the more mundane forms of state spatiality that are currently being constructed through processes of public sector digitalisation. In advancing the concept of digital state spaces, we hope to demonstrate how digital infrastructures, political discourses, public sector institutions and citizens are collectively forming new and layered spatial configurations. In addition to providing important insights into contemporary processes of state restructuring and rescaling, the articulation of this new concept paves the way for further conceptual and empirical work on the state spaces forged under contemporary conditions of entrenched neoliberalism and advanced digitalisation.

State spaces and the new political economy of scale

Throughout the past decades, spatial turns have taken place within a number of disciplines in the social sciences. In 1989, Edward Soja (1989) argued that a ‘reassertion of space in critical social theory’ (Soja in Jessop, Brenner & Jones, 2004, p. 398) had already started to take place. Around that time, critical political economists and radical geographers were beginning to view space and spatiality as deeply relevant to questions of statehood and governance (Jessop, 2002, 2008, 2015; Peck, 2001, 2004), often writing in direct dialogue with advocates of the so-called regulation approach (Boyer & Sailliard, 2002). In a recent interview, influential spatial theorist Neil Brenner reflected on how, in the mid to late 1990s, ‘Bob Jessop, Jamie Peck and other regulationist-inspired scholars were leading the way towards a reflexively spatialised approach to state theory in the context of newly emergent localisms, regionalisms and systems of multilevel governance’ (2017, p. 268).

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Although difficult to condense into a neat set of propositions, the central aim of a geographically-informed approach to statehood has been to challenge static, fixed and one-dimensional approaches to spatiality and state rescaling (Brenner, 2004a; Jessop, 2002). Rejecting the inherited assumption that state spaces merely act as containers within which social and political relations are formed, this approach instead understands state spatiality 'as a dynamic, transformative process' (Brenner, 2004b, p. 450). According to Brenner, conceiving of spatiality and state spaces as processual requires that we recognise how state space is a 'socially produced, conflictual and dynamically evolving matrix of sociospatial interaction. The spaces of state power are not simply "filled," as if they were pregiven territorial containers. Instead, state spatiality is actively produced and transformed through sociopolitical struggles in diverse institutional sites and at a range of geographical scales' (ibid., p. 451).

Viewing state spatiality in this way entails forfeiting the relatively simplistic idea of state spaces as fixed entities and instead foregrounding the historical, contextual and situational dimensions of different scales and spaces. As Brenner goes to great lengths to demonstrate, we are perpetually thrown into state spaces that are always-already there. Different state spaces carry their own (conflictual and polymorphous) legacies and histories. 'For this reason', Brenner argues (2004b, p. 455),

> the restructuring of state spatiality is uneven, discontinuous and unpredictable: it is best conceived as a layering process in which newly projected spatial arrangements are superimposed upon entrenched morphologies of state spatial organization. The organization of state space at any historical conjuncture represents a multilayered territorial mosaic in which political geographies established at different moments of historical time are tightly interwoven.

Adopting such an approach to state spatiality opens new possibilities for the exploration of the ways in which power, politics and governance take place within, against and as part of the spaces of the capitalist state. In the panoramic introduction to their *State/Space Reader* (2004), Brenner, Jessop, Jones and MacLeod (2004; see also Brenner 2004a,b) argue that state space may be understood as having three key dimensions corresponding to three different senses of the term: (a) state space in a *narrow* sense, referring to the state's 'distinctive form of spatiality' (ibid., p. 6), which includes the state's internal political, administrative and juridical institutions and external demarcations to other territories and states through borders and frontiers; (b) state space in an *integral* sense, relating to the

ways in which state intervention and spatiality are used to regulate and organise social and economic processes; and (c) state space in a *representational* sense, referring to the various spatial imaginaries, discourses and ideas that relate to the state's production and habitation of space.

In this article, we focus primarily on state spaces in a narrow sense, since we aim particularly to demonstrate how national policies are redefining and restructuring the forms, roles and responsibilities of established institutions. We are concerned with what spatial theorists have called the 'internal geographies of subnational administration and regulation' (Brenner et al., 2004, p. 9). Against this theoretical backdrop, we wish to trace how contemporary processes of state digitalisation are creating new forms of spatialised power and governance. We do so by examining how new state spaces are emerging in the interaction between pre-existing institutional forms and the developing use of digitalisation as a political instrument. In describing these new relations, we propose the concept of digital state spaces as a means of capturing the intersection between state spatiality and 'the digital' as a specific site of state intervention. The significance of this concept, however, hinges on our understanding of 'the digital' and its relation to spatiality.

