Sociodigital Practices: Mobilising and Challenging Social Practice Theory

Dale Southerton[1] – Centre for Sociodigital Futures, University of Bristol

Susan Halford - Centre for Sociodigital Futures, University of Bristol

Abstract

In this article, we ask what the emergence of digital technologies means for social practices. We argue that digital forms (devices, data, infrastructures, platforms, etc.) and (many) social practices are entangled such that they should be conceptualised as sociodigital practices. Conceptualised as such, key analytical questions are: How are sociodigital practices configured and reconfigured? And how and what kinds of connections form between sociodigital practices? We demonstrate how five concepts from Social Practice Theory (SPT) – infusing, circulating, merging and emerging, cross-referencing, and interweaving – are instructive for addressing these questions. Four challenges to SPT (and practice theories more broadly) are identified. (1) Analysis needs to extend beyond the everyday to include professional practices and sites of practice performance. (2) Technical expertise and interdisciplinary collaboration are essential to fully grasp the material threads that weave through sociodigital practices. (3) Specific concepts (infusing, cross-referencing, and interweaving) represent important analytical starting points for explaining the extensiveness and density of sociodigital practices. (4) Attention to futures claims as empirical objects of enquiry is necessary to engage with sociodigital future-making practices.

Keywords

circulating; cross-referencing; emerging; infusing; interweaving; merging; sociodigital

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[1] Corresponding author - contact: dale.southerton@bristol.ac.uk

Introduction

Digital technologies are everywhere. The mobile web and the platforms it supports are carried in the pockets of over 4.6bn people worldwide (GSMA 2024) and embedded in diverse social practices from booking a restaurant to completing a bank transaction, learning to cook or watching television. The extensive reach of digital devices across everyday life is alluded to in phrases such as 'ubiquitous media (Featherstone 2009) and described in terms of "digital devicification ... the situation where more and more forms of action are digitally mediated by devices" (Cochoy et al. 2020, 2). This emphasis on devices positions' the technical' as substantially distinct from social practice; as a tool that mediates action rather than a form of action itself.

Our use of the term sociodigital practices (Halford and Southerton, 2024) moves beyond the observation that social practices are increasingly integrated with digital devices (see, for example, the use of the term sociodigital in relation to educational practices in Korhonen, et al. 2024). Informed by Science and Technology Studies' (STS) use of 'sociotechnical', our conceptualisation extends beyond its insistence that the technical and social are co-constituted in two ways. First, and in keeping with Actor Network Theory (ANT), is to consider what is generally described as the social and the digital to be part of the same thing: practices or more specifically, sociodigital practices. Taking this position refutes an ontological boundary between digital technologies and social practices and, following Barad's (2003) concept of intra-action, focuses analytical attention on 'entangled agencies' (in distinction from inter-action, where discrete entities come into contact to create something new). Thus, the primary epistemological unit is not independent entities with inherent boundaries and properties but sociodigital practices composed of intra-acting 'components'. Second, and as a consequence, analytical attention turns to the processes through which sociodigital practices gather, accumulate, fragment, and reconfigure and to the connections between them.

This framing shifts attention from how devices mediate social practices to the accomplishment of sociodigital practices. Most obviously, it draws attention to sociodigital practices in familiar domains of everyday life – consuming, learning, organising, caring, moving, and so on – and the heterogenous elements (understandings, materialities, skills, etc.) involved in accomplishing these.[2] This framing also positions heterogeneous elements as entangled with, rather than conditioning of, sociodigital practices as entities and performances (see Hanchard 2024). For example, with reference to materiality, this means arrangements of devices, infrastructures, data, platforms and so on are understood as constituted through diverse practices. We also consider sociodigital practices to include technical research, design, operations, and governance that take place in particular sites, including laboratories, government agencies, base stations, and standards bodies. These, too, are constituted through understandings, materialities, and skills that are performed in the everyday life of specialist communities of practice. In short, digital technologies cannot be treated as distinct – or analysed in separation from – social practices. This takes us beyond devices to ask what sociodigital practices are being configured and reconfigured, how, where and when? What connections and forms of connectivity exist between

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[2] See ESRC Centre for Sociodigital Futures: https://www.bristol.ac.uk/research/centres/sociodigital-futures

sociodigital practices? And, what stays the same and what changes as sociodigital practices emerge, connect and evolve?

