MAT Medicine Anthropology Theory

SPECIAL PIECES – INTRODUCTION

Health-Related Expertise in the Digital Age

Reconfigurations and Redistributions

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Introduction

On social media, influencers produce content on mental health, fitness, nutrition, and related topics. Rooted in the wellness industry, they increasingly position themselves as experts, often drawing legitimacy from personal experience rather than formal training. In September 2024, the World Health Organization (WHO) entered a collaboration with TikTok to promote evidence-based health content on the platform. By enrolling new actors, primarily medical professionals active on social media, the WHO attempts not only to refresh its communication strategies in order to reach a greater public but also to reassert the authority of medical expertise in the digital sphere. Similarly, the organisation's Fides network, established in 2020, seeks to 'raise good health content' and 'fight misinformation' on social media by collaborating with influencers whose expertise is grounded in medical credentials (WHO 2023).

This is only one example of the ways digital data and technologies—often bracketed as digital health—play increasingly important roles in the health sector. They are redefining not only doctor-patient interactions but also clinical decision-making, biomedical research, public health interventions, and global health governance. And they pose important questions about reconfigurations and redistributions of health-related expertise in the digital age: How do algorithms, chatbots, or AI affect established notions of medical expertise and authority? How do they redistribute expertise between different medical professionals, patients, or technologies? If support systems for clinical decisions aid in diagnosing and treating diseases, who counts as an expert in clinical encounters? What new modes of expertise might emerge in biomedical research or public health, for example through big data infrastructures run by data scientists or commercial companies? How are different types of expertise valued and hierarchised? And how are boundaries of epistemic authority and associated power relations either reinforced or redrawn?

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Growing out of a workshop on the digitalisation and datafication of health, this Special Issue brings together five original Research Articles, three Position Papers, and two Field Notes. Spanning the fields of sociocultural anthropology, STS, and global health, they examine how digital data and technologies reconfigure or redistribute health-related expertise. The articles engage with anthropological scholarship on expertise and epistemic authority, which shows that expertise is dynamic, and its legitimacy socially constructed and institutionally maintained (Carr 2010; Boyer 2010), for example through medical degrees or the institution of the clinic (Foucault 2015). Moreover, as Dominic Boyer (2005) highlights, the attribution of expertise and authority is closely connected to social status. Particularly scholars of medical anthropology critically inquire into the fashioning of biomedical expertise and the expansion of its authority over minds, bodies, and populations (Rose 2006). They have also long troubled conventional attributions of medical authority and pointed to alternative valuations of what counts as expertise, for example by taking seriously nonbiomedical healing practices as well as exploring patients' narratives and embodied knowledge (Callon and Rabeharisoa 2003; Pols 2014). The question of expertise has also been debated within the field of STS (Monteiro 2015; Macdonald 1995; Sharon 2016; Grundmann 2022), particularly in relation to governance and policy making (Henry 2021; Jasanoff 2003). Scholars examine how expertise is being co-produced and shaped through sociomaterial practices (Latour and Woolgar 1979; Oudshoorn and Pinch 2003). They highlight struggles around the recognition and legitimacy of expertise, for example the exclusionary/inclusionary tactics mobilised by professional groups to secure the frontiers of their epistemic authority, including through different forms of 'boundary work' (Gieryn 1983). Finally, we rely on global health studies, which foreground power dynamics revolving around questions of expertise in the global health space, for example with regard to quantification and metrification (Adams 2016). Scholars also point to the dangers of neglecting systemic inequalities when digital data and health technologies are regarded as ready-made solutions to complex social problems (Al Dahdah and Mishra 2023; Bärnreuther 2024).

Building on these contributions, in this Special Issue, we approach health-related expertise as a relational phenomenon that is constantly being (re)made through sociomaterial practices, and as a phenomenon that is deeply steeped in power relations. The papers assembled here ask what counts as expertise in the digital age. How do its boundaries shift or solidify as new technologies and actants—such as wearable devices, bioinformaticians, or health-tech companies—come into play? How are digital technologies and data infrastructures part of processes of producing expertise and how do they become the site where different modes of expertise are being enacted? Our focus on the negotiations involved when health-related expertise meets digitalisation and datafication processes allows us to shed light on the material nature of expertise. Digital technologies and data infrastructures are shaped by specific forms of expertise and are designed to support particular knowledge practices. Their affordances enable certain ways of knowing while constraining others. Furthermore, we emphasise the complex interplay between processes of digitalisation and datafication and daily practices of care. Care practices, we argue, are not only integral to the medical field but also to the functioning of digital technologies and to processes of data production, circulation, and utilisation, which points to the importance of labour and the affective and experiential dimensions of expertise in the digital age. Finally, we critically examine the power dynamics involved in the

production and negotiation of health-related expertise. When health-related expertise meets digitalisation and datafication processes, oftentimes tensions emerge and hierarchies between different forms of expertise are being (re-)negotiated. However, the Special Issue also shows that more often than not, existing inequalities are being perpetuated or new lines of social exclusion emerging.