The digital and the spatial

A large body of research has been produced by scholars of political and critical geography on the intersection between digitalisation, datafication and space (Kitchen, 2011; 2014; Amin & Thrift, 2002; Castells, 2010 [1996]; Kitchin & Dodge, 2011). Studies in this area have explored the production of digital geographies within and through such diverse technologies as search engines (Ford & Graham, 2016), crime databases and registers (Jefferson, 2017), Smart Cities (Tironi & Valderrama, 2018; Wiig, 2018; Vanolo, 2014; Coletta & Kitchen, 2017), data centres (Hogan, 2015; Maguire & Wintheriek, forthcoming) and digital interfaces (Ash et al., 2018). Indeed, Ash, Kitchin and Leszczynski (2018) have even argued that a *digital turn* is currently taking place within geography, as the relationship between digital infrastructures and spatiality becomes an increasingly prominent topic of research. Important lessons can and should be drawn from this body of work, as it provides significant insights into the ways in which state spatiality is being reformed and recreated through digitalisation.

One of the most important questions addressed by digital geographers concerns the ontology of 'the digital' as an object of study. Here, recent geographical research provides compelling arguments against conceptions of the 'the digital' as either purely immaterial spaces, smooth flows of data or static containers. All too often, notions of 'the cloud' or 'the virtual' have served as mythologising

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narratives (Hu 2015) suggesting that algorithms, code and digital devices somehow operate in a separate realm of reality. Drawing on insights from the last twenty years of scholarship, Ash, Kitchin and Leszczynski (2018) have proposed a much more critical understanding of 'the digital' as a product and producer of new forms of spatiality. They argue that 'the digital' should not be thought of solely in terms of computational technologies reducible to binary operations of 1s and 0s. Instead, they propose using 'the digital' to refer to:

> material technologies characterized by binary computing architectures; the genre of socio-techno-cultural productions, artefacts, and orderings of everyday life that result from our spatial engagement with digital mediums; and the logics that both structure these ordering practices as well as their effects. To this we add a fourth dimension, that of digital discourses which actively promote, enable, secure, and materially sustain the increasing reach of digital technologies. (p. 26)

According to these authors, understanding how 'the digital' impacts and is impacted by the production of space requires attending to the wide variety of material infrastructures (including cables, interfaces, protocols, APIs, visualisations and algorithms), everyday engagements (of designers, citizens, politicians and policymakers), discourses, bodies, affects and political-economic processes that mutually influence and constitute one another within the production of space. Adopting such a perspective allows us to push the theoretical arguments presented above concerning state spatiality into the domain of 'the digital', as it suggests that 'the digital' is not just a simple property that is added on to pre-existing state spaces. Instead, what is at stake is a heterogeneous assemblage of processes in which 'the digital' and state spaces reconstitute one another. This is far from a merely technological process. As Saskia Sassen has convincingly argued, 'understanding the imbrications between digitization and politico-economic processes requires recognising the embeddedness of digital space and resisting purely technological readings of the technical capacities entailed by digitization' (Sassen, 2006, p. 329).

Taking these arguments seriously also forces us to recognise the ways in which 'the digital' is involved in producing new modes of calculation, categorisation and sorting that are used for governmental purposes. In a study of digital crime mapping technologies used in Chicago, Jefferson (2017) has demonstrated how geographic information systems (GIS) not only allow police to map crime via new technologies of visualisation and knowledge production, but are also recursively involved in producing state space itself. The introduction of these technologies has thus given rise to a range of knowledge practices that, according to Jefferson (2017), serve to uphold and reproduce

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racialised forms of carceral power. In a similar vein, Wiig (2018) has presented a study of data-driven policing technologies used in Camden (New Jersey) that highlights how efforts at urban revitalisation have been carried out through the deployment of new surveillance technologies. These technologies have served, Wiig argues, as a means of 'tracking bodies' through space in order to control, govern and discipline subjectivities deemed unsafe or deviant. These studies help illustrate how epistemological questions of visibility, knowledge and power are critically related to the study of the intersection between digital technologies and governmental practices. Spaces of intervention, discipline and control are created as (existing) spaces, bodies and subjects are visualised and technologically configured in new ways. Referencing the work of Michel Foucault, Ash, Kitchin and Leszczynski (2018) remark that '[d]iscipline and control are increasingly being dispensed through forms of automated management wherein governmentality is enacted through automated, automatic and autonomous systems' (2018, p. 31; see also Vanolo, 2014; Braun, 2014).

Focusing on the intersection between political economies of state rescaling and the growing literature on digital geographies, our aim with this article is to better understand how state space is evolving in an era of intensified digitalisation. Turning to processes of state spatialisation in Denmark, we hope to highlight how new digital state spaces are emerging from the interplay of shifting political discourses, legal mechanisms, technological infrastructures, bodies and institutional settings. Such spaces are the outcome of digitalisation policies that have effectively recast not only the relationship between state institutions and citizens, but the very spatiality of the state itself. We wish to argue that these policies are part of a wider pattern of changes in the political economy of the Danish state (a pattern typical of neoliberal state restructuring efforts), but that the spatial, political and technological effects of these policies are novel and specific. To this end, the article poses three interrelated questions: How are state spaces made and unmade through digital means? What does 'going digital' mean for the geographies of the capitalist state? And in the use of digitalisation as a regulatory instrument, what are the scalar forms and historical power relations that are being (re)constructed?