In what follows, we reflect on what Hanchard (2024) describes as the second wave of practice theories, specifically Social Practice Theory (SPT), and what it offers for describing and explaining sociodigital practices. Our approach is particularly informed by the work of Reckwitz, Schatzki and Shove, amongst others. We do not aim to draw out the synergies and tensions across different approaches to SPT (see Warde 2016) but note key debates and theoretical alliances to include with approaches such as ANT. In doing so, it becomes clear that attention to sociodigital practices also poses some challenges to SPT. We see this as an opportunity to open up new questions rather than a critique per se.

What Does Social Practice Theory Have to Offer?

SPT insists that social practices are the principal unit of social scientific enquiry. Schatzki (1996, 89) defines a social practice as a "temporally and spatially dispersed nexus of doings and sayings", which Reckwitz (2002: 249) describes as "a routinized type of behaviour consisting of heterogenous and interconnected elements, including: forms of bodily activities, forms of mental activities, "things" and their use, background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge." Heterogenous elements combine in ways that render practice as entities recognisable, intelligible, and describable. Practices are also reproduced, adjusted and modified through their performance. The dynamics of social practices are found in the relationships between practices as entities and as performances (Shove et al. 2012).

This is a helpful starting point for conceptualising sociodigital practices. It moves away from dominant explanations (in engineering and orthodox economics, for example), which position digital technologies as acting on social practices (Halford and Southerton, 2024). Instead, analytical attention is focused on the diverse, indeterminate, and relational processes through which practices form, replicate, and change; how new practices emerge, how old practices linger; and how multiple practices hold together (Shove 2023). Practices are always a "part of a nexus of connections" with other practices (Nicolini,2012, 229), and this enables SPT to overcome troublesome questions of scale, such as popular characterisations of macro, meso, and micro that present small phenomena as nested within larger phenomena (Schatzki 2019; Shove 2023). Such characterisations tend towards debates about whether the larger phenomena shape the smaller and how smaller phenomena challenge (deliberately or not) the orthodoxy of the larger. In distinction, SPT holds that the processes which give rise to arrangements of practices can be applied to all sizes and shapes. Notions of large and small are replaced with, borrowing from Actor Network Theory (Latour 2005, see also Schatzki 2019), concepts of more and less extensive forms of connection between practices (Shove 2023).

Framed this way, attention turns to how sociodigital "practices connect and different kinds of connectivity evolve" (Shove 2023, 3). For example, how the design of streaming services connects with television watching practices or how edtech industry practices connect with learning practices in the classroom. Both cases connect with multiple other everyday practices, such as parenting practices, and professional practices to include the ways in which corporate strategy practices drive engagement with standard

setting for network connectivity, internet interoperability or privacy legislation, and engineering and design practices with technical cross-overs between streaming and Edtech platforms.

From this perspective, two key questions arise about sociodigital practices. First, where and how are sociodigital practices emerging, and in what ways do they relate to established (i.e. pre- or non-sociodigital) practices? At the core of this question is what new sociodigital practices or practice combinations are emerging, how and in what ways (might) they spread (across time and space), and which current practices may recede or disappear. This points to a second question about how emergent sociodigital practices can be conceptualised in relation to ideas about futures. Addressing this question, we contend, means more than extrapolating trajectories from past and present sociodigital practice relations to identify directions of travel. Instead, it means paying attention to how futures are claimed and acted on in the ongoing nexus of sociodigital practices.

Shove's (2023) account of SPT and extensive phenomena sets out a helpful framework for addressing our first question. Five of Shove's concepts are especially relevant for our purposes: infusing; circulating; merging and emerging; cross-referencing; and interweaving.

1. 'Infusing' considers how general understandings circulate across and between practices and may work towards "epistemic convergence" (Shove 2023, 14). Shove uses germ theory to show how "beliefs, values, general understandings and commitments" (14) infuse across practices. This concept is helpful in analysing, for example, how understandings of 'Artificial Intelligence' (AI) have come to infuse everyday life today. AI has a history of diverse meanings and practices, worked through science fiction, engineering labs, and popular culture. Interest and iterations of AI have waxed and waned historically, with layers of understandings and meanings patchily enacted in different sites of practice performance and at different times. Since the late 2000s – following the emergence of huge volumes of digital data, rapid increases in processing speed and cheap data storage – epistemic convergence has, arguably, formed around machine learning and generative AI. This is underpinned by powerful claims about its necessity (for national competitiveness, etc) and 'inevitability'. An identifiable epistemic community (of government, industry, engineering research, standards, infrastructure bodies, and management consultancies) is forming and shared understandings about the properties and capabilities of AI is gaining coherence.

