ENCODING CARE IN CASEWORK

The Role of Data in Asylum Decision-making
from a Practice Perspective

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Cover photo: A photo taken during my ethnographic fieldwork at a departure center in Denmark. In the photo, I am capturing an image with my phone through a glass door, which is the entrance to the office corridor in the building where a Red Cross care team operates. The barracks reflected in the glass door are the residences of the individuals staying at the center.

Back photo: A Red Cross office corridor at a departure center in Denmark.

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Summary

The process of granting asylum in Denmark relies on a concrete and individual risk assessment by asylum authorities. Moreover, it depends on the individual's ability to present a valid asylum motive, supported by documents and objects deemed "credible" by the authorities and aligned with the legal categorization of a "refugee." As part of this process, there is an increasing expectation that data and large-scale datasets can be transformed into knowledge instrumental for researchers, asylum authorities, and NGOs, either as part of their practice in determining asylum eligibility or for gaining deeper insights into and enhancing asylum decision-making processes. However, data and datasets are simplifications of the world. Therefore, understanding the role of data in asylum decision-making necessitates in-depth, situated investigations into the technologies, individuals, practices, settings, regulations, and politics involved in the construction and interpretation of data representing individuals applying for asylum.

This dissertation is grounded in the research fields Computer-Supported Cooperative Work (CSCW), Critical Data Studies, and draws on principles from Data Feminism. By adopting a socio-technical lens, I qualitatively explore the theoretical concept of "data work" within an asylum casework context. I draw inspiration from a multi-sited approach to ethnography with the aim of understanding the reality that caseworkers model when constructing data informing asylum cases. I shed light on relational aspects of data production, such as care, from a caseworker's perspective, spanning NGO and authority levels. This includes Red Cross caseworkers at a departure center, the Danish Refugee Council's legal team, and Immigration Service caseworkers. The main theoretical contribution of this dissertation lies in expanding the concept of data work to include aspects of care.

First, I find that caseworkers' data work, defined by the production, contextualization, interpretation, and leveraging of data, plays a pivotal role in shaping how the "asylum seeker" is construed in and through data. Streams of data, which come to represent the individual applying for asylum, are produced, interpreted, and categorized by caseworkers and influenced through various steps of translation work and discretionary practices across NGO and authority levels. In this context, I find that existing categories cannot always capture the intricate and complex social realities of individuals applying for asylum or those who have been rejected. Therefore, it is crucial to challenge and explore the relational aspects of casework that underlie how the "asylum seeker" is construed in and through data. Furthermore, the significance lies in

the fact that these data turn into large-scale datasets that come to mirror and perpetuate a specific reality or a "ground truth" when data science techniques are applied. This happens as researchers, asylum authorities, and NGOs increasingly utilize and analyze datasets, aiming to gain deeper insights and enhance asylum decision-making processes.

Second, I find that the Danish asylum system consists of intricate data infrastructures maintained by the social practices of work, as well as the physical and material systems and databases established through relational processes and political negotiations at both authority and NGO levels. Caseworkers, spanning these levels, exist within different work settings and situations, each with distinct responsibilities and perspectives. However, they share a goal to better understand and support individuals applying for asylum while ensuring legal compliance. The empirical data presented in this dissertation show how data about asylum seekers produced by both authorities and NGOs flow into and intersect multiple casework systems.

Third, I find that relational aspects of care in casework, encompassing moments of ambivalence, translation work, and attentiveness to "new substantial information" in some cases become indispensable in mitigating the limitations or potential shortcomings present in the formal procedural data-driven approaches. I find that individuals applying for asylum need caseworkers' translation to understand the process and draw up a map of the asylum system's many opaque and complex bureaucratic rules and data-driven procedures. My findings exemplify how it is imperative to examine these less apparent "situated actions" before introducing data-science methodologies into asylum casework. This is important because overlooking these informal discretionary work practices, potentially influential in data construction, can impact data quality and consequently result in an asylum case not being sufficiently documented.

Finally, I find that it adds greater complexity to the asylum process when authorities incorporate new data infrastructures, such as extracting data from asylum seekers' mobile phones, into their daily decision-making practices in an opaque and unsystematic manner. This, in turn, exacerbates challenges related to the agency and accountability of individuals seeking asylum. Altogether, I find that there is a greater need for transparency and collaboration across authority and NGO levels. This is important to ensure that individuals applying for asylum receive fundamental legal support throughout and after the introduction of new data infrastructures. In this context, I argue for a systematic approach to data literacy. However, I find lingering ambiguity among authorities and NGOs regarding the responsibility for

supporting data infrastructure literacy initiative to empower asylum seekers in exercising their legal and human rights.

In Part I, I first introduce the four overarching research questions that guide this dissertation. Second, I provide a brief presentation of the asylum procedure, the legal basis for granted asylum, and the various categories of residence permits in a Danish context, followed by a succinct overview of the asylum authorities and procedures in Sweden and Norway. Third, I introduce the theoretical positioning within this dissertation, followed by a description of the methods I used. This includes presenting the main research sites of the project and outlining the methods employed to gather empirical data for analysis and achieve empirical saturation. Lastly, I present the overall contributions and findings of this dissertation. Part II comprises four research papers (two published, and two submitted), each delving into a distinct topic related to the overarching research questions of this dissertation.

Sammenfatning

Processen med at tildele asyl i Danmark er baseret på en konkret og individuel risikovurdering foretaget af asylmyndighederne. Derudover er vurderingen baseret på den enkeltes evne til at præsentere et gyldigt asylmotiv, understøttet af dokumenter og genstande, som myndighederne anser for "troværdige" og i overensstemmelse med den juridiske kategorisering af en "flygtning". I denne kontekst er der en stigende forventning om, at data og store datasæt kan omdannes til viden, der er nyttig for forskere, asylmyndigheder og NGO'er, enten som en del af deres praksis med at fastlægge asylberettigelse eller for at opnå dybere indsigt i og forbedre asylbeslutningsprocesserne. Men data og datasæt er forenklinger af verden. Så for at forstå datas rolle i asylbeslutningsprocessen, kræver det dybdegående, stedsspecifikke undersøgelser af de teknologier, individer, praksisser, indstillinger, regler og politikker, der er involveret i konstruktionen og fortolkningen af data, der repræsenterer personer, der søger asyl.

Denne afhandling er forankret i forskningsfelterne Computer-Supported Cooperative Work (CSCW), Critical Data Studies og trækker på principper fra Data Feminism. Ved at anvende en socio-teknisk tilgang udforsker jeg kvalitativt det teoretiske begreb "dataarbejde" inden for rammerne af asylsagsbehandling. Jeg henter inspiration fra en multi-sited-tilgang til etnografi med det formål at forstå den virkelighed, sagsbehandlerne modellerer, når de konstruerer data, der informerer asylsager. Jeg kaster lys over relationelle aspekter af dataproduktion, såsom omsorg, set fra sagsbehandlerens perspektiv, der strækker sig over NGO- og myndighedsniveauer. Dette inkluderer Røde Kors' medarbejdere på et udrejsecenter, Dansk Flygtningehjælps juridiske team og sagsbehandlere fra Udlændingestyrelsen. Det vigtigste teoretiske bidrag fra denne afhandling ligger i at udvide begrebet dataarbejde til at inkludere aspekter af omsorg.

For det første finder jeg, at sagsbehandlernes dataarbejde spiller en afgørende rolle for, hvordan "asylansøgeren" konstrueres i og gennem data. Datastrømme, der kommer til at repræsentere personen, der søger asyl, produceres, fortolkes og kategoriseres af sagsbehandlerne og påvirkes gennem forskellige trin af oversættelsesarbejde og skønsmæssige praksisser på tværs af NGO- og myndighedsniveauer. I denne kontekst finder jeg, at eksisterende kategorier ikke altid kan fange de komplekse sociale virkeligheder for personer, der søger asyl eller dem, der er blevet afvist. Derfor er det afgørende at udfordre og udforske de relationelle aspekter af sagsbehandlingen, der ligger til grund for, hvordan "asylansøgeren" konstrueres i og gennem data. Desuden ligger betydningen i, at disse data bliver til store

datasæt, der kommer til at afspejle og opretholde en specifik virkelighed eller en "ground truth", når data science-teknikker anvendes. Dette sker, når forskere, asylmyndigheder og NGO'er i stigende grad bruger og analyserer dem med det formål at opnå dybere indsigt og forbedre asylbeslutningsprocesserne.

For det andet finder jeg, at det danske asylsystem består af komplekse datainfrastrukturer, der opretholdes af sociale praksisser, såvel som fysiske og materielle systemer og databaser, etableret gennem relationelle processer og politiske forhandlinger på både myndigheds- og NGO-niveau. Sagsbehandlere, der strækker sig over disse niveauer, eksisterer inden for forskellige arbejdsmiljøer og situationer, hver med distinkte ansvarsområder og perspektiver, men med et fælles mål, nemlig at forstå og støtte personer, der søger asyl, samtidig med de skal sikre overholdelse af lovgivningen. De empiriske data, der præsenteres i denne afhandling, viser, hvordan data om asylansøgere produceret af alle fire aktører, flyder ind i og krydser på tværs af flere sagsbehandlingssystemer.

For det tredje finder jeg, at relationelle aspekter af omsorg i sagsbehandlingen omfatter øjeblikke af ambivalens, oversættelsesarbejde og opmærksomhed på "nye væsentlige oplysninger", i nogle tilfælde bliver uundværlige for at afbøde begrænsningerne eller potentielle mangler i de formelle procedureorienterede datadrevne tilgange. Jeg finder, at personer, der søger asyl, har brug for sagsbehandleres oversættelse for at fastlægge rammerne og udarbejde et kort over asylsystemets mange uigennemsigtige og komplekse bureaukratiske regler og datadrevne procedurer. Mine resultater illustrerer, hvordan det er afgørende at undersøge disse mindre åbenlyse "situerede handlinger", før man introducerer data science-metodologier i asylsagsbehandling. Dette er vigtigt, fordi overseelse af disse uformelle skønsmæssige arbejdspraksisser, potentielt indflydelsesrige på datakonstruktion, kan det påvirke datakvaliteten og potentielt resultere i, at en asylsag ikke er tilstrækkeligt dokumenteret.

For det fjerde, når myndigheder inkorporerer nye datainfrastrukturer, såsom udlæsning af data fra asylansøgeres mobiltelefoner, i deres daglige beslutningspraksis på en uigennemsigtig og usystematisk måde, finder jeg, at det tilføjer større kompleksitet til asylprocessen. Dette forværrer udfordringer i forhold til asylansøgernes agens og ansvarlighed. Alt i alt finder jeg, at der er et større behov for gennemsigtighed og samarbejde på tværs af myndigheds- og NGO-niveauer. Dette er vigtigt for at sikre, at personer, der søger asyl, modtager grundlæggende juridisk støtte før, under og efter indførelsen af nye datainfrastrukturer. I denne sammenhæng argumenterer jeg for en systematisk tilgang til data forståelse (data literacy). Imidlertid finder

jeg, at der er tvivl blandt myndigheder og NGO'er i forhold til ansvaret for at støtte initiativer inden for data forståelse (data literacy), med det formål at styrke asylansøgere i udøvelsen af deres juridiske- såvel som menneskerettigheder.

I Del I præsenterer jeg først de fire overordnede forskningsspørgsmål, der guider denne afhandling. For det andet giver jeg en kort præsentation af asylproceduren, det juridiske grundlag for at blive tildelt asyl og de forskellige kategorier af opholdstilladelser i en dansk kontekst, efterfulgt af en kort oversigt over asylmyndigheder og procedurer i Sverige og Norge. For det tredje introducerer jeg min teoretiske positionering i denne afhandling, efterfulgt af en beskrivelse af de metoder, jeg har anvendt. Dette inkluderer en præsentation af de vigtigste forskningssteder i projektet og en oversigt over de metoder, der er brugt til at indsamle empiriske data til analyse og opnå empirisk mætning. Endelig præsenterer jeg de overordnede bidrag og resultater af denne afhandling. Del II omfatter fire forskningsartikler (to publicerede og to indsendte), der hver dykker ned i et særskilt emne relateret til de overordnede forskningsspørgsmål i denne afhandling.

PART I: INTRODUCTION COVER

PART II: RESEARCH PAPERS

This dissertation is based on the following research papers:

Paper no. 1:

Trine Rask Nielsen and Naja Holten Møller, (2022): Data as a Lens for Understanding what Constitutes Credibility in Asylum Decision-making. Proc. ACM Hum.-Comput. Interact. 6, GROUP (January 2022), 1–23. DOI:https://doi.org/10.1145/3492825

Paper no. 2:

Trine Rask Nielsen, Maria Menendez-Blanco, and Naja Holten Møller. 2023. Who Cares About Data? Ambivalence, Translation, and Attentiveness in Asylum Casework. Comput Supported Coop Work (June 2023). DOI:https://doi.org/10.1007/s10606-023-09474-7

Paper no. 3:

Trine Rask Nielsen, Thomas Gammeltoft-Hansen, and Naja Holten Møller. Mobile Phone Data Transforming Casework in Asylum Decision-making. *Submitted to the ACM Journal on Responsible Computing.*

Paper no. 4:

Naja Holten Møller, Vasilis Vlachokyriakos, Trine Rask Nielsen, Ioannis Efthymiou, Tina Westergaard Milbak, Kristin Kaltenhäuser, Tijs Slaats, and Paul Dourish (2023). Probing Democratic Dialogue with and through Asylum Case Data. *Submitted for CHI24, The ACM (Association of Computing Machinery) CHI conference on Human Factors in Computing Systems.*

PART I: INTRODUCTION COVER

"[I]f care practices are not carefully attended to, there is a risk that they will be eroded. If they are only talked about in terms that are not appropriate to their specificities, they will be submitted to rules and regulations that are alien to them. This threatens to take the heart out of care – and along with this not just its kindness but also its effectiveness, its tenacity and its strength."

(Mol, Moser, and Pols 2010, 7)

1. Introduction

The granting of asylum in Denmark relies on a concrete and individual risk assessment of all information in the case, as well as the individual's ability to present what the asylum authorities determine to be a "credible" asylum motive that aligns with the legal categorization of a "refugee." (Rask Nielsen and Holten Møller 2022). Individuals must provide to asylum authorities the "documents and objects that may be assumed to be of importance for the establishment of an alien's identity or ties with other countries" (Ministry of Immigration and Integration 2019). In this process, streams of data representing the lives of individuals applying for asylum are continuously being produced and stored as large-scale datasets. These data form the basis for asylum caseworkers to assess what they refer to as "credibility" (Rask Nielsen and Holten Møller 2022).

In various domains, including asylum and migration, casework is incrementally transforming due to datafication (Eubanks 2017; Saxena et al. 2021; Ammitzbøll Flügge, Hildebrandt, and Møller 2021; Saxena 2023; Hamilton Byrne et al. 2023). This transformation is exerting pressure on the discretionary components of casework (Petersen, Christensen, and Hildebrandt 2020; Ammitzbøll Flügge, Hildebrandt, and Møller 2021; N. L. Holten Møller, Fitzpatrick, and Le Dantec 2019), such as care. In this dissertation, I explore care as a relational aspect of casework in which "bodies, knowledge and technology are attuned to one another in a way that takes the unaccountable into account, that is attentive to the indeterminate" (Mol, Moser, and Pols 2010, 82). Asylum casework is a socio-technical process and as such a practice closely tied to legal rules, guidelines and institutional procedures and practices. However, within that framework, there is also a certain room for discretion, both in terms of how different data are handled in the legal process and in terms of what data are produced in relation to individual cases.