Constructing digital state spaces in Denmark

Having established a theoretical framework, we now turn to an in-depth case study of digitalisation efforts in Denmark. Denmark has often been referred to internationally as an example to be followed for its digitalisation policies, which are heralded, for example, in the European Union's *Digital Society and Economy Index*. In this manner, Denmark serves as a productive entry-point for understanding wider processes of digitalisation and politico-economic restructuring. Denmark began

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making efforts to implement digital technologies in its public sector in the 1990s, investing large amounts of economic and political capital in regulatory changes. In studying digitalisation and political-economic restructuring in Denmark, we hope to demonstrate how national policies, technological infrastructures, legal mechanisms and local municipal institutions have combined to create new digital state spaces. As we showcase below, these state spaces are not determined by fixed institutional boundaries, but are shaped by a myriad of diverse forces. Simultaneously technical, juridical, political and material, digital state spaces reveal themselves to be fragmented and hybrid in nature.

Our analysis draws on research conducted for the last number of years concerned with the formulation of national policies, their implementation within local municipalities and the implications of these policies for issues of statehood and citizenship (Schou & Hjelholt, 2018a, 2018b). The paper combines a historical policy study of national digitalisation strategies undertaken in Denmark between 1992 and 2017 with interviews conducted with welfare professionals in seven municipalities. The analysed policies cover national strategy documents, annual reviews, reports and white papers that have been produced by several Danish governments since the early 1990s. All of the strategies and policies seek, in some capacity, to explain *how* and *why* the Danish public sector ought to be digitalised. Our interviews, meanwhile, focus on the institutional consequences of these national policies in their local contexts. In 2007, Denmark was divided into 98 municipalities and five main regions. The seven municipalities included in this study cover all five regions and represent a variety of geographical and political-economic settings. From urbanised municipalities with high per capita incomes and low percentages of citizens on state subsidies, to rural municipalities with lower per capita incomes and higher percentages of citizens on state subsidies. In each municipality, we focused our research on citizen service centres (*Borgerservice* in Danish), as these centres are a cornerstone of the Danish digitalisation agenda (Pors, 2015). We interviewed frontline workers in the centres who are responsible for dealing directly with citizens on a day-to-day basis, as well as key representatives of the municipal management, including managers of citizen services. In total, we interviewed 17 welfare state professionals. The information gathered in the interviews was supplemented with informal observations of the centres and guided tours of each citizen service centre. All interviews, names and places have been anonymised in this study. We have furthermore translated all quotes from Danish into English.

National policy visions: from local institutions to digital platforms

The Danish digitalisation agenda truly took off in 1994, when the Danish Ministry of Research was put in charge of developing a formal vision for Denmark's entrance into the so-called 'Information Society' (Forskningsministeriet, 1994). While electronic archives and digital systems had been used prior to this point, the decision to hand formal responsibility for digitalisation efforts over to the Ministry of Research signalled a much more pronounced interest in this area of governance than ever before. In the 1990s and early 2000s, one of the main challenges addressed by policymakers was how existing welfarist logics of governance, focused on notions of universal rights, solidarity and equality, could be maintained in the supposedly 'inevitable' transition to an information society. According to policymakers of the time, Denmark faced 'a revolution. A global short circuit of time, place, persons and processes' (Forskningsministeriet, 1994, p. 7). The idea of the information society had become central to political agendas across Europe by that time, due in no small part to the strong political push made by the European Union in the form of the 1994 Bangemann Report. In Denmark, policymakers understood the information society as a largely external phenomenon that was going to challenge traditional so-called 'Danish values' from the outside. 'The information society challenges the values and rights we, as Danes, have acquired over the past 150 years,' policymakers argued, as '[f]undamental rights such as freedom of expression, property rights and personal freedom are affected by the Internet and will become indispensable themes in the coming years' (Forskningsministeriet, 1997, p. 5). As a consequence, there was a need for the creation of new 'political spaces' (ibid., p. 3) in which the consequences and implications of these changes could be discussed. To counteract the erosion of the welfare state, policymakers argued that digital technologies ought to be used to strengthen participatory democracy, include all citizens, encourage new forms of solidarity and equality, and make possible the equal distribution of information, as 'the transformation of Denmark into a network society must be based on active, representative democracy, where there are equal opportunities for all and where solidarity binds society together and ensures help for those in need' (Forskningsministeriet, 1999, p. 9). In short, the vision of the information society that was crafted in this early period was shaped by an inclusionary, democratising and participatory discourse. As policymakers had a sense that new societal forms were starting to emerge, they articulated their task as aligning the existing structures of the Danish welfare state with the coming transformation.