2. 'Circulating' considers how materials and artefacts acquire meaning and value as they circulate through and across practices in space and time. In this process, the meanings and values of materials are continuously made and re-made through practices and practice connections. The mobile phone is a good example. Once a substitute for wired telephone conversations (Agar 2013), it now circulates through and across an array of everyday and professional practices, connecting with a suite of other artefacts from digital devices (e.g. Tablets, Computers) to data and digital services, which bring together materials as diverse as the food ordered from an online App to the underwater cables and satellites that transfer data across the globe (Starosielski, 2015). As materials and artefacts (such as the mobile phone) circulate through and across sociodigital practices, their meanings and values are continuously being made and re-made (but not determined).

3. 'Merging and emerging' refers to how a practice colonises and absorbs another practice or where two or more practices converge such that they can be described as hybrids. As Shove argues, "processes of

multiple, multi-sited merger [may] result in hybrid practices that are reproduced in many places at once" (Shove 2023, 7). Working this concept through the examples of email and online shopping (sociodigital practices), Shove demonstrates that email is not simply a substitute for postal services but a hybridisation of multiple related, and once distinct, practices including filing, data storage, writing, communicating, archiving, and printing. Each have their own histories, associated devices and infrastructures, and competencies and skills. Similarly, the scaffolding of online shopping was already in place through the logistic systems, store layouts, barcodes, marketing, and electronic transactions that pre-dated it. It is notable that in recent years, the term 'hybrid' has become widely used to describe exactly this merging and emerging across diverse practices from work to education, social gatherings and political organization. This could be seen in purely technocratic terms as the adoption of digital technologies to replicate non-digital social practices. What is really involved in any of these hybrid practices comprises changes to both the entities involved and the ongoing performance of what are emergent sociodigital practices.

4. 'Cross-referencing' refers to how practices influence each other through mutual adaptation and calibration. Shove demonstrates how cross-referencing of systems, codes, standards, conventions, and regulations bleed across disparate practices. This concept raises some critical considerations for analysing sociodigital practice connections. In the telecoms sector standard setting appears (on the surface) as an ongoing technical activity. Specialist communities come together, such as W3C (web standards e.g. for HTML) or GSMA (5G/6G), to define standards and respond to ongoing technical (or regulatory) innovations. Like any infrastructural work, this involves controversies over how things should be done, vested interests in one solution over another, and has implications for the professional practices of those charged with maintaining and delivering infrastructures – as illustrated by the recent controversy over Huawei's involvement in 5G standard setting (Plantin, 2021). In mobilising claims about technical standards other 'social practice' standards are cross-referenced (about the demand for connectivity, low latency and increased data use). Such claims are premised on the needs, demands and expectations of (past-present-future) everyday (sociodigital) practices. In this example, cross-referencing is in motion across professional and everyday sociodigital practices and enacted (or arranged) through performances of multiple (connected) practices across diverse sites.

5. 'Interweaving' refers to how material threads (devices, resources and infrastructures) thread through practices. Shove offers the example of the Internet of Things that weaves together 'digital-electronic systems' across everyday practices from home lighting and food provisioning to car driving and traffic management. Material threads of connectivity – high-performance networks, internet, mobile phones, data centres, and so on – link together practices that are, by definition, increasingly sociodigital. They make sociodigital practices possible and facilitate forms of merging and emerging to include colonisation of previously non-sociodigital practices (e.g. writing). In this process of interweaving, interdependencies between material threads and sociodigital practices are being created and reproduced. As material forms such as network base stations, robots or immersive headsets become increasingly interwoven with algorithms, data, and generative AI, questions emerge about the resources these assemblages consume and the affordances that emerge through their interweaving in sociodigital practices.

These five concepts represent a set of SPT concepts to examine the connections between sociodigital practices. Our examples illustrate how each concept interprets sociodigital practices. This would represent a rich empirical research agenda but delivering it does pose some challenges.

Challenging SPT?

Exploring sociodigital practices poses four challenges for SPT research. The first considers what 'objects' of enquiry should analytical attention focus upon. The 'doings' and 'sayings' of practices as entities and performances remain the principal unit of analysis but attention needs to look beyond everyday practices. Researching an everyday practice, say eating, and considering the ways in which digital devices, data, and services relate to its performance is useful, but will provide only a partial analysis principally focused on processes of merging and emerging. Alternatively, we could consider the various sites in which multiple sociodigital practices related to eating are performed and examine the connections between them. Above, we have highlighted sites related to professional sociodigital practices, including engineering labs and sites of policy-making and business strategy. This makes it possible to explore each of Shove's concepts, to include the sociodigital practices that are performed in those sites and how elements of everyday sociodigital practices are mobilised within professional practices. A third option is to pay attention to the interweaving of material threads, the hardware and software (data flows, algorithms, AI models, platform services, etc.) that connect sociodigital sites and practices. We suggest that all three objects of enquiry are necessary to analyse sociodigital practice relations.