The papers in this collection examine diverse geographic regions at the forefront of digital health, including Australia, East Africa, Europe, India, and the US. By incorporating case studies from both the Global North and the Global South, this Special Issue moves beyond the prevailing Eurocentric and North American focus in digital health scholarship. This enables a more nuanced understanding of how processes of digitalisation and datafication intersect with health-related expertise in different social, economic, and political contexts. It shows how digital health technologies and health-related expertise are shaped by local infrastructures and epistemic cultures while also revealing global connections and patterns. In the introduction, we group the papers in three sections: (1) emerging modes and practices of expertise; (2) tensions between different modes of expertise; (3) hierarchies of expertise.

Emerging modes and practices of expertise

‘Data is the new oil. It’s valuable, but if unrefined it cannot really be used. It has to be changed into gas, plastic, chemicals, etc. to create a valuable entity that drives profitable activity; so data must be broken down, analyzed for it to have value,’ said the mathematician Clive Humby in 2006 (Suarez-Davis 2022). If data needs to be worked on to become valuable, it also deeply transforms ways of knowing in return (Monteiro 2022). While data has become part of almost everything we do, and datafication processes have invaded the most intimate aspects of our lives, the idea that ‘data isn’t the new oil anymore’ starts to make its way. IT specialists point to the limits of the promissory discourses that have surrounded data. Data is thus often caught in between two opposite narratives: the positive narrative of how data could change our world for the good—more precision, personalisation, more efficiency, better science, etc.; and the negative narrative pointing to risks, new threats, and surveillance logics. But with regard to questions of expertise, these moralised distinctions are not that clear-cut. We therefore ask how processes of digitalisation and datafication relate to health-related expertise. Which digitalisation and datafication processes and practices give rise to new forms of expertise or transform older ones? Are boundaries between scientific, clinical, and experiential fields of practice being reconfigured in the process? Also, what kind of health-related expertise is more amenable for datafication? Departing from promissory discourses, the papers in this section observe how these processes unfold in practice.

In ‘Reconfiguring Psy Expertise in the Digital Age: Two Cases from India’, Claudia Lang describes how ‘psy technologists’ in Indian start-ups emerge as new experts in the field of mental health using the cases of a chatbot-based mental health app and a digital mental health platform, both developed in Bengaluru. They translate therapeutic interventions into the realm of online consultations, thereby reconfiguring and redistributing psychological expertise. By engaging with and contesting psychological expertise, software engineers, AI programmers, and conversational designers turn mental health into a technical problem to be solved through their products. In contrast to conventional care, Lang’s interlocutors argue that digital technologies can provide

round-the-clock and anonymous support in a context where mental health problems are on the rise and often stigmatised. They argue that 'tech' can be used for 'good' and that the development of datafied mental health supports the growing need for mental healthcare in India's population. Although psy technologists try to depict chatbots and apps as revolutionary alternatives, Lang shows how these technologies actually rely on and engage conventional forms of psy expertise.

In her Field Note 'Doing Health in the Clinical Research Centre: Care Work in Choreographies of Data Production', Nolwenn Bühler draws on an ethnography of health examinations that took place in the context of building a population cohort in Switzerland. The cohort serves to conduct human biomonitoring and aims to advance exposome science. Health examinations are places where the thickness of the many details that make up participants' lives are translated into data that can be used for research. In contrast to the notion of clinical labour (Mitchell and Waldby 2010), which describes logics of objectification and extraction taking place in human biobanking and data-driven health science, the Field Note paints a more nuanced picture, in which the complexity and the distributed dimension of care work performed by nurses is foregrounded. The active role played by cohortees, the nurses' sensitive gestures adapting constantly to the situation, the materialities around them, come together and move apart. As sites of data production, health examinations are framed by Bühler as an interesting place to understand new forms of expertise and their valuation. The Field Note sheds light on the importance of care work, as a form of expertise, performed by nurses, that is necessary to produce 'good' data that are 'clean enough' to be used in statistical analyses, thus providing the material that will serve the building of the expertise of scientists in the domain of environmental health. However, while recognised as important by the cohort team, care expertise remains invisible and is kept distinct from scientific expertise. This shows how care work, while essential for datafication processes, remains poorly valued, reproducing the idea that data are not made but 'out there' to simply collect.