Previous studies have examined asylum caseworkers' practice with an emphasis on understanding the discretionary and subjective aspects of their assessments concerning the credibility of asylum motives. These studies have highlighted various issues, including bias and stereotyping (Marouf 2010; Millbank 2009; Herlihy, Gleeson, and Turner 2010), gender dynamics (Millbank 2003; Indra 2008), and the level of social and cultural recognition between the caseworker and the individual applying for asylum (Montgomery 2005), to name a few.

From a Computer-Supported Cooperative Work (CSCW) perspective, my dissertation contributes to previous studies on the concept of credibility by qualitatively investigating how data are part and parcel of the discretionary work practices that produce the data in the first place. Following Schmidt and Bannon (2013), I define "practice" as "whatever needs to be done, under current conditions, to transform some normative construct ('plan', 'procedure', etc.) into contingent action" (p. 349). In this context, Orlikowski (2007) remind us how practice is shaped by technology and data, and vice versa. The objective of this dissertation is to shift the attention towards the various socio-technical practices involved in producing and utilizing data about individuals applying for asylum, rather than solely delineating the characteristics of the data itself. This particular type of work, theoretically known as "data work," is commonly understood as the process of labeling and modeling data by data scientists to arrive at a "ground truth" (Muller and Strohmayer 2022). In CSCW the concept of data work has broadened to encompass the tasks performed by non-data scientists (Bossen et al. 2019; Møller et al. 2020), such as caseworkers. Taking a caseworker's perspective, this dissertation demonstrates how caseworkers at both the authority and NGO levels play a pivotal role in contextualizing, interpreting, and categorizing data to assess the credibility of asylum claims and thus ensure that an asylum case is thoroughly documented (Nielsen, Menendez-Blanco, and Møller 2023). This suggests that the "ground truth" embedded in these datasets is influenced by caseworkers in their selection and curation of data that comes to represent individuals enrolled in the asylum system.

Bhandari et al. (2022) highlight the importance of understanding multiple stakeholders' perspectives when designing new technologies to support individuals applying for asylum. While there is a rich body of CSCW studies focusing on refugee and asylum seeker perspectives (Fisher 2022; Krüger et al. 2021; Talhouk et al. 2019; A. Almohamed, Zhang, and Vyas 2020; Weibert et al. 2019; Steinbrink et al. 2021; A. H. A. Almohamed, Talhouk, and Vyas 2022), there have been relatively few workplace studies that explicitly focus on the role of data in asylum decision-making from the perspective of caseworkers. Few studies "provide detailed insight into the concepts and premises the underlie what [asylum caseworkers] do – but that they are often unaware of" (Forsythe 1999, 129). The dynamics and challenges caseworkers experience when managing novel sources of data to inform asylum decisions are an under-explored aspect of the asylum system.

With its interdisciplinary nature, aiming to bridge the gap between ethnography and design (Schmidt and Bannon 1992), CSCW provides a valuable lens for comprehending the complexities involved in asylum data work from a caseworker's perspective. Recognizing and understanding the relational aspects of care within casework ensures that this discretionary form of work is duly considered when designing new casework systems and other technologies intended support the asylum domain.

In the search for "ground truth," data-science approaches to migration management are progressively emerging and undergoing experimentation (Molnar 2019; Petra Molnar and Lex Gill 2018; Hamilton Byrne et al. 2023), in turn transforming asylum casework. This dissertation shows how integrating novel data sources such as data from social media and location data into asylum casework has led to a greater complexity and distribution of the asylum process, which exacerbates issues pertaining to the agency and accountability of individuals seeking asylum (Rask Nielsen and Holten Møller 2022; Nielsen, Menendez-Blanco, and Møller 2023).

In 2021, the Danish government presented a bill concerning the relocation of asylum seekers to a third country for the purpose of processing asylum cases and potential subsequent protection—so long as such action does not contradict Denmark's international obligations. Considering international acknowledgment, including by the Danish government (Udlændinge- og Integrationsministeriet and Udenrigsminsteriet 2021), that the asylum system "no longer works" (The European Union 2000), this PhD research investigates critical aspects of data work to consider for designing data infrastructures responsibly. This involves ensuring that individuals enrolled in the asylum system are not reduced to being treated as data subjects as authorities and NGOs explore and implement new types of data and data-science approaches in the management of asylum and migration. By shedding light on the role of data and the relational aspects of data work from a practice perspective, this PhD project thus carries notable implications for government authorities and policymakers.

This PhD research builds upon the foundation laid by the research project "Data Science for Asylum Legal Landscaping" (DATA4ALL),[1] an interdisciplinary project across Computer

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[1] https://asylumdata.ku.dk/research/data-science-for-asylum-legal-landscaping-data4all/

Science and Law. In this interdisciplinary context, the clash of epistemological commitments is anticipated as an integral aspect of the collaborative process (Møller and Cohn 2023). Each discipline carries its own set of epistemological frameworks for understanding and interpreting data and datasets. However, recognizing and engaging in an open dialogue about these epistemological variations is crucial for fostering interdisciplinary collaboration, ultimately contributing to a more comprehensive understanding of the role of data in asylum decision-making.

DATA4ALL commenced its journey in September 2020 on the same day I started as a newly hatched PhD fellow. The aim for DATA4ALL is to investigate outcome variations in asylum decisions across Nordic countries, which is a fundamental puzzle in refugee research (Anker and Muller 2007; Ramji-Nogales et al. 2009). Although national asylum laws are bound by international regulations, the chance of receiving asylum for individuals from the same country of origin varies significantly across countries (Goodwin-Gill and Lambert 2010; Guild 2016). Ramji-Nogales et al. (2009) have named this phenomenon "Roulette Roulette" as they found significant variance between US judges within the same court in their studies. Similarly, Rehaag (2012) has described asylum decision-making in Canada as the "luck of the draw". Asylum decision-making disparities are acknowledged as a central issue; however, previous studies on this phenomenon have been limited in number and scope and as a result, these variations remain unclear.

The DATA4ALL project utilizes data science techniques to analyze large-scale asylum datasets with the purpose of understanding these outcome variations in asylum decisions across Nordic countries (Hamilton Byrne et al. 2023; Katsikouli et al. 2022; Kaltenhäuser et al. 2022; Piccolo et al. 2023). Another ambition of this research project is to pave the way for policy interventions at both the Nordic and EU levels.

Formally, the data used for asylum decision-making in Denmark are primarily produced by two instances: 1) the Danish Immigration Service (DIS), and 2) the Danish Refugee Appeals Board (RAB). If the individual applying for asylum receives a rejection from the DIS (the first instance), the case is automatically appealed to the RAB (the second instance). This dissertation is particularly shaped by two large-scale asylum datasets available for analysis within the

DATA4ALL project. One of them is the RAB's public dataset[2] (from here on referred to as Dataset 1), which at that the beginning of this PhD project consisted of approximately 8,000 decisions on asylum applications initially rejected during the period 2003-2020 by the first asylum instance, the DIS. The other dataset is non-public (from now on referred to as Dataset 2), and comprises around 30,000 files, including judicial decisions, procedural histories, documents, and interview transcripts between, for example, DIS caseworkers and asylum seekers.

As part of the interdisciplinary research project DATA4ALL, my curiosity and motivation was sparked by the data production process underlying these datasets. For me, this type of investigation entailed situating these large-scale datasets in context (D'Ignazio and Klein 2020), including understanding the individuals, environments, and circumstances that facilitate their creation as well as who and which data are excluded in the two datasets.

This dissertation is an ethnography of data's role in asylum casework. I qualitatively explore aspects of data work (Møller et al. 2020) and material data infrastructures (e.g., casework systems and the asylum application form) that collectively influence the production of data included in Dataset 1 and 2. As this is a bidirectional process, I also investigate how data and datasets in turn influence casework and material data infrastructures. By adopting a socio-technical lens (Leonardi 2012) to examine data practices as performative, I approach the study of casework by ethnographically investigating how various asylum stakeholders enact aspects of asylum data work (Scheel, Ruppert, and Ustek-Spilda 2019) within their natural work settings and how they actively contribute to the production of Dataset 1 and 2. Thus, this dissertation emphasizes the importance of studying "the actual 'doing' of work: work in the raw, how it is done in actual practice, as opposed to work in some idealised or theorised form" (David Randall, Rouncefield, and Tolmie 2021, 209), which leads to the first overall research question guiding this dissertation:

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[2] https://fln.dk/da/Praksis

RQ1: How is the "asylum seeker" construed in and through data that become part of large datasets on legal practice?

The value of Dataset 1 and 2 became apparent to me as I gained insight into the role of data in asylum casework by reading and analyzing empirical data from included case files. One of the foundational aspects of the DATA4ALL research project was qualitative investigation; that is, understanding the local knowledge necessary to grasp how power operates within Datasets 1 and 2 before proceeding to quantitative data exploration. Other scholars have highlighted the risk of projects turning into "Big Dick Data" projects—a "a formal, academic term" coined by D'Ignazio and Klein "to denote big data projects … that ignore context, fetishize size, and inflate their technical and scientific capabilities" (p. 151). Alternatively, CSCW scholars can play a critical role in scrutinizing how asylum caseworkers, as the "human contribution to the dataset" (Muller et al. 2021, 2), assign value to data, thereby contributing to understanding the impact of the data (of Dataset 1 and 2) on asylum casework, as well as promoting responsible design and use of data and datasets. After all, datasets are neither neutral nor objective (Irani et al. 2010; Kitchin 2014; Pine and Liboiron 2015; Winner 1980). Indeed, if scholars fail to "remember" (Strohmayer and Muller 2023) that these data contain inherent biases as well as data gaps (Criado-Perez 2019), and mistakenly interpret datasets to accurately represent a situation, such misconceptions can lead to "data harm" (Redden, Brand, and Terzieva 2020; Garcia et al. 2020). Such harm particularly impacts those who have been marginalized or omitted from the scope of these large-scale datasets.

As a newcomer, and thus a "stranger" (Dave Randall, Harper, and Rouncefield 2007) to the asylum domain, it became evident to me that, in order to understand the everyday practices of producing case data that have a significant impact on how an asylum seeker "is made up" (Ruppert and Scheel 2021, 11), these datasets required a much more comprehensive and embodied investigation. I wanted my PhD project to focus on small data rather than big. Why? Because "big does not automatically mean better" (Zook et al. 2017, 4) and because "[c]lean, complete, and consistent datasets – as every data analyst knows – are a theoretical fantasy. Outside of theory, data is often inconsistent and incomplete" (Passi and Jackson 2017, 8). I recognize that the case files within these large-scale datasets do not provide the complete narrative (Neff et al. 2017). Rather, to grasp the depth and richness inherent in the production and interpretation of asylum data, and to comprehend the intricate and sensitive reality

encapsulated within Dataset 1 and 2, I realized the importance of positioning myself within the politicized, cultural, and bureaucratic context of their creation and interpretation. I adopted an in-depth ethnographic approach (Blomberg and Karasti 2013; Dave Randall, Harper, and Rouncefield 2007; Forsythe 1999) to examine the practices shaping the ways in which the "asylum seeker" is construed in and through data from the perspective of caseworkers across authority and NGO levels.

Three primary research sites allowed me to generate small—and rich—ground-up empirical data, providing unique insights into the everyday practices involved in producing the case data that eventually becomes large datasets. I recognize that any research project "involves making choices about whose voices and whose work to include and whose voices and work to omit" (D'Ignazio and Klein 2020, 19), and therefore that the decisions I made when constructing and interacting with my research sites were integral to both the process and outcomes of this dissertation (Le Dantec and Fox 2015). Feminist scholarship (Hill Collins and Bilge 2020; Haraway 1988; Hochschild 2012) highlights the importance of considering various viewpoints and experiences from different stakeholders (including the researcher herself). Data Feminism (D'Ignazio and Klein 2020) likewise emphasizes investigating power from multiple perspectives the differentials embedded in datasets and data-driven systems, starting from the standpoint of the margins. Gilliom (2001) argues that "the most effective means of uncovering the nature of hierarchical surveillance is to give voice to those at 'ground zero'" (p. 201).

For me, this meant that I negotiated access to start my ethnographic journey at a departure center, following the work of a Red Cross (RC) care team. A departure center primarily intended for individuals who have been rejected asylum; those who have exhausted all avenues of appeal and may be resisting their departure for various reasons. I had never been to such a place and had little to no idea of what I was about to experience. Throughout a longer period, I followed the work of a RC care team, whose job is to support individuals in better understanding and navigating their highly vulnerable situations given their legal status and circumstances.

Over the past three years, I have explored how the "asylum seeker" is construed in and through data across multiple research sites, both sequentially and in parallel. In addition to the RC, I negotiated access to follow the work of the Danish Refugee Council's (DRC) legal team for a longer period of time (see table 1) and to conduct interviews with caseworkers working in the Danish Immigration Service (DIS). As a result, this dissertation aims to center the

perspectives of asylum caseworkers at both NGO and authority levels, including the RC's caseworkers at a departure center, the DRC's legal team, the DIS caseworkers operating from the main Danish asylum reception center, and the RAB.

The empirical data presented in this dissertation show how data about asylum seekers produced by all four actors flows into and intersects multiple casework systems. Since their data work can play a pivotal role in shaping asylum cases, I collectively refer to these four asylum actors as "caseworkers." All four asylum actors produce data that construe the asylum seeker category. Moreover, all four organizations are officially part of the Danish asylum system. For example, the RC operates at asylum centers on behalf of the DIS, and the DRC is designated in the Danish Alien Act to handle specific aspects of asylum case processing and to provide general legal advice to asylum seekers. This leads me to the second research question of this dissertation:

RQ2: What are the socio-technical infrastructures shaping stakeholders' usage of data about the individual asylum seeker?

With a particular focus on data and the relational aspects of data work, this dissertation represents an attempt to critically investigate and question the organization and implementation of data infrastructures within the asylum system. Studying the asylum system as an information infrastructure enables us to question both the ways in which processes within this system are organized and carried out, as well as the role of technology in these processes. As new infrastructures become deeply ingrained and accepted as the norm in the contexts where they are applied, it is important that we better understand them (Bowker and Star 2000).