In 2001, however, a new era of policymaking began. Elections caused control of the national government to shift from a social-democratic to a liberal-conservative coalition, and the

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responsibility for setting the country's digital agenda was *de facto* assigned to the Danish Ministry of Finance, signalling a subtle political and ideological turn (Jæger & Pors, 2017). This decision not only implied the narrowing of digitalisation's role within the field of policymaking, as the policy agenda began to focus exclusively on streamlining public services at the expense of collective social values. It also meant an influx of 'neoliberal reason' (Peck, 2010) into policymaking, as principles of solidarity, equality, participatory democracy and the protection of vulnerable citizens lost sway to ideals of economic efficiency, optimisation, growth, flexibility and personal responsibility. While policymakers had been arguing that digital technologies should be used to rationalise and modernise the Danish public sector since the early 1990s, these goals now became the primary driver of digitalisation policies.

This new approach to policymaking, which has focused first and foremost on making public sector institutions more efficient and cost-effective, has relied on particular spatial metaphors and ideas. Policymakers have continually framed digital technologies as a means of 'breaking down walls' between otherwise distinct and demarcated institutions. 'The state, counties and municipalities have organised their administrations following practical constraints that will not exist in future digitalised management,' the national strategy from 2002 stated; 'Physical proximity to documents, cases or expertise has been decisive for how and where tasks have been solved. The boundaries between institutions have served in many areas as walls because the cost of sharing knowledge and distributing knowledge has been great. This will not be so in the future if the full potential of digital management is exploited' (Den Digitale Taskforce, 2002, p. 4-5). When information and digital data is allowed to 'flow' across institutional boundaries, it becomes possible to delegate tasks in market-like fashion to the units deemed most fit to carry them out. At the same time, policymakers have used spatial metaphors in describing the nation's citizens. 'Danes do not want to waste their valuable time on paperwork at their local government office,' policymakers have argued, '[a]nd taxpayers' money must not be used on printed forms and postage when digital solutions can carry out these tasks more efficiently. Applications, reports, letters and all other written communication with both citizens and companies must by default be digital' (The Danish Government, Danish Regions & Local Government Denmark, 2011, p. 3). Liberated from spatial and temporal constraints, citizens (according to policymakers) will want to serve themselves whenever and wherever they please: 'instead of being confined to office hours, citizens will be able to correspond with the public sector when it suits them' (ibid., p. 5). Allowing citizens to carry out tasks that were previously tied to the locations of particular state institutions not only increases the efficiency and flexibility of the public sector; in addition, making citizens responsible for these tasks will supposedly allow them to live

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active and more enjoyable lives: 'The majority of citizens want to live active lives, be able to cope on their own and be free to do the things they enjoy. Digital welfare solutions play an important role in making this possible' (The Government, Local Government Denmark & Danish Regions, 2016, p. 28).

These policy discourses, crafted over the last twenty years, have served to legitimise a series of technological as well as juridical developments. One of the most prominent changes that has followed this rhetorical shift has been an increasing reliance on the use of self-service solutions. Citizens must increasingly log in to governmental websites to request state subsidies and welfare benefits, complete their tax returns, apply for pensions and view their health records. As the latest national strategy states, '[t]he internet is today the primary gateway to public administration for the majority of Danes. Individuals and businesses have their own digital mailbox. Online self-service has been made mandatory for more than 100 administrative procedures' (The Government, Local Government Denmark & Danish Regions, 2016, p. 6). Access to many of these procedures is made available on the website borger.dk ('*borger*' being Danish for 'citizen'), which is referred to as citizens' 'single-point of access to all digital public services' (ibid., p. 13). The website includes a visual layout that helps connect users to various governmental databases, information sources and automated calculations. In an effort to further consolidate digitalisation as a critical element of public sector institutions and mandatory component of government–citizen interaction, the Digital Post Act was put into effect in November 2014. This law mandated that all citizens above 15 years of age must communicate with the public sector through a common public mailbox called Digital Post (or '*e-boks*'). The implementation of the law was underpinned by the so-called NemID (or 'EasyID') system; a 'federated user management' system (ibid., p. 13) that functions as a common infrastructure for accessing official governmental homepages. Providing each citizen with a physical code card with unique one-time passwords, this identification system allows citizens to log in to government webpages, as well as online banking services and websites of private companies. While citizens can still be exempt from using these self-service solutions, the widespread adoption of Digital Post and NemID nonetheless signalled that digital solutions had become the new norm, as all citizens were now expected to be 'digital by default' (see also Schou & Hjelholt, 2018b). This expectation stands in stark contrast to the ideas promoted by policymakers in the 1990s, where principles of choice, trust and lack of coercion played important roles in policymaking.

Taken together, these developments – comprised of shifts in political discourses, technical infrastructures and legal mechanisms – have served to actualise the idea that citizens should serve

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themselves *whenever* and *wherever* they want. They have done so by transferring tasks that were previously performed within local institutional spaces to digital platforms. This change entails much more than the simple introduction of government websites; it involves the development of new infrastructures, governmental agencies, technical standards and identification systems. The aim of these developments has largely been to make digital platforms the unique or primary entrance-point for citizens to interact with the state. The public sector no longer wants to be met face-to-face: it wants be encountered through mediated and platformed infrastructures.