These two case studies show how complex, but also mundane, the social, material, and affective work of datafication is. Far from the hype of promissory discourses of 'tech for good', precision public health, and exposome science, the datafication processes analysed are not revolutionary but rather rest on pre-existing forms of expertise, which, however, are often erased or made invisible. Moreover, the contributions show how the translation of experiences of suffering or situations of exposure into data is only possible through multiple processes of translation between the social worlds of the diverse actors involved, which may sometimes lead to tensions.

Tensions between different modes of expertise

As discussed, expertise is relational, and its recognition is socially situated (Carr 2010). Similarly, epistemic authority is not predetermined, but an outcome of ongoing boundary work. When new modes of expertise appear, others may become irrelevant or are invisibilised. Tamar Sharon (2021, 54), for example, demonstrated with regard to contract tracing during the COVID-19 pandemic that 'digital expertise (. . .) has been converted into advantages in the sphere of health and medicine (. . .), and in the sphere of politics'—a shift that brings with it various risks. The papers we group under this section address how different kinds of expertise relate to each other. How are they mobilised in different professions and fields? What are tensions and struggles

around legitimacy and epistemic authority? And how does this influence the provision of health services, economies of care, and health governance? Or, more generally, what are the social, economic, and political implications of these tensions?

In their article 'Automating Dietary Expertise: The Challenge of Making a Food App for Everyone', Giada Danesi and Tanja Schneider reflect on what it means to delegate the power of deciding what to eat, and thus specific forms of care, to technology. By collaborating in the development of a dietary tracking and intervention system and collecting users and non-users perspectives, they observe what is neglected in the process of delegation to a machine, namely dietary but also bodily and socio-cultural expertise of the users themselves and their significant others. The tracking system seems to appeal to users whose values align with metrification and a specific vision of the body, food, and health. Users who refuse to use dietary tracking devices value food for other qualities than nutritional ones and may rely on their experiential expertise on what they feel to be good for themselves rather than relying on uniform but contested standards. The authors suggest that the non-use of technology is not only a matter of 'practice conflicts' (Fuentes, Cegrell and Vesterinen 2021) but also of value conflicts.

Klaus Høyer, Anne Høyen Munk and Sarah Wadmann's article 'Data on the Mind: How the Data on the Use of Force in Psychiatry Interacts with Professional Judgment' examines the epistemic, clinical, and political implications of datafication in psychiatric medicine. Building on fieldwork in Denmark, the authors discuss the implementation of data monitoring in psychiatric clinics with the objective of reducing the use of physical force to contain patients. Sensitive to the paradoxes of datafication, the authors provide a rich analysis of reconfigurations of expertise in psychiatric wards. Data monitoring both stimulates generative reflexions and prompts the staff to sidestep their own professional judgement. Engaging with the data produced in healthcare settings and contrasting them with actual clinical practices enables the authors to both nuance public narratives of failure and point to the limits of absolute numbers, which tend to neglect tacit knowledge and long-term experience necessary to decrease the use of physical force. They stress the need of nurturing clinical expertise and professional judgement, instead of simply complying with the demands for more data. Datafication ultimately remains a matter of governance, but observations of actual practices and reconfigurations of expertise is necessary to highlight the value of what escapes datafication.

In their Position Piece 'The Role of Affective Labour in Expertise: Bringing Emotions Back Into Expert Practices', Claudia Egher and Rik Wehrens analyse the relations between affective labour and expertise. As scholars with a background in STS, sharing conceptual affinities with critical theory and feminism, they suggest that affective labour, often invisible and devalued, plays an important role in how healthcare professionals develop expertise. Drawing on a vignette from their fieldwork in the Netherlands, which focused on AI to predict inpatient violence in two different psychiatric wards, they describe the importance of nurses' expertise for implementing the predictive algorithm. First, affective labour is essential in nurses' work practices when dealing with aggressive patients. By mobilising affective skills, nurses situate and contextualise predictive scores to evaluate what counts as aggressive behavior. They also sort out, reduce, and subtract information in order to make it meaningful. Second, datafication involves new actors towards which affective labour is turned: the

prediction model itself. Third, affective labour is itself a form of expertise emerging from skilful practices and experiences. The authors thus invite social scientists to address more clearly the role of affective labour in processes of digitalisation and datafication. Conversely, they argue that it is important to focus on how digitalisation and datafication processes affect professionals and reconfigure affective labour as a form of expertise.