Second, what can SPT'ists 'know' about digital materialities, and how? Technical operations are often obscure to the social scientist. Yet, knowledge of what digital forms are, do, can or might do, is essential for analysing sociodigital practices. This is especially the case when holding to the position that digital devices, data, and services are material elements constituted through practices, entangled with other heterogenous elements and are not only material arrangements that configure practices. As such, understanding what we describe above as digital forms demands collaboration across SPT and technical expertise, not just because it is necessary to understand the technicalities of digital forms but because those forms are constituted through sociodigital practices. Such collaborations also offer methodological opportunities for SPT to work with new sources of data and methods. Certainly, these data and methods, carry concerns about their constitution and interpretation (see Halford et al., 2013; 2017). Nevertheless, a commitment to utilising and understanding the technicalities of digital forms is necessary for robust analysis of sociodigital practices (Halford and Southerton, 2024).

The third challenge is, given the extensiveness of sociodigital practice connections, with which concepts should we start? Are some concepts more fundamental or of pressing need to investigate than others? The concept of merging and emerging would appear an obvious starting point since it would focus attention on how sociodigital practices colonise, absorb and converge (or diverge) with other practices. It would not, however, help explain the density (i.e. the intensity of elements upon which concentrations of sociodigital practices co-depend) of those relations. Here, the concepts of interweaving, cross-referencing, and infusing are key points of departure. Each emphasises how understandings, standards, and material threads coalesce, offering a basis for examining both the extensiveness and density of sociodigital practice connections. Interweaving draws attention to the digital forms upon which multiple

sociodigital practices co-depend and often do so synchronously (at the same times) and sequentially (in a particular order). Cross-referencing has implications for what and how sociodigital practices merge and emerge. Infusing matters because it offers scope to explore the emergent 'patchworks' of ways of describing, classifying, and prescribing forms of sociodigital practice. Importantly, while concepts such as cross-referencing and interweaving identify how multiple elements interact, both demonstrate that any analytical distinction between what could be described as social practice and digital forms collapses.

We end with a final challenge: in what ways can SPT engage with sociodigital futures? As argued elsewhere (Adam and Groves 2007; Urry 2016; Halford and Southerton, 2023), sociological theories largely look backwards to identify processes of change that might (or will) continue (unless something different happens in the present). This critique applies to first-wave practice theories (e.g. Bourdieu). SPT employs concepts such as prefiguration (Schatzki 2011) and trajectory (Shove 2023) to explain how existing practice relations, which have emerged from the layering of past practice relations, render some future arrangements more or less likely. This is certainly the case. However, this reduces futures to projections' out of' past and present practice arrangements. Futures matter beyond the identification of trajectories (Halford and Southerton, 2023). As STS demonstrate, while the future is unknowable, claims (imaginations, expectations, anticipations) about possible futures have a performative effect on the present (see, Van Lente 2012; Jasanoff 2015; Halford and Southerton, 2024). Futures claims open-up and close-down possible futures (Stirling 2008). This means that claims about future sociodigital practices can, and should, represent empirical objects of enquiry alongside the more familiar analysis of past and present configurations of practices. Doing so offers a basis for considering sociodigital practice 'futures-in-the-making' (Adam and Groves 2007). A wealth of methodologies is available for this task (see Poli, 2018 for an overview, and Strengers at al. 2019 for an example).

Returning to our opening sentence, digital technologies are everywhere, as are claims that the future will be digitally mediated. These claims have a performative effect in the present. We have argued that these are observations of sociodigital practices and that SPT offers a rich conceptual repertoire for explaining sociodigital phenomena. Attention, however, needs to extend beyond everyday practices (into professional practices and sites), with interdisciplinary insights necessary to explain 'material threads', and concepts of infusing, cross-referencing, and interweaving, offering critical starting points for analysing the extensiveness and density of sociodigital practice relations. Attention to futures claims as empirical objects of enquiry, alongside analysis of present and past practice relations, is needed to critically engage with sociodigital future-making practices (Halford and Southerton, 2023).

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and, through the ongoing empirical programme of research, have generated examples of sociodigital practices.

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