I investigate the Danish asylum system as a heterogeneous network (Latour 1996). My aim, following Bowker and Star (2000), is to understand how classifications and standards systematize data about asylum seekers and what relational data work, including invisible work (Star and Strauss 1999), is required for classifications and standards to function. Additionally, I place special emphasis on examples of cases that do not effortlessly fit within the system and its categorizations. To understand how everyday asylum data infrastructures are organized and enacted by caseworkers across multiple settings, I have over the past three years underscored the significance of understanding both social and relational complexity, including the interweaving of people, technology, and politics. These are the socio-technical infrastructures

that make possible the systemization and categorization of data about asylum seekers' cases, which populate large-scale datasets.
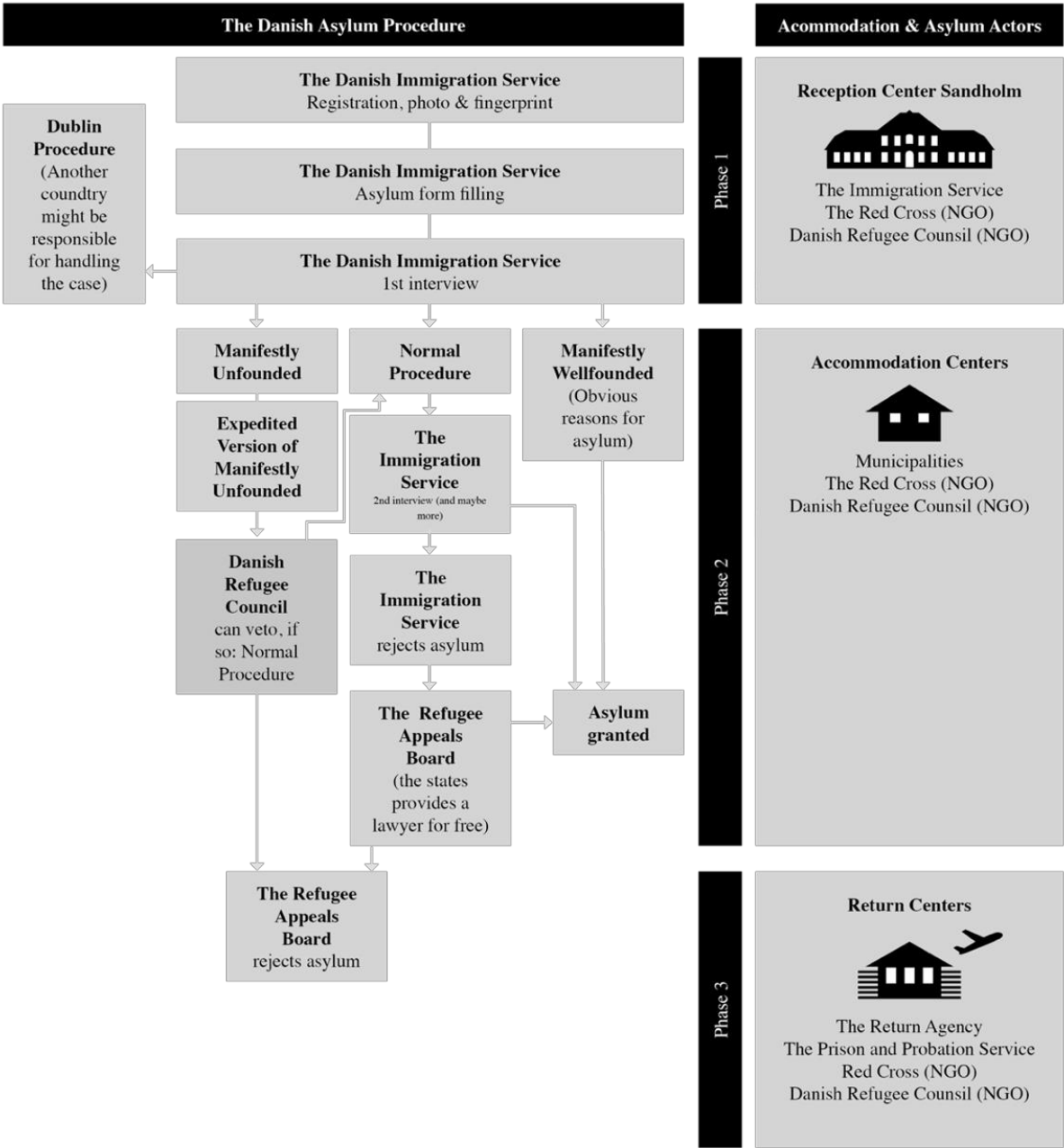
Figure 1: An illustration from paper 1 (Nielsen, Menendez-Blanco, and Møller 2023) of the (simple and linear) steps and sequences of the Danish standardized asylum procedure, including the main asylum actors and settings.

This dissertation shows how the Danish asylum system comprises complex infrastructures sustained by both "the social practice of work and the physical and material systems and databases of work" (paper 4, 15), which are established through relational processes and

political negotiations at both authority and NGO levels. Figure 1 illustrates the simple, linear, and visible steps and sequences of the Danish standardized asylum procedure, including the main asylum caseworkers and settings. This is a figure from paper 2 (Nielsen, Menendez-Blanco, and Møller 2023). Both the authority and NGO levels exist within different work settings and situations, each with distinct responsibilities and perspectives. The findings of this dissertation demonstrate how they interact and mutually depend on each other during the process of producing, interpreting, and curating data about asylum seekers. The empirical data presented in this dissertation show how "data is not simply composed out of relations, but is a relation itself" (Walford 2017, 1). These findings make it evident that the production of data does not occur in isolation. Instead, it is the result of ongoing relational data work, involving "all sorts of associations, articulations, connections, and negotiations" (Ibid, p. 15) across authority and NGO levels. This kind of discretionary and relational data work is often undervalued as caseworkers' tasks change due to digitalization (Eubanks 2017). This leads me to the third overarching research question guiding this dissertation:

RQ3: Why are relational aspects of care in data work important to the production of quality data in asylum casework?

Since "it takes work to make data work" (Passi and Jackson 2017, 2), investigations of the relational aspects that make data work should focus not only on understanding the plan, but also its connection with "situated actions," a term introduced by Suchman (1987). Suchman emphasizes that "every course of action depends in essential ways upon its material and social circumstances" (p. 50). This dissertation explores the connections between formal and informal asylum practices, shedding light on the often less visible situated socio-technical procedures and workarounds involved in the production and utilization of data.

Individuals enrolled within the Danish asylum system are not merely a summation of the categories formulated around them. Their life experiences and circumstances do not neatly fit into one or another broadly defined category, such as "rejected asylum seeker" or "refugee." Ground-up data production, as theorized by D'Ignazio and Klein (2020), underscores the importance of not merely relying on large datasets but equally engaging with qualitative small questions to foster comprehensive data sense-making. Consequently, the smaller ground-up empirical data I have assembled over the past three years have been intended to serve as a first

attempt to investigate the role of data in asylum caseworkers' decision-making processes. My focus has been on how caseworkers model "truth" and assess the credibility of asylum claims, thereby emphasizing the relational and discretionary aspects of casework—that are tied to legal rules, guidelines and institutional procedures and practices.

As an asylum seeker, you may have unequal access to knowledge and information about the asylum system if you are unfamiliar with how the asylum data infrastructure functions. Addressing the limitations inherent in formal procedural data-driven caseworker systems and processes, the empirical data narratives presented in this dissertation underscore the paramount significance of the relational aspects of data work in achieving data quality—in this case, the data that make an asylum case sufficiently documented according to legal principles (Nielsen, Menendez-Blanco, and Møller 2023). This dissertation sheds light on how various locations and actors play significant roles in the processes of constructing the data that inform asylum cases. These actors and locations extend beyond the DIS caseworkers and the formal asylum interview setting, involving a network of individuals and places that potentially contribute to the production and interpretation of data about asylum seekers. In other words, this dissertation makes visible the coexistence of the relational data work that takes place between authorities and NGOs.

During my time spend at the departure center, I gained rich contextual insights into how RC caseworkers can play a pivotal role in providing support and care to individuals whose asylum claims have been denied. The findings of this dissertation show how relational aspects of casework "can impact data quality in important ways, including shaping what data about the applicant are being produced and how they are shared across authorities and NGOs and used to construct asylum case documentation" (Nielsen, Menendez-Blanco, and Møller 2023, 5). Thus, this dissertation sheds light on how invisible collaborative efforts, like the coordination and articulation work (Schmidt and Bannon 1992) between NGOs, have the potential to profoundly influence data quality.

While there may be valid reasons for certain work processes within the asylum system to remain less visible, (for example the cooperative work across NGOs), it is crucial to investigate these less visible "situated actions" (L. A. Suchman 1987) before implementing data-science approaches to migration management. Neglecting to scrutinize the informal discretionary work practices that contribute to data construction can affect data quality and thereby impact whether

an individual is granted asylum. A central argument of this dissertation is that crafting quality data requires meaningful interactions between individuals and technologies and in this context, a systematic approach to data infrastructure literacy (Gray, Gerlitz, and Bounegru 2018). This leads me to the fourth and final research question, which is:

RQ4: Given that new types of data are increasingly available in the asylum domain, how is data literacy supported in practice?

Across various domains, CSCW and the broader HCI community are exploring how technology can support both material and relational aspects of care (Schorch et al. 2016; Karusala et al. 2017; Kaziunas et al. 2017; Ismail, Karusala, and Kumar 2018; Kaziunas, Klinkman, and Ackerman 2019; Seo et al. 2019; Karusala et al. 2021; Sciannamblo et al. 2021; Vlachokyriakos et al. 2021; Talhouk et al. 2016; Le Dantec 2016; Le Dantec et al. 2011; Avlona and Shklovski 2023). Care in casework is often undervalued, including within asylum casework, where a core concept is "credibility." With this dissertation, my aim is to bring data work and care to the forefront within CSCW and the HCI community more broadly, adding to the body of research on care by examining from various perspectives how CSCW scholars can encode care into casework through practice studies. My hope is that this dissertation can inform and thus support data literacy initiatives (Gray, Gerlitz, and Bounegru 2018), such as those aimed at strengthening the authority and agency of individuals facing challenges in navigating the asylum system.

Empirically, I provide rich contextualized ground-up insights into the distributed asylum system's data work. Diverse caseworkers conduct this work via both formal and informal collaboration at both NGO and authority levels work and across various contexts related to the construction of quality data representing asylum seekers. The empirical data show the caseworkers' balancing of data usage, care, and legislation. The findings suggest that relational aspects of care in casework influence the processes through which data on an individual seeking asylum are produced, subsequently shaping the construction of this individual's asylum case (Rask Nielsen and Holten Møller 2022). Moreover, they indicate a need for enhanced transparency and collaboration between asylum authorities and NGOs (as detailed in paper 2 and 3). Another central argument of this dissertation is that this transparency and collaboration is crucial to guaranteeing that individuals seeking asylum receive basic legal support during

and after the implementation of new data infrastructures. Given the increasingly datafied (Rask Nielsen and Holten Møller 2022; Molnar 2019; Petra Molnar and Lex Gill 2018), politicized (Gammeltoft-Hansen and Tan 2017), and stringent nature of the asylum system (Gammeltoft-Hansen, T. 2017), it is essential to understand and acknowledge relational aspects in casework when implementing new data infrastructures.

The Danish asylum system is a complex bureaucratic system that encompasses both social and technological elements, created through social and political processes and negotiations (Rask Nielsen and Holten Møller 2022). This dissertation represents an attempt to critically examine and question the organization and execution of processes within the asylum system, as well as the role of data in these processes. It emphasizes the importance of thoroughly exploring and comprehending situated, local knowledges when designing data-driven technology for supporting asylum decision-making. This involves recognizing and encoding relational aspects of care into casework, viewed from the perspectives of both authorities and NGOs. Additionally, when authorities experiment with and implement new data infrastructures, I argue for the necessity of a structured approach to data literacy. The findings within this dissertation illustrate how there remains ambiguity among authorities and NGOs regarding who holds the responsibility for fostering data infrastructure literacy to support asylum seekers' agency, including their legal and human rights.

1.1. Summary

This dissertation presents an ethnographic exploration of the role of data in asylum caseworkers' decision-making processes, particularly in modeling "truth" and assessing the credibility of asylum claims. It contributes to the field of CSCW by delving into the often-overlooked aspects of data work in casework, highlighting the significant relational efforts invested in data production. The research underscores the inherently relational nature of data work, emphasizing that data exist not in isolation but at the nexus of various socio-technical interactions and connections, spanning both authority and NGO levels. In essence, this dissertation aims to illuminate the relational aspects of data-related tasks that are typically overlooked but integral to the discretionary processes of casework. If asylum casework is to be increasingly advanced via data science techniques, these invisible aspects of data work are essential for a comprehensive understanding of the data's quality.

The four overall research questions of this dissertation are a pragmatic ambition positing that this PhD research, from a practice perspective, can offer insights on the role of data in asylum decision-making to both CSCW and the broader field of HCI and asylum and migration research. By striving to answer these four research questions, it offers rich empirically grounded insights into how asylum caseworkers, operating at both NGO and authority levels, are "situated in different work settings and situations, with different responsibilities, perspectives and propensities, interact and are mutually dependent in the conduct" (Schmidt and Bannon 1992, 11) of constructing, interpreting, and curating data about asylum seekers across various casework systems to inform asylum decision-making.

Part II of this dissertation includes four research papers, each addressing different but related aspects of data work and its alliance with asylum casework. In combination these four papers empirically demonstrate the situated, collaborative, and negotiation-based character of asylum decision-making; that is, how cases are approached by the asylum caseworkers (at both NGO and authority level) who carry out the everyday socio-technical data work involved in the production, contextualization, interpretation, and leveraging of data about individuals applying for asylum.

1.2. Research Questions

The research questions addressed in this dissertation are:

Research question 1:

How is the "asylum seeker" construed in and through data that become part of large datasets on legal practice?

Research question 2:

What are the socio-technical infrastructures shaping stakeholders' usage of data about the individual asylum seeker?

Research question 3:

Why are relational aspects of care in data work important to the production of quality data in asylum casework?

Research question 4:

Given that new types of data are increasingly available in the asylum domain, how is data literacy supported in practice?

2. Asylum decision-making in Denmark, Sweden, and Norway

This section, which precedes the introduction of the theoretical positioning within this dissertation, provides a brief presentation of the asylum procedure, the legal basis for granting asylum, and the various categories of residence permits in the Danish context. Following this is a section that succinctly overviews the asylum authorities and procedures in Sweden and Norway.

2.1. Asylum decision-making in Denmark

The term "asylum seeker" describes an individual who has left their home country and is applying for the right to stay as a refugee in another country. According to the UN Refugee Convention, a "refugee" is an individual who is determined by asylum authorities to have a well-founded fear of persecution in their country of citizenship.[3] The term "migrant" often refers to an individual who moves to another country, typically not because of war or persecution, but for reasons such as work, marriage, or education. However, this category also includes individuals who are compelled to leave their country, for instance, due to factors like hunger, extreme poverty, or natural disasters. Individuals in these situations do not fall under the UN Refugee Convention and thus are not recognized as refugees.

The Danish asylum procedure is based on the 1951 UN Refugee Convention (UNHCR 1951) and EU and human rights law, where the Danish Aliens Act (Legal Information 2022) formalizes the criteria required to obtain refugee status in Denmark. A resident permit is granted if the immigration authorities assess that the asylum motive of the individual applying for asylum falls into one of the following four groups of refugee statuses:

- Convention status (Aliens Act section 7 (1)): The requirements for obtaining convention status, according to the 1951 UN Refugee Convention, are that the an asylum seeker is currently outside their country of origin "owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion" (UNHCR 1951).

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[3] https://www.eu.dk/da/temaer/asyl-og-migration/gloser

- Protection status (Aliens Act section 7 (2)): Protection is under EU and human rights law. The requirements for obtaining Protection status are that the Danish asylum authorities assess that an individual applying for asylum risks the death penalty, torture, inhumane, or degrading treatment or punishment if returning to their country of origin.

- Subsidiary protection status (Aliens Act section 7 (3)): Subsidiary protection status under EU and human rights law will be granted to individuals applying for asylum, not because of their individual situation, but because of a particularly grave situation in their country of origin characterized by random violence and assaults on civilians, risk of death penalty, torture, inhumane or degrading treatment, or punishment if they return to their country of origin.

- Quota refugees (Aliens Act section 8 (1)): Residence permit as a quota refugee is granted to individuals, who may be assumed to comply with the basic principles for obtaining a residence permit under one of the provisions of the Danish Immigration Act if they had entered Denmark as asylum seekers. These are individuals who are resettled in Denmark in cooperation with the United Nations High Commissioner for Refugees (UNHCR) or a similar international organization.