The political changes entailed in making digitalisation the focus of public sector reforms have been embedded within wider changes to the political economy of the Danish welfare state. Like other advanced capitalist states (Brenner, Peck & Theodore, 2010; Peck, 2010; Wacquant, 2009), Denmark has undergone a series of neoliberal restructurings since the 1980s. These restructuring efforts have been largely premised on what we might, using the words of Peck and Tickell (2002, p. 381), call a double commitment to 'the extension of markets and logics of competitiveness with a profound antipathy to all kinds of Keynesian and/or collectivist strategies.' Contrary to the universal ambitions of the post-war welfare state, policymakers and politicians have increasingly come to promote the idea that public sector institutions should be driven by market-like mechanisms, free choice, flexibility and continuous processes of organisational self-optimisation. Citizens, meanwhile, have increasingly been framed as self-sufficient, active and responsibilised individuals, who not only *can* but *must* take on responsibilities and risks previously handled by collective state institutions (Pedersen, 2011). The state spaces imagined and constructed through public sector digitalisation not only rely on these political tropes; they also reproduce them in new ways.

Citizen service centres as state spaces: digital platforms and local institutions

One of the spaces where the national digitalisation agenda has been most visible is that of municipal citizen service centres. Initially created in the mid 1990s, the specific purpose of these centres was codified in 2005, as larger structural reforms established an overarching framework for citizen service centres' governmental and administrative functions (Pors, 2015). Citizen service centres should serve as a unified entrance to the public sector for citizens, able to handle light administrative requests and tasks across various areas of welfare provision. When these centres were conceived in the early 1990s, the public sector did not rely on digital technologies to the extent it does today. Consequently, the space of each service centre was organised to allow frontline workers to efficiently carry out tasks such as handling paperwork, official documents and casework files following standardised schemes. In principle, all citizens, irrespective of their social or economic

status, had to physically present themselves at a service centre if they required contact with or help from the public sector. However, as digital self-service platforms – together with new political imaginaries and legal mechanisms – have gradually come into being, these centres have been significantly repurposed. One frontline worker encapsulated the changes service centres have undergone by explaining her current work as a so-called citizen guide as follows:

> *Interviewer*: Can you try to describe your work as a citizen guide?
> *Frontline worker*: It works in the following way: citizens come and contact you, saying, 'I need help'. And then we go with them to the computer. And then there are big differences in terms of the citizens who are down here. How much help do they need? Some just need to stand next to us and have us look over their shoulder. Others need us to guide them in what they should do. And then we also have citizens who can hardly use the computer.
> *Interviewer*: Are there different ways of helping them?
> *Frontline worker*: Yes, there are. For the citizens whose shoulders we just have to look over, we do not need to do anything in principle. We just stand and look. And for those who have to be guided, depending on what they need guidance with, we guide them through it and help them with what they have to enter, reviewing the calculations with them. We do not do anything that they do not participate in. They should direct the mouse and enter the things. We do not do it for them.

In each of the municipalities we conducted empirical work in, the idea of a citizen guide had been introduced as a way of defining the new forms of administrative work that would be expected of frontline workers in their dealings with citizens. Indeed, prior to the implementation of digitalisation policies, frontline workers were viewed first and foremost as specialised administrative staff, able to solve citizens' specific administrative problems. However, as the handling of such problems now takes place largely on digital platforms, frontline workers have come to act less as administrative bureaucrats and more as administrative guides. 'We firmly believe that we should not be the ones to press the keys', a frontline worker reported; 'We'll probably stand by and help, but it's the citizen who is going to operate the computer.'

These new work practices, premised on guiding citizens, are carried out in work environments that are more or less open. Such environments often include a table placed in the middle of the municipal room with three to four computers. In some locations, using the computers requires entering a password, meaning that citizens must wait in line and ask a frontline worker to help them access the computer. In other municipalities, computers are freely available for citizens to use, and one or two frontline workers wait in or around the computer area should the citizens need guidance. The number

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of citizens who used these computers during our visits varied significantly. In some municipalities, these areas were filled with citizens, while in others only a few citizens sat at the computers, clicking through official webpages. Frontline workers told us that helping citizens is very much a collaborative effort that involves sensing who each citizen is and what they are capable of. 'Then when you come forward [as a citizen],' one frontline worker explained, 'it's a matter of what digital… or what kind of problem you have with the self-service solutions. Is it your NemID or is it the use of borger.dk? [...] If it is a self-service solution, then we go over and help and say: "Can we – along with you – solve this problem?" But it's always a collaboration. [...] It's all a process where you as a citizen are with us.' Another frontline worker described this manner of relating to citizens and figuring out how they can and should be helped in the following way:

> *Frontline worker*: We try [to help] people who have some will to learn a little. Then we sit down beside them and we guide them through it. We don't do it *for them*. And then you try to get some idea of whether it makes sense to spend time on this or not, because [if not] you exempt them from the Digital Post. And we have done that for some.