The three papers show how new forms of expertise go hand in hand with complex negotiations about epistemic authority, paying particular attention to the boundary work performed. The papers describe the struggles around medical authority, for example the question of how affective labour or professional judgment should be valued in clinical contexts. Furthermore, they highlight that tracking apps, monitoring tools, and predictive algorithms may have severe consequences—not only in medical but also in social, economic and political terms.

Hierarchies of expertise

The final set of articles continues to examine the relationship between labour and expertise. Much of the labour that is essential for the functioning of digital technologies remains invisible and often does not count as expertise. Moreover, even if valued, different types of expertise may be hierarchised, for example in terms of knowledge vs. skill, thereby reinforcing longstanding power relations and fault lines of inequality. The papers we group under this section ask how digital data and technologies rely on, shape, or reconfigure hierarchies of expertise. How do they possibly redistribute authority between patients, medical professionals, intermediaries, technologies, professions, academic disciplines, or between the public and private sectors? What starts to count and is valued, and what remains invisible?

Similar to Claudia Egher and Rik Wehrens, Alan Petersen focuses on affective labour. In his Position Piece ‘Making Visible the Expertise of Data Workers in AI-Driven Healthcare: A Call to Action’, he pays attention to the invisible labour of data workers, which is central for platformised, AI-driven healthcare. Petersen makes clear that while health data is an increasingly valued commodity, this value can only be realised through the exercise of human labour. A growing proportion of data work is undertaken outside the clinic, often in non-public spaces, such as homes in poorer communities or the global South. It is highly skilled, comprising different activities, such as content moderation, data annotation, or scanning and sorting medical images. But data work is often invisibilised, and with it, data workers’ expertise. Additionally, the affective demands and health harms that go hand in hand with this work are neglected. While there have been instances of data workers unionising or filing lawsuits, Petersen calls for the involvement of the International Labour Organization to develop standards, policies, and programs to protect individuals.

The invisibilisation and devaluation of certain forms of labour and expertise is also the topic of Sandra Bärnreuther’s article ‘Recast(e)ing Medicine in India: Contested Hierarchies of Expertise in Digital Primary Care.’ In India, the introduction of digital health technologies in the primary care sector has been accompanied by task shifting to community health workers, who often come from marginalised communities. However, rather than fostering novel distributions of medical authority, this shift perpetuates the invisibility and undervaluation of their labour and expertise. Based on long-term fieldwork, Sandra Bärnreuther demonstrates how intersecting forms of

marginalisation—most prominently caste—underpin this dynamic, as medical authority in India has historically been closely tied to caste hierarchies. While digital technologies have allowed health workers from marginalised caste communities to access a previously inaccessible field as frontline workers, caste hierarchies inherent to the medical field continue to persist. This is evident in the division of labour justified through the distinction between 'professional knowledge' and 'technical skill'. The pervasive metaphors of doctors—and by extension the software—as the 'mind', and health workers as 'foot soldiers', reproduce caste-based hierarchies of expertise where privileged castes do knowledge work while marginalised castes literally do the footwork. Nevertheless, health workers themselves challenge these hierarchies, highlighting their creative contributions.

In his position piece, Tom Neumark addresses hierarchies of expertise between the Global South and North. He describes how his work with Tanzanian scientists and technologists experimenting with machine-learning techniques in the fields of health and medicine has triggered reflection about critical researchers' expertise and the implications of their analyses. While, in scholarly analyses, digital technologies are sometimes celebrated as technological innovation from the Global South, at other times they are criticised for leaving unchallenged the status quo in global health by depoliticising structural challenges. Instead of choosing one of the two options, Tom Neumark urges anthropologists to pause, embrace nuance, and cultivate a curiosity concerning their own judgments and commitments as a starting point for a politically engaged academic approach.

While digital data and technologies often evoke the hope of novelty or even radical transformation, the section shows that they are also inscribed in much older—and familiar—knowledge-power relations that govern our lives (Douglas-Jones, Walford and Seaver 2021). This is related to the marginalised positions of labourers in the digital health economy in terms of class, caste, or geographical situatedness. In many cases, colonial legacies and long-standing social inequalities reproduce hierarchies of expertise (e.g., between data workers and companies, community health workers and doctors, or the Global South and North) leading to the invisibilisation and devaluation of digital labour. Thus, processes of digitalisation and datafication often rely on and cement existing power relations and fault lines of inequality. Nevertheless, the articles also describe moments of resistance, such as unionisation, law suits, or alternative narratives about what counts as expertise.