Residence permits for refugees underwent a significant change following an amendment to the Aliens Act passed in 2019 by the Danish Parliament. This amendment brought about a so-called paradigm shift, leading to the granting of residence permits for a temporary stay. Consequently, a permit may be revoked if the need for protection, as assessed by the asylum authorities, no longer exists. When assessing cases concerning the revocation of temporary residence permits, the authorities will consider whether the individual risks persecution upon returning to their home country. If the risk of persecution is deemed absent, the residence permit will be revoked. Thus, all four refugee statuses are in principle temporary, however active revocation only concerns "7 (2) Protection status" and 7 "(3) Subsidiary protection status".

The asylum process in Denmark (see figure 1) is two-tiered. The DIS is the first instance under the Ministry of Integration to process asylum applications. In the linear and prototypical asylum case, the DIS initiates data registration and requests asylum seekers who are literate to complete an application form (see figure 7) that serves as the foundation for further case processing. Hereafter, the DIS arranges a first interview with a caseworker, during which it is determined which country will process the case according to the Dublin Regulation. The Dublin Regulation means that asylum applications must only be processed in one EU country; the first country where the applicant seeking asylum is registered or the country where the applicant's family is legally present (newtodenmark.dk, n.d.). If the case is to be processed in Denmark,

the DIS can dismiss it as either "manifestly unfounded" (e.g., if the asylum motive concerns circumstances that are obviously not relevant to obtaining asylum or if the type of asylum motive is deemed to have an insufficient chance based on the RAB's precedence.) or "expedited version of manifestly unfounded" (e.g., the applicant originates from a country deemed safe, for example an EU country). In such cases, a legal counselor from the private Danish humanitarian nonprofit organization, Danish Refugee Council (DRC), assesses the case and can thereafter—if disagreeing with the DIS—refer the case back to the normal procedure (see figure 1). As part of the normal procedure, the applicant is invited to a second interview with another DIS caseworker who determines if asylum should be granted or denied. The number of interviews at the DIS may vary, but typically, the individual seeking asylum will attend one to three interviews with different caseworkers at the DIS. If an application is rejected in the normal procedure, it is automatically appealed to the second instance: the RAB. In connection with meeting with the RAB, the applicant will be offered a lawyer. The RAB examines the appeal and makes the final decision on whether to confirm the rejection or grant asylum.

This procedure can take several years or longer.[4] During this time, the DIS is responsible for providing accommodation to asylum seekers in at least two different types of centers: reception centers for newly arrived asylum seekers; and accommodation centers for those whose applications are being processed. Additionally, there are departure centers for individuals without legal residency in Denmark, such as those who have received a final refusal in their asylum case or who are being transferred to another EU country under the Dublin Regulation (newtodenmark.dk 2022).

The day-to-day management of these asylum centers is overseen by various operators, including the RC, the Prison and Probation Service (which also manages Danish prisons), and municipalities. During these (sometimes many) years, individuals applying for asylum interact with various authorities who all produce and share data about them across different databases—data that potentially have substantial impact on determining the outcome of their asylum request (as demonstrated in paper 2).

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[4] https://asyl.drc.ngo/for-asylansogere/det-danske-asylsystem/praktiske-oplysninger/

2.2. Asylum decision-making in Sweden and Norway

2.2.1. Asylum decision-making in Sweden

In Sweden, the Swedish Migration Agency (SMA) is responsible for handling asylum case processing. Like the DIS in Denmark, the SMA assesses which country is responsible for processing the asylum application according to the Dublin Regulation. If Sweden is responsible for handling the asylum application, the SMA will proceed with the assessment through interviews. The SMA makes the decision on whether to grant or reject asylum based on: the oral testimony of asylum motive as stated by the applicant; available documents supporting or not supporting the individual's identity and reasons for asylum; as well as information from official documents regarding the situation in the applicant's country of origin (Migrationsverket 2023a; Nielsen, Menendez-Blanco, and Møller 2023).

Differing from the Danish procedure, if the application for asylum is rejected, the case will not automatically be appealed to a second instance. However, the individual applying for asylum can send an appeal (a letter explaining the appeal, including documents or other supporting evidence) to the SMA within three weeks from the date they are notified of the rejection. The SMA then forwards the appeal to the Migration Court. If the appeal is rejected by the Migration Court, it can be appealed further to the Migration Court of Appeal. However, the Migration Court of Appeal "only considers certain cases where there is no legal guidance or if the Migration Court has considered the case incorrectly. In most cases, the Migration Court of Appeal decides not to consider the appeal. In such case, it is the Migration Court judgement that is valid" (Migrationsverket 2023b).

2.2.2. Asylum decision-making in Norway

In Norway, the Norwegian Directorate of Immigration (UDI) is responsible for processing claims for asylum. The initial step involves registering with the Norwegian police. Similar to the DIS in Denmark and the SMA in Sweden, the UDI then assesses which country is responsible for processing the asylum application, according to the Dublin Regulation. If Norway is responsible for processing the asylum application, the UDI will then conduct the assessment through interviews, during which the applicant provides oral testimony regarding asylum motive and is requested to submit documents or other information concerning the need for protection. Additionally, akin to procedures in Denmark and Sweden, the assessment is

based on information derived from official documents pertaining to the situation in the applicant's country of origin (The Norwegian Directorate of Immigration (UDI) 2023; Norsk organisasjon for asylsøkere (NOAS) 2023).

If the asylum application is rejected by the UDI, or if the case is to be assessed in another EU country, a lawyer will be assigned to the case to assist the claimant in appealing the decision, if the applicant so wishes. If the UDI maintains its decision, the case is forwarded to the Immigration Appeals Board (UNE). The UNE is not bound by the UDI's rejection, however it operates within the same regulatory framework (Immigration Appeals Board 2023).

2.3. A narrowed focus on Danish asylum decision-making

As previously stated, the overarching objective of the DATA4ALL project is to scrutinize variations in asylum decision outcomes across Nordic countries. The asylum decision-making processes in these Nordic countries are characterized by a complex interplay of various actors, bureaucratic and legal rules, as well as increasingly advanced and intricate data-driven procedures. Moreover, Denmark, Sweden, and Norway are positioned among the most digitally advanced countries in Europe, according to the Digital Economy and Society Index (DESI), which evaluates key factors such as connectivity, digital skills, and e-Government (Nordicom 2021). This sets the stage for comprehensive CSCW research into data's role in asylum decision-making in and across all three countries. However, in this dissertation I narrow the research focus. Rather than exploring the entire spectrum of asylum decision-making processes across all three countries, my PhD research concentrates on the Danish asylum decision-making context. By specifically concentrating on the role of data in asylum decision-making in Denmark from a practice perspective, this dissertation aims to establish the foundation for future cross-examination and comparison with CSCW studies conducted in Sweden and Norway.

3. Theoretical position

3.1. Datafication of the asylum domain

A few years after CSCW was introduced as a term (Greif 2019), Kranzberg (1986) reminded us about how many "of our technology-related problems arise because of the un-foreseen consequences when apparently benign technologies are employed on massive scale" (p. 546). Research within the field of CSCW and broader HCI increasingly investigates the effects of datafication in domains such as health (Bossen et al. 2019; Sun et al. 2023; Bhat and Kumar 2020; Kaziunas et al. 2017), social services (N. L. Holten Møller, Fitzpatrick, and Le Dantec 2019; Ammitzbøll Flügge, Hildebrandt, and Møller 2021; Petersen, Christensen, and Hildebrandt 2020; Karusala et al. 2019), education (Lu et al. 2021), and migration and asylum (Ekmekcioglu, Chandra, and Ahmed 2023; Rask Nielsen and Holten Møller 2022), to name a few. Following Møller et al. (2019), the term "datafication" is defined in this dissertation as "the phenomenon of increasing reliance on data-born accounts in the assessment of" (p. 1) whether or not an individual applying for asylum is presenting a credible asylum motive, aligning with the legal categorization of a refugee.

The datafication of the asylum domain is progressively evolving and being tested "on massive scale" (Kranzberg 1986) at both the scholar, authority, and NGO levels. Legal as well a computer science scholars leverage data science techniques, such as machine learning, to analyze large-scale datasets containing data from, for example, case, court, and judge information, for the purpose of predicting asylum adjudication outcomes (Chen and Eagel 2017; Dunn et al. 2017; Kaltenhäuser et al. 2022; Katsikouli et al. 2022; Hamilton Byrne et al. 2023). Similarly, asylum authorities, as well as NGOs, are increasingly, as part of their casework, adopting and utilizing data-driven systems. For instance, Canada is experimenting with using data-driven technologies as decision support tools to facilitate faster application processing. According to the Canadian Government (2022), the immigration services use a system that retrieves data from applications and presents it in a format that makes it easier for caseworkers to access and understand it. This system neither makes nor suggests decisions regarding applications; rather, the final decision to reject an application is the responsibility of the caseworker (ibid). Canada, the United Kingdom, and the United States have been experimenting with using ancestry DNA testing as a proxy for nationality (Oray and Katsanis

2021). In Europe, several countries, such as the UK, the Netherlands, Germany, and Norway, are experimenting with mobile phone data analysis (Ozkul 2023). This is also the case in Denmark, where mobile phone analysis has become a significant data infrastructure in the sense that immigration authorities utilize data from asylum seekers' mobile phones and social media, such as Facebook, and use data science techniques to categorize the data and provide caseworkers with an overview (see paper 3). "The Danish Immigration Service wants to be skilled at identifying new trends and will focus on implementing new digital and innovative solutions" (The Ministry of Immigration and Integration 2023, 5).

In pursuit of advancing and improving the work of the broader humanitarian sector, NGOs are also turning to novel data science techniques, such as machine learning. For instance, the DRC has created open-source data-driven tools for the purpose of predicting "forced displacement (IDPs, refugees and asylum seekers) at the national level 1-3 years into the future" (DRC Professional 2023a) as well as ensuring a more "dignified and efficient humanitarian response" (DRC Professional 2023b). These data-driven tools are funded by the European Union, Sida – the Swedish International Development Cooperation Agency (Sweden's government agency), and the Ministry of Foreign Affairs of Denmark. The machine learning model that predicts forced displacement was developed by IBM and is maintained by DRC. This model "is not designed to dictate action in isolation but rather inform decision-making along other relevant inputs" (The Centre for Humanitarian Data 2020). Thus, as authorities and NGOs turn to data-driven technologies for migration management, they also grant power to third-party stakeholders, such as the private companies developing these tools (Molnar 2019; Petra Molnar and Lex Gill 2018; Pasquale 2020). Consequently, these private companies assume roles as political actors (Benjamin 2019; Eubanks 2017).

Molnar (2019) argues that "States single out the migrant population as a viable testing ground for new technologies" (p. 306). Eubanks (2017) emphasizes that data-driven tools designed for classifying and sorting marginalized groups are not inherently fairer than human caseworkers' discretion. Instead, discrimination and accountability are delegated and outsourced via a data-centric approach to governing social life. She cautions that deploying data-driven technologies against a marginalized group in the absence of human rights protections carries significant risks of atrocities (p. 200) or "'data harms,' harms that have been caused by uses of algorithmic systems" (Redden, Brand, and Terzieva 2020). Molnar (2019) contends that these systems are

developed and deployed without much regulation "in opaque spaces with little oversight and accountability" (p. 305). Pasquale (2020) highlights how "more holistic approaches to the problem of social control get lost in the shuffle" when authorities embrace data-driven technologies and how "the deeper harms inherent in any version of this technology go unaddressed" (p. 124).

This dissertation contributes to CSCW research by offering detailed, contextualized insights into the role of data in asylum decision-making and the relational data work that facilitates data production. The findings show how relational aspects of data work influence the construction of the data that feed into large-scale asylum datasets, which are increasingly employed in data-driven migration management and research "on massive scale" (Kranzberg 1986).

3.2. Data work of non-data scientists

A study with a critical approach to data examines "the foundation upon which positivistic Big Data science stands" (Iliadis and Russo 2016, 2) and thus poses critical questions about how emerging forms of data science practices transform and interplay within society and social processes, as well as how we as individuals gauge and engage with them (Ibid). As more and more data representing asylum seekers' lives are produced, stored, and turned into large-scale datasets, we assume that these large-scale datasets "remember" (Muller and Strohmayer 2022) what we need to know about asylum decision-making. However, Muller et al. (2021) highlight the importance of understanding "how ground truth is added to a dataset" and in this context "how humans collectively make that contribution" (p. 2).

In data science, "ground truth" typically refers to a value assigned to data by data science workers, such as labelers or annotators, which is "then predicted through training a model" (Muller and Strohmayer 2022, 11)—in data science, this type of work is referred to as "data work" (Sambasivan et al. 2021). In CSCW the concept of data work has broadened to encompass the tasks performed by non-data scientists (Bossen et al. 2019; Møller et al. 2020), which is the focus of this dissertation: the data work of non-data scientists. In this dissertation, I my findings show that "ground truth", embedded in large datasets, is also impacted by caseworkers who model and label data when they select and curate how a case is constructed.

However, it is important to note that "ground truth" is not a concept typically used in law and in the context of asylum decision-making. For example. in those asylum cases where legal authorities rely on the criterion of "credibility" as a measure for determining whether an individual has a legitimate asylum claim, a "ground truth" can never be established (Hamilton Byrne et al. 2023). In practice, caseworkers combine various types of data, such as individual testimonies, information from country reports, and data from mobile phones (see paper 1: Rask Nielsen and Holten Møller 2022), which they consider credible. These data form the basis for the asylum case upon which the legal decision is made regarding whether to grant an individual asylum or not. It is crucial to remember that legal asylum practice is in a state of flux, which, for example, means that an asylum case can be overturned if "new substantial information" comes to light (see paper 2: Nielsen, Menendez-Blanco, and Møller 2023).

"[D]ata do not sit in ready repository, fully formed, and easily harvestable. Data must be created through various forms of situated work" (Bossen et al. 2019, 465). In this context,

Møller et al. (2020) ask "Who does the work of data?" This is an important question to understand, because "the transformation of human experience into data often entails a reduction in complexity and context" (D'Ignazio and Klein 2020, 216) and therefore data and datasets can never depict a complete truth. To provide a straightforward example, consider a well-researched case where gender identity is constrained to a binary classification of either female or male within a dataset (e.g, Katsikouli et al. 2022). Such a restriction in data labeling and analysis can have significant consequences, resulting in harm, marginalization, and a lack of recognition for individuals who identify as non-binary (Spiel, Keyes, and Barlas 2019; Spiel 2021). Put differently, data are constructed through practices influenced by values and judgments that determine "what is counted and what is not, what is considered the best unit of measurement, and how different things are grouped together and 'made' into a measurable entity" (Pine and Liboiron 2015, 3147). It is important to acknowledge that data, datasets, and data analysis are creations that reflect the intentions, assumptions, values, and power structures of their creators (Pine and Liboiron 2015). Altogether, ground truth "begins to look less like a formal or 'objective' truth, and more like a worthwhile social accomplishment" (Muller et al. 2021, 11).