In the interviews we conducted, both managers and frontline workers said that these ways of governing citizens constitute a radical and far-reaching change when compared to how public services were previously administered. Indeed, one frontline worker even said that citizens today have a hard time identifying citizen service centres with the delivery of citizen services. 'You can't call yourself citizen service because you do not do anything,' this worker said, mimicking the voice of a citizen; 'Well, you might think that they are quite right. There is not that much service anymore. It is guidance to [allow you] to do it yourself. Guidance for self-service. You could say that this is also a service. Somehow you help them to empower themselves. But it is not the same service. It is another service.'

These changes to the function of citizen service centres have been accompanied by shifts in the material configuration of these spaces and the types of bodies that frequent them. As stated above, so-called computer environments have in many cases supplemented or replaced the administrative desks that used to demarcate the space between citizens and state professionals. Indeed, instead of standing on opposite sides of a large piece of administrative furniture that clearly distinguishes citizens from frontline workers, the two groups now stand shoulder-to-shoulder next to the same computer. This change has also meant that new kinds of citizen-subjectivities have become the primary users of these spaces. One manager explained this development in the following way:

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> *Manager*: When citizens cannot use self-service solutions provided by the municipalities or the state in general, they need to see someone [face-to-face]. They simply need to sit down beside them at a computer and receive thorough guidance. […] So those who come here to us do not come because they want something social or because they think it's nice to see a person [face-to-face]. They come because there is a *need*.

The citizens that visit citizen service centres are those who cannot face the state where it wants to be faced – namely, online. Those who cannot or will not use the official digital self-service platforms thus become the primary users of citizen service centres. In official policy narratives, it has often been assumed that it is mostly elderly citizens who cannot use the standardised self-service solutions provided by the state. When interviewing frontline workers, however, it became clear that the elderly are not the only group excluded by the adoption of new digital platforms. Instead, frontline workers often highlighted the class or socioeconomic characteristics of the citizens who visit their centres. They described many of the individuals using citizen service centres as being homeless, poor, ill, physically or cognitively disabled, unemployed with little to no formal education, or immigrants. A worker who had been employed in the municipality for almost two decades noted the following: 'Ten years ago, everybody came here. No matter what class you belonged to in society. [...] Well, today it is [...] the heavy ones that take a lot of time.' Another worker added, 'we need to be here for those who are having trouble. And now, there might be some who are already in a tough situation but have gotten it even tougher, as they feel excluded because they can't use digital technology.'

Visibility and displacements: from local institutions to private zones

What we can begin to see from these descriptions is how citizen service centres have become new spaces of discipline and intervention. The task of frontline workers is increasingly to make citizens become digital beings. What happens in these spaces is in many ways similar to the forms of governmentality and discipline observed by other scholars researching digital geographies. The purpose of these spaces is to make citizen-subjectivities fit within certain normative boundaries. This is done by making each citizen an object of intervention. However, whereas scholars like Jefferson (2017), Wiig (2018) and Vanolo (2014) have described how these disciplinary processes take place through the introduction of technologies of visibility and knowledge, the disciplinary practices of citizen service centres are of a different kind. They do not use new modes of calculation and data capture to intervene in citizens' lives; instead, the purpose of these practices is to enable citizens to operate within *other* state spaces. What is at work is a project of *spatial displacement* intended to

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move citizen-subjectivities from the confines of citizen service centres to what are described, in the political imaginary, as the free, smooth and de-bounded spaces of digital platforms.

This spatial displacement, which aims to move citizens' bodies from one space to another, has taken place alongside a displacement of visibility within citizen service centres themselves. The governmental practices carried out in these centres rely heavily on the materiality of the technological infrastructures that have been introduced as part of national digitalisation initiatives. Standardised digital platforms have the effect of making certain relations visible while rendering others invisible. In so doing, they help bring into existence particular ways of understanding and creating space itself. One of the major changes that has resulted from the turn towards self-service platforms is that frontline workers no longer hold a privileged informational view of the citizen. In many cases, they can only see what the citizen can:

> *Frontline worker*: We can only see what the citizen can see. So, if you do not have your NemID with you, then we can't help you. Because we haven't, as we had before, access to tax records and access to these different domains of welfare. They are completely closed down. We can see what the citizen can see. And often we have more experience with the use of it and can guide them that way. So, it is a form of collaboration with the citizen.

Frontline workers no longer have direct access to any systems that citizens do not also have access to, or at least not in the way they did before. The privileged perspective and knowledge previously held by frontline workers has consequently been shifted or displaced. These workers are now primarily distinguished from the citizen because they are *experienced users* who are accustomed to navigating the official systems, not because they can access data or information that is invisible to the citizen herself. In this manner, digital self-service platforms have become an integral part of governmental practices in citizen service centres, as these platforms help bring into existence new relations between state professionals and the state. These are premised on the notion that digital platforms should be the main, if not the only, space in which the citizen encounters the state.