Cross-Cutting Themes

Affective and Experiential Dimensions

Several contributions to this Special Issue touch on the affective and experiential dimension of expertise. Many aspects of our lives are being quantified and objectified (Ruckenstein and Schüll 2017; Ajana 2017), including our emotional and psychological lives, as evidenced by the rapid rise of mental health platforms and clinical applications (illustrated by Claudia Lang and by Klaus Høyer, Anne Høyen Munk, and Sarah Wadmann). More and more data on emotions are being collected, standardised, objectified, and utilised in the management of mental health. Nevertheless, the papers

also show how the metrification of the mind and the self risks devaluing affective and embodied forms of expertise by both patients and healthcare professionals.

Secondly, affective labour and expertise play a crucial role in producing 'good' data. For example, eliciting recollections of chemical exposures from study participants in order to characterise data in a better way, as illustrated in Nolwenn Bühler's piece; or situating what violent behavior means in psychiatric wards as discussed by Claudia Egher and Rik Wehrens. However, as Giada Danesi and Tanja Schneider note, affective labour is not only inherent to human interactions but also crucial for interactions between users and digital health technologies.

Finally, data produced and represented in digital platforms and applications have an impact on how people experience health and how they perceive themselves in relation to dominant standards. For example, how do users of digital technologies and data feel in relation to compliance or non-compliance with biomedical and social norms that underlie visual representations of healthy and sick bodies? As Giada Danesi and Tanja Schneider explore, the gamification of digital technologies may not only improve user experience, engagement and motivation, but also lead to annoyance, frustration, disappointment, or guilt.

Persisting Inequalities

The devaluation of affect and lived experience underscores that, despite shifts in health-related expertise, longstanding inequalities are often reinforced—a key theme explored in several contributions to this Special Issue. Moreover, these transformations may also give rise to new forms of exclusions and reshape hierarchies in unexpected ways, for example within and between different professional spheres. In the healthcare sector, new actors such as software engineers or designers are gaining unprecedented influence over the medical field, as Claudia Lang shows with regard to mental health. Simultaneously, the long-term experience and tacit knowledge of health workers—along with the often underappreciated care work they provide—are frequently sidelined, as discussed by Nolwenn Bühler and Klaus Høyer, Anne Høyen Munk, and Sarah Wadmann.

However, it is noteworthy that digital expertise per se is not always valued. Several papers show that labour involved in processes of datafication, including designing, operating, and maintaining digital infrastructures and technologies, is often overlooked. The authors emphasise the roles of digital labourers and their specialised expertise, spanning a diverse range of professions, such as software engineers and designers, community health workers and nurses, or content moderators and data annotators. Particularly the labour of operating and maintaining digital technologies is frequently invisiblised and the concomitant expertise devalued. As illustrated by Sandra Bärnreuther and Alan Petersen, this form of digital labour is often carried out by marginalised groups with regard to geographical location, class, or caste. Although their expertise is necessary for realising data as a valuable commodity, those performing this labour rarely receive adequate recognition or compensation. Hence, despite the often-raised claim that digital technologies will lead to a democratisation of expertise, technologies themselves may cement existing power structures or even create new forms of exclusion. However, Sandra Bärnreuther also highlights resistance in terms of contestations and alternative narratives about expertise brought forth by marginalised health workers in India. This urges us to closely examine the

nuances of negotiations around expertise and also reflect on anthropologists' own judgments and commitments.

Anthropological Expertise

As researchers we study the production, circulation, and uses of digital technologies and data. However, it becomes more and more challenging to pretend that we are not ourselves concerned by them. Digitalisation and datafication processes deeply affect our own positionality and anthropological expertise. This paradox is exemplified by Klaus Høyer, Anne Høyen Munk and Sarah Wadmann's contribution: the authors need to use data produced in the health services to make their argument, while also keeping a critical stance and pointing to what data misses, erases, or makes invisible. How to keep a fine balance between critical perspectives and ones that are sensitive to 'matters of care' (Bellacasa 2011) is not a new concern. Tom Neumark's piece makes this point quite clear, when he describes the different kinds of narratives about the politics of digitalisation and datafication that researchers produce. He reflects on the complexity of being both constructive and critical and being attuned to the way we, as scholars, make our own implicit judgments about what is 'good' and 'bad,' echoing Haraway's calls to reflect on response-ability processes. We hope that this Special Issue opens up new avenues for reflexivity and engagement with different modes of expertise, including scholarly expertise, for example by paying attention to the situated practices and contexts in which anthropological expertise is produced, performed, contested, translated and negotiated in a digital age.

Biographies

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