All parts of an "infrastructure are in flux with shifts in stakeholders, technologies, policies, and power" (Borgman 2015, 4). Data are never raw, but rather always constructed (Gitelman 2013; Bowker 2005; D'Ignazio and Klein 2020; Kitchin 2014; Pine and Liboiron 2015; Neff et al. 2017) and infused with design (Feinberg 2017). When data's knowledge infrastructure is not taken into account, "data lose meaning and value" (boyd and Crawford 2012, 670). Thus, recognizing that all data are always produced by someone somewhere and infused with subjective assumptions and values, thus leading to various interpretations, is essential for comprehending both the limitations and potentials of data analysis and application (Neff et al. 2017; D'Ignazio and Klein 2020; Gitelman 2013). If data science methods are to be responsibly employed to, for example, advance asylum law, I as a researcher part of DATA4ALL bear part of the responsibility of raising critical questions regarding how, where, and why data from Datasets 1 and 2 are produced, by whom, and for whom. Understanding these datasets in *relation* to their "knowledge infrastructure," which is described by Borgman (2015) as "an ecology of people, practices, technologies, institutions, material objects, and relationships," (p.4) is imperative for making sense of them. In other words, for me to understand the meaning

of Datasets 1 and 2, it is essential to unravel and comprehend the socio-technical complexities of the data work behind them, ensuring that its "situatedness" (Haraway 1988) is taken into consideration (boyd and Crawford 2012; L. A. Suchman 1987). As D'Ignazio and Klein (2020) point out, "to say nothing of the local knowledge required to understand how power is operating in this particular ecosystem—it would be difficult to even begin a data exploration or analysis project" (p. 153).

To sum up, this dissertation centers its focus on the reality that *caseworkers* model, shedding light on the social context and the relational aspects of data production from a *caseworker's perspective*. It explores how asylum caseworkers' data work contributes to shaping the data that informs asylum decisions and later feeds into datasets. In so doing, it broadens the understanding of "ground truth" to encompass the perspective of asylum caseworkers and how they assess credibility through discretionary practices tied to legislations, guidelines (for example the Handbook on Procedures and Criteria for Determining Refugee Status under the 1951 Convention and the 1967 Protocol relating to the Status of Refugees[5]) and institutional procedures and practices, both individually and collectively.

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[5] https://www.unhcr.org/media/handbook-procedures-and-criteria-determining-refugee-status-under-1951-convention-and-1967

3.3. Relational aspects data production

In the context of data science, "relation" typically refers to the dataset structure. However, before a dataset is structured, *relations* also matter. Suchman (1987) shows how plans work as guiding resources for situated actions, yet do not determine their course. Plans are constructed and maintained based on embodied practices and ever-changing situated actions. The efficiency of plans as representations of situated actions comes from the fact that they do *not* represent practices and actions in *all* their detail and complexity. "A basic research goal for studies of situated action, therefore, is to explicate the relationship between structures of action and the resources and constraints afforded by material and social circumstances" (L. A. Suchman 2007, 177) because "people do not always slavishly follow the plan" (Dave Randall, Harper, and Rouncefield 2007, 215). The empirical reality that I observed and engaged in confirmed this.

This dissertation contributes to existing CSCW research on care (Schorch et al. 2016; Karusala et al. 2017; Kaziunas et al. 2017; Ismail, Karusala, and Kumar 2018; Kaziunas, Klinkman, and Ackerman 2019; Seo et al. 2019; Karusala et al. 2021; Sciannamblo et al. 2021; Avlona and Shklovski 2023; Meng, DiSalvo, and Zegura 2019) by demonstrating the situated *relational* actions enacted by asylum caseworkers that balance between restrictive legal rules, guidelines and institutional procedures, while seeking spaces to provide care and in this context enabling the production of quality data that (perhaps) make an asylum case sufficiently documented according to legal principles.

Winthereik and Vikkelsø (2005) define quality data based on their capability to traverse various organizational contexts while simultaneously upholding organizational responsibility and reliability. To Sambasivan et al., (2021) quality data is characterized as "proactively considering care, sanctity, and diligence in data as valuable contributions in the AI ecosystem" (p. 2). They highlight how social, technical, and structural aspects must be taken into careful consideration when designing new data-driven technologies (Ibid, p. 2). The objective of this dissertation is to shed light on often-overlooked data work (Sambasivan et al. 2021)—more specifically, I "empirically investigate the role of care in relation to the production of quality data" (Nielsen, Menendez-Blanco, and Møller 2023, 8). This emphasis is crucial, I contend, as neglecting relational aspects of care in data production can potentially jeopardize data quality, particularly concerning contextual relevance. By unpacking these dimensions, this PhD

research seeks to provide a deeper understanding of the nuances and implications surrounding relational aspects of data work in asylum decision-making.

To Strohmayer and Muller (2023), the term "data" "asks for positivism, and asks for truth and evidence" (p.42). Because of that, they argue against simply labeling everything as data, because doing so might strip away the human aspect of the data and how data are constructed in the first place. Crabtree and Mortier (2015) highlight the social character in data and how data are relational. They often relate "not so much to 'me' or 'you' but to 'us'" (p.10). Similarly, Leonelli defines data as relational in the sense that there

> "is no such thing as data in and of themselves, as what counts as data is always relative to a given inquiry where evidence is sought to answer, or even formulate, a question. Data are not only modifiable in principle, but are in fact frequently modified during their travels in ways that profoundly affect their ability to function as evidence" (Leonelli 2015, 8).

In the context of unemployment, Møller et al. (2021) have used design fiction as a method to examine implications of understanding data as 'individual' instead of 'relational.' Aligning with previous CSCW and HCI studies (Shklovski et al. 2009; Shklovski, Troshynski, and Dourish 2015; Winthereik 2023; Walford 2017), which emphasize the relational nature of data, their findings show how data are shaped through the interactions between unemployed individuals and caseworkers. The empirical data presented in this dissertation make visible how "care is enacted as a relational aspect of asylum casework" (Nielsen, Menendez-Blanco, and Møller 2023, 10). In particular, paper 2 (ibid) demonstrates how *care* as a relational aspect of casework, performed on both authority and NGOs levels, plays a critical role in shaping the production of data that inform asylum decision-making and that become large datasets on legal practice.

With the goal of bringing to the fore relational care practices in data production, I, in Paper 2 (Nielsen, Menendez-Blanco, and Møller 2023), concentrate on examining how the act of "caring can be identified, researched, and understood concretely and empirically" (Puig de la Bellacasa 2017, 1). I explore both the visible and less visible relational aspects of data work through which various stakeholders within the asylum domain attune to, interact with, and shape the "asylum seeker" category. Why? Because "data practices do not simply reflect populations that already exist out there; they also, or perhaps instead, help to constitute them" (Cakici, Ruppert, and Scheel 2020, 202). In this context, "a care perspective increases our

sensitivity as CSCW researchers towards understanding the conditions for producing quality data and documentation in casework" (Nielsen, Menendez-Blanco, and Møller 2023, 10).

This dissertation shows how asylum seekers are construed as such in and through data that are constructed in relational ways by various caseworkers throughout all stages of the asylum procedure. The empirical data give insight into how asylum caseworkers engage in communication with diverse stakeholders, providing situated and contextual insights into the data. In this context, substantial effort goes into enabling the production of quality data. In particular, I find that that care as a relational aspect of casework "is enacted by caseworkers in moments of *ambivalence, translation*, and *attentiveness to "new substantial information"* relevant for asylum decision-making" (Nielsen, Menendez-Blanco, and Møller 2023, 1). Thus, asylum casework, and in this context, the production of quality data, involve aspects of care and meaningful interactions between individuals and technologies (Sambasivan et al. 2021; Winthereik and Vikkelsø 2005). However, in this dissertation I argue that meaningful interactions require "data infrastructure literacy" (Gray, Gerlitz, and Bounegru 2018) among caseworkers at all levels, including those directly impacted by data-driven decisions. This brings me to the fourth and final key theoretical concept, namely, data literacy.

3.4. Supporting data literacy

An aim of this dissertation is, following Gray et al. (2018), to make the socio-technical asylum "data infrastructures visible and problematiz[e] them" (p.2). This dissertation shows how data literacy entailing how to "read, work with, analyze and argue with data" (D'Ignazio and Bhargava 2016, 84) is of increasing importance in asylum decision-making.

Data literacy as a concept has been defined various ways, such as "the ability to consume for knowledge, produce coherently and think critically about data" (Gray et al. 2012, 112) or as a set of abilities (data reading, data processing, data communication, and data production) "which allows one to use and produce data in a critical way" (Tygel and Kirsch 2016, 117). Bhargava et al. (2015) define data literacy as "the desire and ability to constructively engage in society through and about data" (p. 7). Gray, Gerlitz, and Bounegru (2018) expand the concept of data literacy to data infrastructure literacy, arguing for an expansion of the concept to include "not just competencies in reading and working with datasets but also the ability to account for, intervene around, and participate in the wider socio-technical infrastructures through which data is created, stored, and analyzed" (p.1). In this dissertation, I follow D'Ignazio and Bhargava's (2016) four-part definition of data literacy:

> "data literacy includes the ability to read, work with, analyze, and argue with data as part of a larger inquiry process. Reading data involves understanding what data is, and what aspects of the world it represents. Working with data involves acquiring, cleaning, and managing it. Analyzing data involves filtering, sorting, aggregating, comparing, and performing other such analytic operations on it. Arguing with data involves using data to support a large narrative intended to communicate some message to a particular audience (pp. 84).

Scholars have studied how to foster data literacy within various domains. To name a few, Pins et al. (2021) use prototyping and research-through-design as an approach to support data literacy for voice assistant users. Wolff et al. (2016) contribute to research on data literacy by creating a framework based on existing definitions, promoting data literacy as part of school's curriculum. I (Nielsen et al. 2021a) set out with an initial intention to use participatory methods and prototypes for supporting the data literacy of stakeholders within the asylum domain (also see chapter 4.6. More positionality (and speculations)).

This dissertation contributes to previous work on data literacy by studying how caseworkers in an asylum context, "read, work with, analyze and argue with data" (D'Ignazio and Klein 2020, 84) to support individuals navigating the asylum system. The aim is to foster a better

understanding of the asylum decision-making process and the possibilities for counter of data and correction — values that are fundamental to a fair and democratic asylum system. It endeavors to unveil the less visible, albeit crucial dynamics of data work within the asylum system, spanning both authority and NGO levels. In doing so, it lays the groundwork for future initiatives to promote data infrastructure literacy (Gray, Gerlitz, and Bounegru 2018).

A central argument in this dissertation concerns the importance of addressing and scrutinizing new, less visible data infrastructures when implemented at the authority level. This scrutiny is essential to ensure the existence of literacy, accountability, and oversight mechanisms. It is crucial to make new data infrastructures transparent and accessible at the NGO level, such as at the DRC, whose primarily focus is to support asylum seekers' legal and human rights. Why? Because data infrastructure literacy initiatives are indispensable at both levels to enable a more effective and most importantly fair and democratic asylum procedure. The implications of this dissertation create an opportunity for future research to delve deeper into data literacy initiatives to encode care in casework. Such initiatives can empower NGOs to enhance asylum seekers' ability to comprehend, work with, analyze, and use data to support their asylum cases, thereby granting them greater authority and agency.

3.5. Summary

Since data and datasets are simplifications of the world (Irani et al. 2010; Kitchin 2014; Pine and Liboiron 2015; Winner 1980; D'Ignazio and Klein 2020), understanding the role of data in asylum decision-making necessitates in-depth situated investigations of the technologies, individuals, practices, settings, regulations, and politics involved in the construction and interpretation of data representing individuals applying for asylum.

Evaluating the "credibility" of asylum motives is a complex socio-technical process. This assessment is not straightforward or black-and-white; rather, it is nuanced, multifaceted, and carefully considered. The findings presented in this dissertation highlight the discretionary and relational nature of this assessment. Caseworkers determine credibility by cross-examining the data to rule out any divergences or contradictions across data points (Rask Nielsen and Holten Møller 2022, 4). Moreover, the credibility assessment also depends on relational aspects of care within casework, spanning across NGO and authority levels (Nielsen, Menendez-Blanco, and Møller 2023).

Nonetheless, the result of this credibility assessment is a *binary either/or decision*: either granting or denying asylum to an individual. This binary determination becomes "ground truth" when it is embedded into large-scale datasets. Within these datasets, the discretionary and context-specific elements of casework that I strive to make visible throughout this dissertation often remain concealed. As a result, these elements may not receive the requisite attention, resources, and recognition they deserve. This issue is particularly salient as research, asylum authorities, and NGOs progressively adopt and apply data science techniques to analyze large asylum datasets and thereby gain deeper insights into and enhance the support for asylum decision-making processes.

4. Methodology

In this chapter, I describe the methods used to shape my PhD project. This includes presenting the main research fields of the project and the methodologies employed to assemble empirical data for analysis, followed by the methods used for analyzing the empirical data with the ambition of achieving empirical saturation. Lastly, I include a positionality statement, including a reflection on my experiences of conducting ethnographic research within a sensitive setting such as asylum and migration, followed by a speculation on future research.

4.1. A multi-sited ethnography of the asylum decision-making process

This dissertation contributes a multi-sited ethnography, examining the role of data in asylum decision-making from the perspective of asylum caseworkers. The study spans across various sites, including both NGO and authority levels, providing an in-depth exploration of how data practices shape the decision-making processes within the realm of asylum; its purpose is to add to "the development of the conceptual foundation for CSCW and, thereby, to the development of CSCW technologies" (Schmidt 2008, 150).

Since studying data work (Møller et al. 2020) in casework through ethnographic methods (Blomberg and Karasti 2013) is a core CSCW interest, this PhD project is grounded in the research fields CSCW (Schmidt and Bannon 1992; Blomberg and Karasti 2013; Ciolfi, Lewkowicz, and Schmidt 2023), as well as Critical Data Studies (Neff et al. 2017; Dalton, Taylor, and Thatcher 2016; Iliadis and Russo 2016; Kitchin 2014), and draws on principles from Data Feminism (D'Ignazio and Klein 2020). These intersecting fields of research are well suited for bridging across data science and practice due to their examination of the limitations within data science work. These limitations include the recognition that data are not inherently raw and objective, but rather made (Gitelman 2013), which means they possess the capacity to influence or exacerbate biases in decision-making processes (Benjamin 2019; D'Ignazio and Klein 2020).

In CSCW and HCI studies, feminist theories and methods are gaining traction (Fox et al. 2017; Kumar et al. 2019; Meng, DiSalvo, and Zegura 2019; Homewood et al. 2021; Karusala et al. 2021; Bardzell 2010; Muller 2011; Muller and Strohmayer 2022). This dissertation draws on principles from Data Feminism by D'Ignazio and Klein (2020). Data Feminism links perspectives from feminist scholarship (Hill Collins and Bilge 2020; Haraway 1988;

Hochschild 2012) to Critical Data Studies (Neff et al. 2017; Dalton, Taylor, and Thatcher 2016; Iliadis and Russo 2016; Kitchin 2014), offering strategies to explore the dynamic interplay between data and human experiences. Recognizing data science as a form of power, Data Feminism (D'Ignazio and Klein 2020) suggests seven principles (examine power; challenge power; elevate emotion and embodiment; rethink binaries and hierarchies; embrace pluralism; consider context; and make labor visible (p. 17)) for investigating and confronting issues within data science in relation to power disparities, marginalization, and exclusion—dimensions frequently overlooked or marginalized in traditional data science endeavors.

Over the past three years, I have drawn inspiration from these seven principles in my endeavor to understand the role of data in asylum decision-making, specifically from the perspective of caseworkers. In this pursuit, my focus has been on not only examining and bringing to light power relations inherent in asylum decision-making but also earnestly understanding the conceptual frameworks that guide these professionals. On NGO level, I have I have closely studied their working conditions, acknowledging the nuanced aspects of their daily challenges. For instance, a key facet of my exploration has been to elevate the emotional and embodied dimensions of caseworkers' work practices, recognizing the significance of these elements in shaping their daily work and experiences. This approach has allowed me to gain a more holistic understanding of the complexities surrounding asylum casework and the multifaceted factors that individually and collaboratively influence caseworkers' work.