In some municipalities, enabling citizens to enter the online spaces they are expected to is not always possible within the confines of the citizen service centre. 'The vulnerable [citizens] do not come here,' one manager explained; 'quite a few cannot stand this building [the town hall].' Because of this, the municipal city council chose to make social inclusion of vulnerable citizens a strategic focus, particularly in relation to the use of digital self-service technologies. The city council's aim,

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the manager explained, was to enable vulnerable citizens to 'enact their rights and duties' and partake in 'active citizenship.' More concretely, the initiative entailed the implementation of new forms of state intervention. Frontline workers who usually worked in the local citizen service centre were relocated to homeless shelters or drop-in centres one or two days a week. There they carried out the same tasks as they would have within the municipal centre (guiding citizens through digital solutions), only they did so within spaces that are usually distinct from the administrative and juridical forces of the state. 'The motto has been,' the same manager told us, 'that the citizens who *can* manage themselves, *must* manage themselves. And those who just need to get comfortable with these things, we try to push them a bit. It might be that they come here, or [they might get comfortable] through events. But it might also be that we have "John" over [working] at a shelter. And he will be there until the citizens are comfortable enough to come and ask him about something digital.'

The need to move beyond the physical confines of citizen service centres was identified by a number of managers as a vital step in managing to help *all* citizens. One manager explained:

> We are there exclusively for the citizens. And we know that well. Therefore, we should also offer the help that may be needed. It may be that it does not take place here at the town hall. We may have citizens who are in a nursing home, who have no opportunity to get help because they may not have any relatives, and the care workers do not have the time or knowledge [to help]. Well, we have an employee who goes 'out of the house.' She also likes to visit citizens in their own homes. [The problem] is often not related to the actual IT solution. [In that case] we have assessed that the citizen is not able to use IT so we make a 'secondary channel' and that's the traditional paper forms citizens used before.

As forms of citizen service are carried out outside the citizen service centre, we can begin to see how the spatiality of these centres is continuously transforming. While most activities are still bound to the physical confines of the local town hall (or library, in some municipalities), frontline workers are modifying and reworking these boundaries by moving into spaces otherwise distinct from the state. The spatial displacement of citizens thus takes place together with the spatial displacement of frontline workers. Not only does this demonstrate the fluidity of the new digital state spaces we have examined; it also illustrates how spaces otherwise seen as personal and private can overlap with state spaces. As frontline workers enter into the homes of citizens classified as vulnerable in order to help

them use official digital platforms or so-called secondary channels, we can see how state power and intervention infiltrate what would seem to be the most personal and private of spaces.

Digital state spaces as hybrid spaces of intervention

We have now illustrated how national policy agendas, technological infrastructures, legal measurements and local institutions coalesce to create what we propose to call *digital state spaces.* For the majority of citizens, who are capable of using the standardised platforms issued by the state, administrative tasks and welfare services have moved from the institutional spaces in which they were previously carried out and have been delegated to the individual citizen. It is now the individual who has to solve problems previously handled within local state spaces. In the political imaginary conjured up by policymakers, citizens should be able to perform these tasks *wherever* and *whenever* they want. By shifting roles and responsibilities, the implementation of standardised digital platforms has made such visions of a flexible and responsibilised citizenry concrete. For these citizens, digital state spaces are to be found online, accessed through standardised platforms and government webpages. These online spaces, however, should not be thought of as smooth or somehow detached from material, situated practices. Meeting the state online entails the use of specific digital devices, physical key cards, internet connections and other infrastructures. It means clicking through homepages, filling in information and reading official messages on screens.

At the same time, we have shown how citizens that do not conform to these expectations have to some extent become located within citizen service centres. Citizens of lower socioeconomic class in particular must now actively present themselves at their local citizen service centre if they have trouble using a particular digital solution. For this group, becoming digital entails a series of deeply local encounters that are generally bounded within the physical confines of their municipal service centres. Within these refunctionalised state spaces, citizens are turned into digital individuals by frontline workers who help citizens help themselves. In most cases, these encounters take place in local town halls. Yet in some municipalities, caseworkers are increasingly entering into citizens' homes. As new modes of citizen service are carried out outside of established service centres, the spatial boundaries of the state are being transformed. The national ambition of turning the entire population into digital beings reaches into the most private and intimate areas of citizens' lives.