The essence of the CSCW field lies in its interdisciplinary nature, aiming to bridge the gap between ethnography and design to gain a comprehensive understanding of collaboration dynamics and to develop and design new technologies that enhance cooperative work processes (Schmidt and Bannon 1992). The qualitative research approach of ethnography has enriched my understanding of the social and material dimensions of asylum casework, and this approach has compelled me to place emphasis on meticulous observation of asylum caseworkers in their natural work environments.

CSCW and ethnography share the belief that if one is to design technologies that support collaboration in a workplace, one must engage with the workplace and understand the nature of work (Blomberg and Karasti 2013). Ethnographic methods have provided situated knowledge "of the social organization of work" (Dave Randall, Harper, and Rouncefield 2007, 4), enabling me to identify patterns of thought and practice, as well as to explore their

interrelationships (Forsythe 1999, 128). Forsythe (ibid) highlights how ethnography "requires one to identify and problematize things that insiders take for granted (and thus tend to overlook)," (p. 130) allowing one to bring to light critical aspects of work that might escape conventional or formal work descriptions. Why? Because "what people do is not always the same as what they say they do" (ibid, 128). Therefore, ethnography has for my research been a valuable "resource for making 'visible' critical aspects of work that elude traditional or formal descriptions of work" (Blomberg and Karasti 2013, 380), aligning with the principle of Data Feminism that aims to make visible how "data science is the work of many hands" (p. 208)—a central goal of this dissertation.

In this dissertation, I draw inspiration from a multi-sited approach to ethnography (Marcus 1995; Bjørn and Boulus-Rødje 2015; Dave Randall, Harper, and Rouncefield 2005; Blomberg and Karasti 2013). Multi-sited ethnography as an approach has gained relevance in various interdisciplinary fields of research, including CSCW (Crabu and Magaudda 2018; Bjørn and Boulus-Rødje 2015). This approach moves beyond single-site ethnography to recognize the importance of complex phenomena that exceed traditional spatial and temporal boundaries. In the context of CSCW, multi-sited ethnography provides an approach for investigating complex socio-technical systems and collaborative activities that span multiple locations and contexts (Marcus 1995). A multi-sited approach to ethnography has allowed me to delve deeper into the complex "connections, associations, and relationships across space and time" (Blomberg and Karasti 2013, 384), and thus make "analytic *connections*" (Dave Randall, Harper, and Rouncefield 2005, 93) of the role of data in asylum decision-making from a CSCW perspective.

4.2. Data assembling across multiple research sites

In this section I describe the multiple locations and contexts that influence how the "asylum seeker" is construed in and through the data that eventually feed large datasets. I overview the diverse empirical data sources that I assembled over the past three years. These empirical data constitute the cornerstone for the four research papers presented in Part II of this dissertation. Table 1 attempts to summarize the various data production methods, types of data, participants, and hours spent. The objective is to provide a simplified overview of empirical data production across the entire research period. Table 2 showcases excerpts from my overall field log: an Excel sheet where I documented my ethnographic fieldwork, including all ethnographic activities, information about who I observed, interviewed, talked to, or e-mailed, duration, field notes or references to other files such as Word documents with extended field notes or NVivo files containing audio recordings and transcriptions of interviews.

The empirical data that I produced throughout this PhD project predominantly consist of field notes created at various points in the research process. When I was physically present at the field sites, I primarily produced handwritten notes to document my observations. I later transferred these handwritten notes to Word documents for more detailed and organized records. When I conducted interviews with caseworkers over the phone, I documented my observations directly in Word documents during our conversations, which allowed me to maintain a real-time-like record. In addition to these field notes and interview records, the empirical data also includes full transcripts of recorded interviews. Furthermore, I collected various material artifacts, such as informational flyers explaining the asylum process, workflow descriptions, the asylum application form, job postings, and legal documents. These artifacts provided valuable contextual information and insights into the asylum casework process.

Each of the four research papers offers a more detailed and comprehensive account of the empirical data assembling process, research methodologies, as well as the contributions of participants who shared their domain knowledge and experiences in this PhD research.

Method	Type of emperical data	No. of participants	Amount (no. of events) Time (hours)
Co-located fieldwork (Observation, shadowing, participation in formal and informal meetings, informal conversations, course participation)	• Memos and field notes • Photos • Documents • Mappings (produced in collaboration with participants)	• The RC: 14 • The DRC: 14 • The DIS: 9 • Rejected-/asylum seekers: 30	• 18 visits to the RC at the departure center • 20 visits to the DRC • 5 visits to the DIS • 173 hours
Remote fieldwork (Phone calls and emails)	• Memos and field notes • Email correspondance	• The RC: 4 • The DRC: 1 • The DIS: 6 • Trampoline House (NGO): 1	• 23 phone calls • + _A lot_ of emails • 6 hours (phone calls)
Co-located semi-structured interviews - no recording. (Including formal interviews getting to know each other, building trust, background knowledge)	• Memos and field notes • Documents • Photes	• The RC: 5 • The DRC: 4 • The DIS: 5 • Refugees Welcome (NGO): 1 • Refugee: 1	• 17 interviews • 23 hours
Co-located semi-structured interviews (*recorded*) interviews (Consent form signed)	• Memos and field notes • Audio file • Transcription	• The RC: 2 • The DRC: 5 • The DIS: 4	• 10 recorded interviews • Approx. 13 hours
Præsentating and discussing findings (in person and via phone call and e-mail)	• Memos and field notes • Audio file • Transcription	• The RC: 2 • The DRC: 30 (approx.) • The DIS: 5	• 1 visit to the RC at the departure center • 1 visit to the DRC • 1 visit to the DIS • + Converstions via phone and emails • 4 hours
Summary	• *173 hours of co-located fieldwork* • *6 hours of remote fieldwork* • *23 hours of co-located semi-structured interviews (no recordings)* • *13 hours of co-located semi-structured interviews (recorded)* • _4 hours of presenting and discussing findings_ • **In total: 219 hours of assembling emperical data[6]**		

Table 1: A table overview of various main methods, types of data, participants, and hours spend informing and shaping this dissertation.

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[6] Please note, that additional field sites and time spend as described in chapter "4.3.6. Additional field sites" is not included in this table.

Date	Who	Activity / Duration	Notes
07.10.2021	RC1	Phone call / 30 min.	My main purpose of the this phone call is to gain access to conduct ethnographic fieldwork at the departure center. RC1: If you am going to study RCs work practices without involving the asylum seeker, it is a different matter – then we do not need to ask the Danish Prison and Probation Service for permission. I explain to RC1 that I have been given permission to conduct observational studies at DRC. RC collaborates with the DRC. RC1 understands that I want to examine, among other things, RC's collaboration with the DRC, but perhaps has some concern about whether my research could pose problems for their collaboration (?). I inform RC1 about the University of Copenhagen Non-Disclosure Agreement. RC1: You are welcome to come here one day at a time, hold meetings with RC, and speak with RC employees to the extent they are willing to talk to you. RC1 will be on vacation next week. We agree that can follow RC2's work in week 41 if she has time and is okay with it. In week 42: Possibly present the project (presentation for employees) at the morning meeting. See notes in Word doc
13.10.2021	RC2	Phone call / 10 min.	RC2 confirms that I can follow her work. See notes in Word doc.
21.10.2021	RC	Observations and conversations / 480 min.	See notes in Word doc: "4th meeting at Sjælsmark, 21.10.21"
25.10.2022	DRC's asylum department, approx. 35 people	Presentation of Research paper 2 in DRC / 60 min.	DRC4 meet me by the entrance. We go to a large meeting room that I have never been to before. Approx. 35 people (DRC's entire asylum department) sit at a large oval table. At the end is a large screen. I am very surprised that there are so many (I get a bit nervous) I take a deep breath and start my presentation. 20 minute presentation followed by approx. 30 minutes questions/comments and 10 minutes talk about further collaboration. See notes in Word document: "DRC, 25.10.2022".
16.12.2023	DIS4	E-mail	E-mail sent about the possibility of doing follow-up interviews about practices of reading out data from the applicant's mobile phones.
21.12.2022	DRC10	Recorded interview / 60 min.	See notes in Word doc: "DRC, 22.12.2022" and NVivo transcript.
04.01.2023	DRC8	E-mail and Research paper 2 with comments from DRC8 and DCR4	Feedback on research paper 2: I think it's a really good article that highlights some very significant aspects of asylum casework and brings things to light that would be difficult to address with AI/digitalization. The process of datafying the asylum system should be able to account for all these interpersonal/social/care factors (read: challenging in practice). It's empirically well-founded and emphasizes how arbitrary an asylum case can end up being supported/documented. Especially, how a rejected asylum seeker's case depends on the people surrounding them – both in terms of interpreting rules/what's important to support an asylum motive, and also in terms of the relational aspect of bringing out relevant details. It's a validation of the importance of our work. Please let me know if my comments are unclear. Best, [DRC8]

Table 2: Excerpts from my overall field log: an Excel sheet where I documented my ethnographic fieldwork.

ASYLUM ACTORS IN DENMARK

NGOs & Asylum applicants

The Red Cross clinic

The Trampoline House

*Conversations

Refugees Welcome

*Interview with chat person + volunteer meeting

*Interviews

(Representing the applicants at RAB)

*E-mail request sent to 2 lawyers - no reply

The Immigration Service

*Conversation with a former employee

The Refugee Appeals Board + former employees

Former asylum seekers (now with a residence permit)

*Interview

The Refugee Counsil
1) A legal advisory team
2) A return advisory team

*Long term observation study + Interviews

The Danish Red Cross
Deportation center Sjælsmark
Reception center Sandholm

*Long term observation study + Interviews

Demonstrations / Events

*Observation

The church /
The immigrant priest at Vesterbro

Assessors

*Conversations

Red Cross volunteers

*Observation

Asylum authorities

The public

Politicians

*Observation

The Immigration Service's Country of Origin Information Division

*Interview

The Danish Return Agency

*Conversation with a employee in 'Sjælsmark about access - e-mail sent to manager - no reply

The Prison & Probation Service Deportation center Sjælsmark

*Observation

The police

DATA FROM FIELDWORK

DATA, IT SYSTEMS & DECISION-MAKING

What types of data are produced to inform asylum decisions? How is data produced?

How do authorities and NGOs produce and work with data?

How is data stored, categorized, and shared across different actors?

Are there data that are not collected in this context that may be decisive for certain asylum decisions?

DATA FROM DOCUMENTS

Reports from Refugees Welcome

Documents from DRC

Documents from Red Cross

Podcasts

Legislations

Press releases

National strategies and reports

News articles

Social media

DATA FROM ASYLUM DECISIONS

Asylum cases / decision summaries from the Danish Refugee Council's Navnsdatabase (approximately 30.000 cases - where we can "only" read 14.000 of the cases)

Publicly available decision summaries from the Refugee Appeals Board (approximately 9800 cases)

Figure 2: A mapping of the multiple sites of empirical data assembling.

How is the "asylum seeker" configured by formal categorization practices and what are the "lived" experiences of those subject to this categorization?

ASYLANSØGEREN DATAARBEJDE.

EASO Practical Guide: Evidence Assessment

EASO Practical Guide: Personal interview

ARTEFAKT

DOKUMENTATION PÅ AT CREDIBILITY GIVER MENING

BORDER
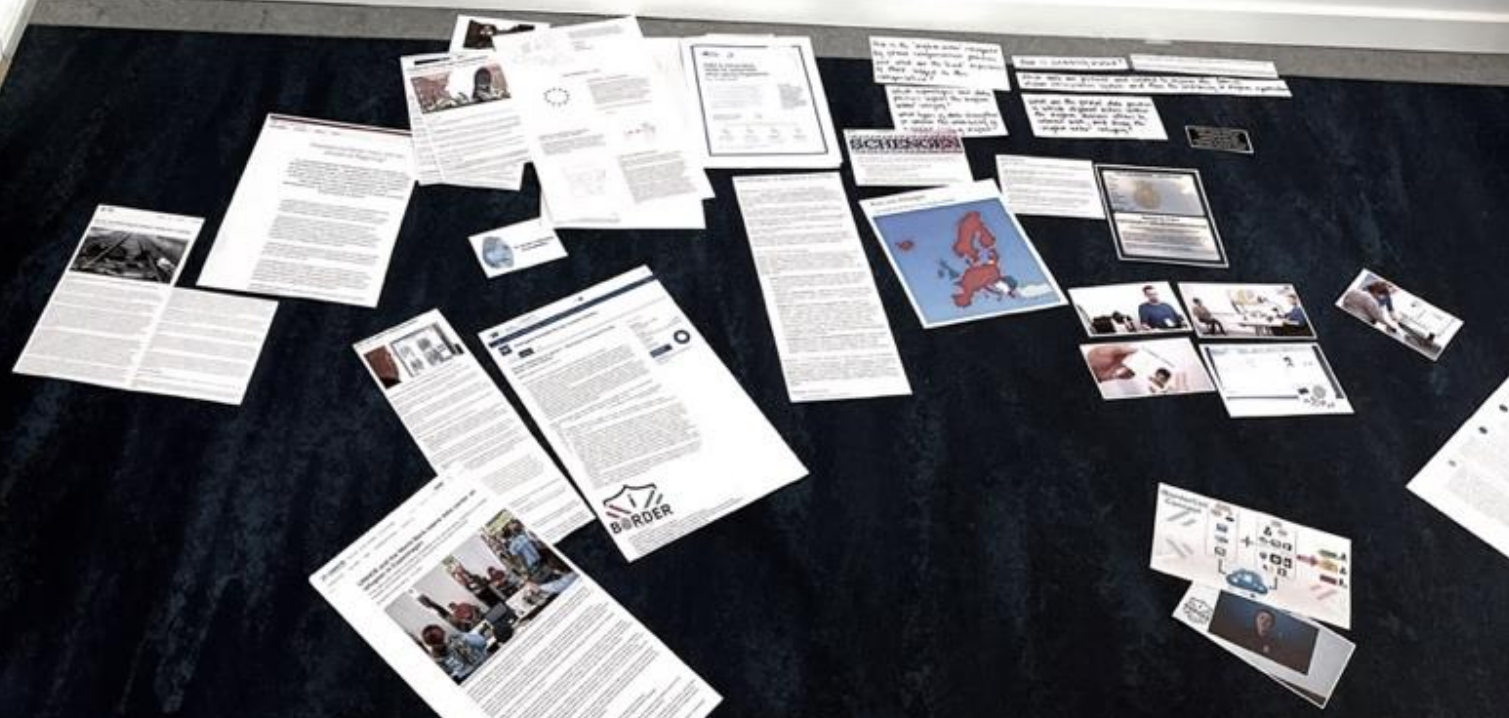
Photo: A photo from my office offering a glimpse into my exploration of the formal and publicly accessible asylum procedure.

4.3. Constructing my field site

Before I embarked on my journey to negotiate access to engage with asylum stakeholders and before I got out there and got my hands dirty (Boulus-Rødje 2023), it was crucial for me to gain a relatively comprehensive understanding of the intricate asylum system. Why? Because "one cannot see the contingent and the ad hoc unless one already knows the formal" (Dave Randall, Harper, and Rouncefield 2007, 218). Understanding that "plans are part of work and thus part of what needs to be understood when looking at work," (Ibid, p. 219) I initiated my investigation by systematically and analytically examining the formal asylum procedure from an outside perspective. This exploration involved gaining insights from the formal and publicly accessible asylum procedure, as explained by the first instance, the DIS. This included reviewing their website (newtodenmark.dk 2021), studying various documents and legislations, watching DIS's informational film[7] about the asylum procedure for asylum seekers, as well as scrutinizing and analyzing data from Dataset 1 (Katsikouli et al. 2022; Rask Nielsen and Holten Møller 2022; Nielsen et al. 2021a). Furthermore, I mapped out the Danish asylum actor system (see figure 3) as well as the data ecosystem (Nielsen et al. 2021a).