We wish to argue that the concept of *digital state spaces* provides a productive framework for understanding the heterogeneous scalar and political forms that are constructed through governmental digitalisation. Digital state spaces are discursive, material, legal, political,

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infrastructural and corporeal. They are as much about national technological platforms as they are about the movement of bodies. In the present case, we wish to suggest that the simultaneous delegation of public service tasks to digital platforms and local institutions must be understood within a unified theoretical framework, as these developments are two sides of the same coin. The use of online platforms and local training complement each other and support the same political project through different scalar forms. They form centres of differentially distributed and classed state spaces, regulating the flow of bodies and allocation of responsibilities. These digital state spaces are differentially distributed because they do not work the same for everyone. Digital state spaces imply the use of digital interfaces *for some* and local guidance *for others*, the use of national infrastructures *for some* and local computers *for others*, (supposedly) de-bounded practices *for some* and deeply bounded discipline *for others.* In this way, the production of digital state spaces is part of a common and multi-layered socio-spatial configuration, reworking and extending established forms of neoliberal state restructuring: interventionist in the lower strata of the class hierarchy and laissez-faire at the top.

Discussion and concluding remarks

This article has taken its lead from the increasingly pervasive digitalisation of advanced capitalist states around the world. Drawing on studies of state rescaling and literature on digital geographies, we have sought to understand and examine how new state spaces are created, negotiated and produced through the process of digitalising core public sector institutions. To do so, we have advanced the concept of *digital state spaces*, a useful tool for understanding and unpacking the forms of state spatiality that emerge through and within processes of governmental digitalisation. We have suggested that thinking through the intersections between state spaces and 'the digital' requires us to adopt an approach that treats each of these domains as relational, conflictual and situated. Neither state spaces nor 'the digital' can be reduced to static entities or containers, as each is constituted by and within highly heterogeneous ensembles of devices, bodies, political discourses, institutional forms and everyday practices.

Applying these theoretical arguments to a study of digitalisation efforts in Denmark, we have illustrated how new digital state spaces are starting to take form. These new spaces serve to regulate and govern how citizen-subjectivities interact and come into relation with the state. For some bodies, this involves the voluntary use of digital platforms; for others, particularly those already on the fringes of the welfare system, it entails disciplinary encounters in local municipal offices. Focusing in particular on citizen service centres, we have shown how this work of spatial displacement is

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carried out and how it includes new governmental spaces, professional practices and relations of visibility. This study thus helps bring out the *layered* and *multiple* composition of digital state spaces. Such spaces are far from monolithic entities, as they encompass forms of power and governance that are differentially distributed. Considering these from a spatial perspective allows us to recognise the complementarity of different spatial forms and highlight the way in which seemingly distinct state spaces can be related to one another.

Thinking through questions of governmental digitalisation from the perspective of state spatiality also allows us to depart from the overly neat spatial assumptions that shape existing research on this topic. Against ephemeral ideas of the cloud (Hu, 2015), we would like to suggest that governmental digitalisation serves as the foundation for important spatial restructurings that are embedded in wider political-economic processes and social structures. In our view, too much work that is conducted on statehood and digitalisation fails to take account of the new spaces that are constructed by and through the implementation of digital technologies. Such work fails to do so precisely because it is unable to theorise state spaces as continuously unfolding, processual and interlaced with historical power relations. Even the most advanced work in this regard, such as Jane Fountain's (2014) research on 'digitally mediated institutions', understood as 'government organization[s] characterized by a high degree of digital infrastructure and widespread use of digital applications and tools' (p. 471), tends to take the spatiality of organisations and the state for granted. As we have demonstrated in this article, focusing on the physical boundaries of institutions as if these were fixed, settled and demarcated frontiers, hinders our ability to understand the profound changes caused by digitalisation. The physical boundaries of digital state spaces are continuously being displaced, negotiated and overridden. What is more, such spaces function differently for different segments of the population. In adopting such a perspective, this article pushes existing geographies of 'the digital' further by developing a set of conceptual tools for unpacking the seemingly mundane spaces and technologies of contemporary states. The article highlights how processes of state restructuring and neoliberalisation, which are central to existing political economies of state rescaling, are increasingly taking place with and through the use of digital technologies.

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Becoming aware of the forms of state spatiality that are created with and through digitalisation paves the way for several new research trajectories going forward. It first of all allows more rigorous comparative studies to be conducted dealing with processes of state rescaling across national boundaries and contexts. By placing different state projects in relation to one another, we might begin to develop a more nuanced understanding of the variegated and multiple forms of digital state

spatiality that are currently being constructed. A comparative approach might also allow us to see how transnational policy networks and supranational institutions are attempting to create and intervene in new geographies of statehood across national boundaries. Powerful political actors such as the European Union, the Organisation for Economic Co-operation and Development (OECD) and the World Economic Forum are currently pushing for the digitalisation of industries, states and markets. It is up to researchers to unpack how and in what ways new geographies of digital capitalism are being created as such digitalisation efforts develop. Finally, we would like to note the way in which a greater appreciation of spatiality also guides our attention to the flow of bodies across scalar boundaries. What kinds of subjects are beginning to move into the digital state spaces that are currently being produced? Who has access to what spaces? And to what extent do these movements mirror existing forms of stratification and exclusion? In our view, these are pressing questions that scholars of territory, politics and governance ought to be asking.

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