After gaining an understanding of the formal and visible aspects of the asylum procedure, I was motivated to delve deeper into the real-world, situated practices and activities that constitute asylum casework. I was eager to explore the nuances and complexities of the on-the-ground relational aspects of asylum casework as they unfold in their natural context—in other words, I felt ready to study "the actual 'doing' of work: work in the raw, how it is done in actual practice, as opposed to work in some idealised or theorised form" (David Randall, Rouncefield, and Tolmie 2021, 209).

Especially during the first year of my PhD, which also included several Covid-19 lockdowns, I learned how constructing my ethnographic field site and defining my research agenda required multiple rounds of negotiation (as described in paper 2). This entailed a degree of flexibility in both my own objectives as well as the initial research agenda of the larger project

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[7] https://www.nyidanmark.dk/en-GB/Words%20and%20Concepts%20Front%20Page/US/Asylum/Film_about_asylum

(DATA4ALL), which centered on giving voice to asylum decision-makers. However, these objectives were not confined to a single specific group or context. During this period, I was not yet aware of what became clear to me later: to comprehend the difficulties and complexities of the Danish asylum system (at least to some extent), I needed to iteratively map out (see figure 2) and engage with various stakeholders and facets of the intricate Danish asylum actor system. However, within the complex asylum system and its many actors, I also needed to figure out where to position myself (Harding 2004) and where to start the construction of *my* field site (Blomberg and Karasti 2013). After all,

> "the field site is not out there waiting to be visited; instead it is reflexively constructed by every choice the ethnographer makes in selecting, connecting, and bounding the site and via the interactions through which s/he engages with the material artifacts and the people who define the field" (Blomberg and Karasti 2013, 389).

Figure 3: A mapping, sketching out the various asylum actors in Denmark, including authorities, public instances, NGOs, associations, and movements.

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I needed to make a choice of where to start my ethnographic research and thus how to continue constructing my field site. I recognized that this decision was a pivotal one. I knew that choosing the starting position for my study would have a significant impact on, for example, the way I would talk about and describe the system and in this context the language I would use (Harding 2004). For instance, I needed to choose how I would refer to the location where individuals who have had their asylum claims rejected, but for various reasons are not able to leave the country and therefore are forced to stay; would I call it: 1) a "return center" (how the DIS has chosen to name this this place); 2) a "departure center" (how the DRC has chosen to name this this place); or 3) a "deportation center" (how the NGO Refugees Welcome has chosen to name this this place)? Language, and naming in particular, serve a purpose that extends far beyond mere identification (Feinberg 2022). As Feinberg (ibid) states, a name can introduce layers of meaning that require interpretation. Therefore, naming is not merely a passive act; rather, it possesses the power to bring something into existence and can encapsulate a significant amount of data within it. Indeed, "even as names are generally tricky and confusing … We should always scrutinize their potential for harm" (Feinberg 2022, 172). At the time of writing this dissertation, I am still puzzled about what to name this place. In Paper 2 (Nielsen, Menendez-Blanco, and Møller 2023) ,we refer to it as the "return center." However, in Part I of the dissertation, I have chosen to use the term "departure center," as it is the terminology employed by the DRC during the study period—the NGO dedicated to improving the rights of asylum seekers and refugees in both Denmark and the EU.

During my first year of the PhD, I found myself grappling with other fundamental questions: "How to see? Where to see from? What limits to vision? What to see for? Whom to see with? Who gets to have more than one point of view? Who gets blinkered? Who wears blinkers" (Harding 2004, 91)? When delving into perspectives, Haraway (ibid) argues that, "'subjugated' standpoints are preferred because they seem to promise more adequate, sustained, objective, transforming accounts of the world." Similarly, Gilliom (2001) argues "that one of the best ways to learn about a hierarchical system of surveillance is to go to the bottom of the hierarchy and encourage people there to speak in ways that are normally forbidden" (p. 14). For me, this meant choosing to commence my ethnographic journey by investigating "subjugated' standpoints" (Harding 2004, 91) at a departure center—the "bottom of the hierarchy" (Gilliom 2001, 14) for individuals denied asylum.

After more than half a year into my PhD project, a question kept resurfacing: ***Why had we in the DATA4ALL project not yet addressed the situation of rejected asylum seekers who are still living in Denmark, but are placed in departure centers, isolated from society?*** This recurring question motivated me to contact the RC at a departure center. My initial meeting with two caseworkers from their care team evolved into a long-term ethnographic field study.

Still, the empirical data production process informing this dissertation is best characterized as a dynamic exploration in and across several organizational settings. In addition to a long-term field study at a departure center, where I followed the work of RC, I negotiated access to do observations and conduct interviews at the DRC for a longer period (see table 1). Furthermore, I conducted interviews with caseworkers working in the DIS. Using ethnographic methods, such as observation combined with interviews, I traced the production process of Dataset 1 and 2 "back to the people and conditions that enabled their creation" (D'Ignazio and Klein 2020, 184). The long-term ethnographic fields studies offered rich grounded insights into the vulnerable circumstances of the individuals living at the deportation center and seeking legal advice at the DRC.

In the following sections, I provide a brief description of the three main field sites, Dataset 1 and 2, as well as an overview of the additional field sites and what they each contribute, individually and collectively, to this dissertation. A description of the technical infrastructures (the casework systems and databases) of the asylum decision-making process in Denmark is in itself a finding of this dissertation and will therefore be unraveled in Chapter 5.2.

4.3.1. A Red Cross (RC) care team at a departure centre in Denmark

According to the DIS, individuals who have been rejected asylum in Denmark and do not contribute to their own departure (for many various reasons) are in phase 3 of the asylum procedure and are required to stay at a so-called "return center" (newtodenmark.dk) (or "departure center"). During my ethnographic fieldwork, there were three such centers in Denmark. Individuals living at these centers are referred to by the DIS as "residents" or "foreign nationals" (The Danish Immigration Service and The Danish Agency for International Recruitment and Integration (SIRI) 2021). The departure center where I conducted a big part of this ethnographic enquiry was, at the time of this writing, described by the DIS as a "return center" for "typically solitary foreign nationals and childless couples, including:

- Rejected asylum seekers who have exhausted all avenues of appeal and who are not co-operating on their departure.
- Foreign nationals who are to be returned to another EU/EEA country in accordance with the Dublin Agreement.
- Rejected asylum seekers whose requests were processed according to the expedited procedure for manifestly ungrounded claims" (Ibid).

Upon entering the departure center for the first time, I quickly realized that meeting with actual domain experts, the RC care team, not only unraveled my initial assumptions, which I was about to incorporate into these larger datasets, but also confirmed an evolving suspicion: the taken-for-granted "truth" (Bacchi 2012) that such centers are solely inhabited by rejected asylum seekers or individuals awaiting departure from Denmark was not entirely accurate. Instead, I learned that individuals' experiences cannot always be neatly categorized as either "rejected asylum seeker" or "refugee." I learned that the asylum system is far more complex than I had initially understood from my desk research, and that the asylum procedure is often anything but a simple linear process. There are individuals who have been in the system for many years, some residing in departure centers for extended periods, and others who move in and out of the system (see paper 2). At my first meeting with the RC, I inquired about the concept of the departure center, to which RC1 responded: ***"A departure center? Who departs from here? This is more like a storage facility."*** This insight turned out to be an essential one for my PhD research. It piqued my curiosity as it introduced a novel aspect to asylum decision-making that had not yet been addressed within the scope of the DATA4ALL project: phase 3 of the asylum procedure (see figure 3).

The Danish Prison and Probation Service, also responsible for running the Danish prisons, is hired by the DIS to manage the operation of this center, which includes 24-hour staffing with access control (see paper 2).[8] The RC has a contract with the Danish Prison and Probation Service to provide basic health services, care work, adult education, and activation, as well as voluntary work at the departure center.[9]

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[8] https://www.kriminalforsorgen.dk/steder/udrejsecenter-sjaelsmark/

[9] https://www.rodekors.dk/vores-arbejde/roede-kors-asyl/asylcentre/sjaelsmark

Photo 1: Top left: The building where the Red Cross (RC) had their offices at the time of the study, and where I spent most of my time. Top right: The barracks where individuals enrolled in phase 3 (see Figure 1) of the asylum procedure are accommodated. Bottom left: The inside of the building where the RC had their offices at the time of the study. Bottom right: The office that I shared with one of the RC caseworkers.

The RC care team, whose work I observed, consists of ten people: one manager; three individuals on day shifts, two on evening shifts, and one on the night shift; and a social coordinator. Their daily work revolves around guiding and supporting individuals living at the center, including providing care to individuals who have been assessed as requiring special

support. These individuals may, for example, be dealing with mental or physical illness and therefore in need of special care and support. The RC recommends these individuals for placement in so-called "care spots," however, must be approved by the DIS. Paper 2 provides a more detailed description of this departure center, including its location, the restrictions individuals face while being there, and the RC's work practices.

Through a process of multiple rounds of discussions with two of the RC caseworkers, which included several emails, phone calls, and visits to the center where I provided detailed explanations about the objectives of my research project, we gradually built mutual understanding and trust. Finally, I negotiated access to observe their work practices over an extended period. Since June 2021, I have conducted approximately 10 hours of semi-structured interviews (both recorded and non-recorded) and 94 hours of observation, included shadowing, participation in formal and informal meetings, informal conversations, lunch breaks, course participation, and a yoga class (a RC activation class) (See table 1).

4.3.2. The legal team at the Danish Refugee Council (DRC)

DRC's legal team, whose work I followed, offers legal counseling to asylum seekers, refugees, immigrants, and others, e.g., volunteers or case managers, who work within asylum and repatriation. DRC's legal team advises in all phases of the Danish asylum procedure, including any possibilities for rejected asylum seekers, including their options to return to their country of origin (repatriation). Their main office is in Copenhagen, but their activities also take place in asylum centers, prisons, and municipalities around Denmark. Their counseling takes place over the phone, email, video, or in face-to-face meetings. When this study took place, the DRC also had an office in RC's building at the departure center. Here representatives from the DRC were present two days a week.

Since June 2021, I have conducted approximately 10 hours of semi-structured interviews (both recorded and non-recorded) and 62 hours of observation, included shadowing, participation in formal meetings with individuals enrolled in the asylum system either face-to-face, via video call, or phone call, other formal and informal meetings, informal conversations, lunch breaks, and a two-hour early counselling about the asylum procedure for asylum seekers who just arrived at the asylum reception center. This enabled me to develop a deeper understanding of the mundane daily work routines of the DRC's legal team, including how they

collaborate with other asylum actors (e.g., the RC) in their data work, and to become more acquainted with the challenging situations faced by asylum seekers.
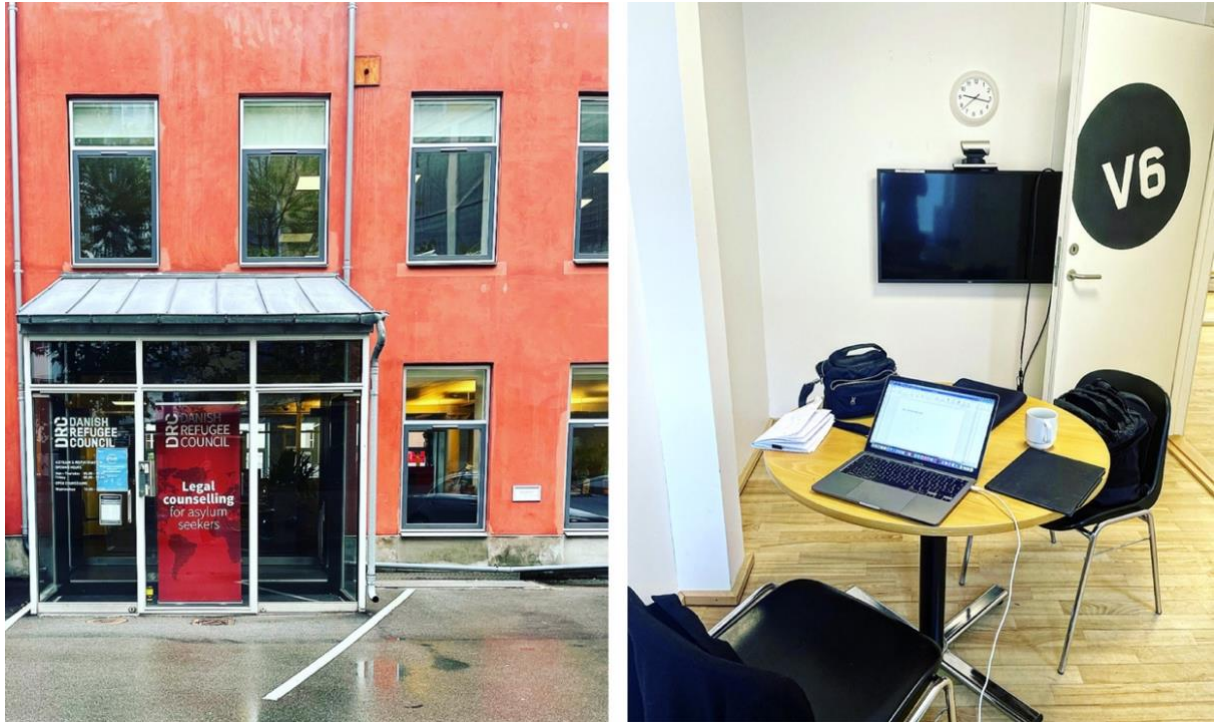
Photo 2: Left: The main entrance to Danish Refugee Council's (DRC) head office in Copenhagen. Right: One of the meeting rooms where I stayed between observing the work of the DRC legal counsellors.
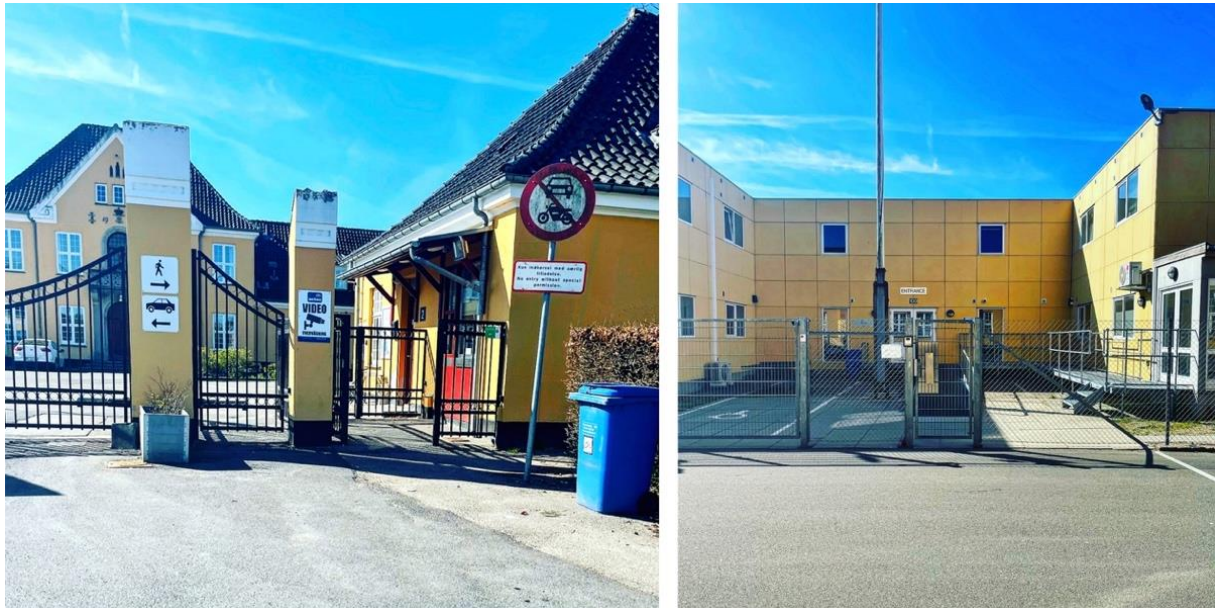
Photo 3: Left: The main entrance to the main asylum reception center in Denmark where the Danish Immigration Service (DIS) has their asylum offices. Right: The building where the DIS has their asylum offices which is where the asylum interviews are taking place.

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4.3.3. Caseworkers and managers at the Danish Immigration Service (DIS)

The DIS is an agency under the Ministry of Immigration and Integration. The Danish asylum procedure is two-tiered. Caseworkers working in the DIS handle the initial asylum applications. If an asylum case is rejected by the DIS, it is automatically referred to the second instance, the RAB (see figure 1 and Chapter 2).

The asylum department of the DIS is divided into four asylum offices, as well as the Centre for Documentation and Action against Extremism.[10] Caseworkers in the *1st asylum office* handle cases related to the withdrawal and extension of residence permits for certain groups of family reunification immigrants and refugees. In *the 2nd asylum office*, caseworkers conduct the initial asylum interview, focusing on establishing the applicant's identity and determining whether the asylum case should be processed in Denmark or another country. If an asylum seeker progresses to the "Normal Procedure" (see figure 1), they undergo at least one more asylum interview with a caseworker in the *3rd asylum office*, whose focus is to uncover the asylum seekers' claim for asylum to the extent that a decision can be made on whether to grant or refuse asylum. Caseworkers in the *4th asylum office* handle cases concerning individuals who are on "tolerated stay"[11] and cases concerning individuals who have asylum in Denmark but have an expired residence permit because they have been deported by court order and can be deported from Denmark. The Centre for Documentation and Counter Extremism is part of the DIS but operates separately from casework. Regarding asylum cases, their task is to provide information to support the casework upon specific request from the caseworkers (see paper 3).

Since September 2021, I have conducted approximately 11 hours of semi-structured interviews, some recorded and some not, with DIS employees and former DIS employees at various levels, including management and caseworker levels from the 2nd and 3rd asylum

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[10] https://us.dk/media/10565/us-orgdiagram-010723_da.pdf

[11] "A person on tolerated stay is an expelled person who is however considered to be at risk of persecution if returning to their home country. This person will therefore not be deported. Instead, this person is 'tolerated' in Denmark but will however not get a resident permit and is required to live at a return center and on a daily or weekly basis report to the police" (Nielsen, Menendez-Blanco, and Møller 2023, 24)

offices. Moreover, I interviewed a manager from the Centre for Documentation and Counter Extremism.

These interviews have offered valuable insights into the "workflows" of asylum decision-making, but they have not provided a deep understanding of "the realities of the flow of work" (Dave Randall, Harper, and Rouncefield 2007, 231). In other words, I have most likely been informed about the "plan" rather than the "situated actions" (L. A. Suchman 1987). The distinction between these two aspects remains to be explored. This distinction is important to understand because "people's verbal representations of their own behavior are often partial and sometimes incorrect. In other words, it is imperative to watch people engaged in activity as well as to ask them about it" (Forsythe 1999, 132). In the future, I hope to address this gap through long-term observations in the DIS, which will help uncover the nuances between the "workflows" and the actual "flow of works" within asylum casework on authority level.

4.3.4. *Dataset 1: Dataset from the Refugee Appeals Board (RAB)*

This dissertation also draws from administrative and legal records, specifically from the RAB's repository of publicly available asylum case summaries. This database offers public access to a selection of case summaries of asylum decisions initially rejected by the DIS. As an example of a case summary, see figure 5. The case summaries, formulated by the RAB, go back to 2004. They are categorized and organized by the Secretariat of the RAB, allowing for filtering of the cases. These categories (or meta data) include subject words indicating aspects such as the applicant's asylum motive (e.g., "Political Relations") and family situation (e.g., "Accompanied Minor Children"). Additionally, each case is categorized by the applicant's country of origin. Each case summary comprises free-text data, with the initial section presenting the RAB's decision, the year of the decision, the year of the applicant's application for asylum, as well as the applicant's gender. Moreover, other details may be provided, e.g., whether the applicant is a minor, whether the applicant has a previous criminal record, and whether it is a reopened asylum case. Subsequently, a summary of the case and the asylum motive follows. To protect the applicant's identity, the text is anonymized by substituting places and names with broad descriptive nouns and letters, such as '[hometown]' or '[daughter B, 0-3 years old]'. The final section of the case summaries outlines the reasoning for the decision and its legal foundation. The length of the case summaries varies.

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Praksis

Praksis

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Vælg land fra liste: Alle lande

Vælg afgørelsesår   Alle år

Søg ▶

Asylmotiv:

- Agents of Persecution
- Dublin - Asylproceduren
- Dublin - Familirelationer og ægteskabslignende forhold
- Dublin - Modtageforhold
- Generelle forhold
- Køns- og æresrelateret forfølgelse - Ægteskabelige forhold
- Køns- og æresrelateret forfølgelse - Seksuelle forhold
- Køns- og æresrelateret forfølgelse - LGBT+
- Militære forhold og politi
- Overgreb
- Privatretlig forhold
- Religiøse forhold
- Tortur
- Udrejseforhold
- Ændringer i hjemlandet
- Tilbageholdelse - Udgået

- Dublin - Afhængighedsforhold
- Dublin - Familier med mindreårige børn
- Dublin - Helbredsmæssige forhold
- Etniske forhold
- Helbredsmæssige forhold
- Køns- og æresrelateret forfølgelse - Anden forfølgelse
- Køns- og æresrelateret forfølgelse - Menneskehandel
- Kriminelle forhold i hjemlandet
- Nationalitet
- Politiske forhold
- Privatretlig konflikt - Udgået
- Tilknytning til oprørsgrupper
- Trusler og chikane
- Uforholdsmæssig straf
- Øvrige modsætningsforhold til myndighederne

Sagsbehandling og forvaltningsretlige spørgsmål:

- § 40-sager
- Dublin - Frister
- Hjemvisning
- Sagsoplysning
- Vidner

- Beviskrav og vurdering - Udgået
- Formandskompetence
- Mundtligt nævn
- Skriftligt nævn
- Øvrige sagsbehandlings- og forvaltningsretlige spørgsmål

Særlige sagstyper og problemstillinger:

- § 29 b
- Andre spørgsmål - Udgået
- Bortfald
- Dublin - Individuelle garantier
- Første asylland
- Genoptagede sager
- Inddragelse/nægtelse af forlængelse
- Konsekvensstatus
- Mindreårige
- Statusændring
- Svig
- Udelukkelse
- Ægtefæller med forskellige nationalitet

- § 49 a mv.
- Artikel 1D-sager
- Dublin
- FÅG-sager
- Første asylland/§29 b - Udgået
- IFA-lignende betragtninger - Udgået
- Internt flugtalternativ (IFA)
- Medfølgende mindreårige børn
- Rejsedokumenter
- Sur Place
- Tålt ophold - Udgået
- Uledsagede mindreårige (UMI)

Tips til søgning

Der kan søges på tværs af emneord ved at afkrydse flere emneord fra alle tre grupper.

Kun de praksisresumeer, hvor **alle** afkrydsede emner indgår, vil blive vist (AND).

Hvis du vil søge på fritekst i praksis, kan du klikke på dette link og afgrænse søgning til "Praksis".

Figure 4: A screenshot of the Refugee Appeals Board's publicly available database[12].

Emneord: Agents of Persecution
Land: Afghanistan

Nævnet hjemviste i januar 2020 Udlændingestyrelsens afgørelse vedrørende en mandlig statsborger fra Afghanistan. Indrejst i 2016.

Flygtningenævnet udtalte:

"Ansøgeren er etnisk usbeker og sunni-muslim af trosretning fra [en by], Kunduz, Afghanistan. Ansøgeren har ikke været medlem af politiske eller religiøse foreninger eller organisationer eller i øvrigt været politisk aktiv. Ansøgeren har som asylmotiv henvist til, at han frygter at blive slået ihjel af Taliban, fordi han har fungeret som arbaki og ikke har efterkommet kravet om at samarbejde med Taliban. Ansøgeren frygter endvidere at blive slået ihjel af de afghanske myndigheder, som mistænker ham for at være i ledtog med Taliban. Ansøgeren frygter ligeledes, at han vil blive slået ihjel af familiemedlemmerne til de otte kollegaer, som blev slået ihjel af Taliban. Til støtte herfor har ansøgeren oplyst, at han i 2013 tilsluttede sig en arbaki gruppe. Ansøgeren blev i [foråret] eller [sommeren] 2014 tilbageholdt af Taliban, som i samme forbindelse slog otte af ansøgerens arbaki-kollegaer ihjel. Herefter blev ansøgeren dømt til at få hugget sin højre hånd af. Der skulle endvidere betales 500.000 afghani, ligesom ansøgeren skulle samarbejde med Taliban. Ansøgeren blev løskøbt af sin far efter cirka en måneds tilbageholdelse på betingelse af, at ansøgeren skulle samarbejde med Taliban, så snart ansøgerens hånd var helet. I denne periode blev ansøgerens far gentagne gange opsøgt af familiemedlemmerne til de otte dræbte kollegaer samt af de afghanske myndigheder. Ansøgerens forældre og søster er blevet slået ihjel som følge af ansøgerens konflikt i Afghanistan. Flygtningenævnet finder, at det fremlagte materiale fra udlæsning af ansøgerens mobiltelefon vil kunne have væsentlig betydning for vurderingen af sagen. Som anført af den beskikkede advokat består der imidlertid en vis usikkerhed om den korrekte datering af billedmaterialet, således som det fremgår af metadataoplysningerne og de øvrige oplysninger, som nævnet er blevet forelagt om dette materiale. På den anførte baggrund finder nævnet det rettest at hjemvise sagen til fornyet behandling i Udlændingestyrelsen med henblik på, at der i styrelsen kan foretages en nærmere teknisk gennemgang heraf, herunder af dateringen og spørgsmålet om fotoshopping."
Afgh/2020/5/MLVT.

Figure 5: A screenshot of a decision summary of an asylum case from 2020 from the Refugee Appeals Board's publicly available database[13].

4.3.5. *Dataset 2: Dataset from the Danish Refugee Council (DRC)*

At the outset of the DATA4ALL project, the DRC granted us access to a non-public dataset consisting of data rich case files containing judicial decisions, procedural histories, relevant facts, and documents, as well as interview transcripts between DIS caseworkers and asylum seekers. The dataset consists of approximately 30,000 files, including Word documents and PDFs. With the assistance of a data scientist affiliated with the DATA4ALL project, and using text processing, we identified 86 cases that included the term "udlæs" ["read out"], which is the term used by the DIS to describe the tapping of the asylum seekers' data from their mobile

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[13] https://fln.dk/da/Praksis

technologies. These are the 86 cases from Dataset 2 that I read and analyzed and that partly inform the findings of paper 3 included in this dissertation. These case files provide "thick" descriptions into asylum casework practice, such as how data from asylum seekers' phones are acquired by the DIS and used by caseworker. They offer insights into the asylum interview setting, illuminating the contextual and social dynamics, including interview techniques, between DIS caseworkers and individuals being required to "provide the information necessary … [including] documents and objects that may be assumed to be of importance for the establishment of an alien's identity or ties with other countries" (Ministry of Immigration and Integration 2019).

4.3.6. Additional field sites

Throughout the past three years, I engaged with several additional field sites and sources beyond my primary locations of the DRC, the RC, the DIS, and the RAB's website. These supplementary sources and settings contribute to the depth and breadth of the dissertation.

At the very outset, it was also my intention to conduct ethnographic fieldwork at The Trampoline House,[14] a volunteer-run community center that, back in fall 2020, was open every day and offered legal counseling, activities, and community to individuals enrolled in the Danish asylum system. However, I never got to it, as it closed in December 2020 due to Covid-19 and lack of funding. I did, however, have a few conversations with the spokesperson of The Trampoline House. In January 2022 the new "Weekend Trampoline House" reopened in a church in Copenhagen (now moved to their own house in the town of Roskilde, near Copenhagen), where I have since participated in a meeting for new volunteers. Moreover, I attended a meeting for new RC volunteers and participated in various public demonstrations and events in Copenhagen, such as "Protect the Syrians in Denmark - Syria is not safe" and "Solidarity with the world's refugees - UN Refugee Day." This allowed me to gain insights into the broader context of asylum issues and observe the dynamics of public engagement with these topics.

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[14] https://www.trampolinehouse.dk/.

Photo 4: Top left: Photo from a conference held at the Danish Parliament, organized by the Danish NGO Refugees Welcome. Top right: Photo from a demonstration in Nørrebro, Copenhagen. Bottom left: Photo from a Danish Refugee Council (DRC) conference. Bottom right: Photo from a demonstration in Copenhagen.

Furthermore, I conducted a two-hour interview with a person who was granted refugee status, accompanied by a volunteer from the RC, with whom I became affiliated through the RC volunteer meeting and with whom I had several conversations. During this meeting, I gained valuable insights into the challenges faced by individuals seeking asylum, particularly those who do not neatly fit into the predefined asylum categories. It became evident that such individuals are sometimes transferred from one location to another, including prisons, asylum centers, and departure centers, before finally being granted asylum. This was the case for the person I talked to. This interview marked a significant moment for this dissertation, as it heightened my determination to gain access and conduct fieldwork at a departure center.

I also took part in two conferences held at the Danish Parliament. The first was "A Firm Hand - Denmark's Policy on Rejected Asylum Seekers and Return," organized by Refugees Welcome[15] (RW). The second was "Beskyttelse på lånt tid" ("Protection on Borrowed Time"), hosted by Amnesty International. Furthermore, I took part in an DRC conference: "Kvindernes Internationale Kampdag - Protester i Iran og lighed i det danske asylsystem" (International Women's Day - Protests in Iran and Equality in the Danish Asylum System). These conferences exposed me to discussions and developments related to asylum policies and practices from the perspectives of politicians, legal experts, NGOs, researchers, asylum seekers, and refugees. This enriched my understanding of the broader policy and legal context surrounding asylum casework.

In addition to on-site fieldwork, I conducted remote fieldwork, which involved both formal and informal interviews and conversations as well as desk research. Over the phone, I engaged with a diverse range of individuals, including the representative from the Trampoline House, the spokesperson for RW, and employees from the DIS, DRC, and the RC (including volunteers). Moreover, I continuously gathered various public documents, such as legal documents and news articles. These documents served as crucial contextual sources for understanding the legal and political frameworks that shape asylum casework and thus asylum decisions. From the outset of my PhD, I started following diverse NGOs and political parties on various social media platforms (e.g., X, Facebook, and Instagram). This remote fieldwork allowed me to gain insight into a multitude of perspectives.

Engaging with various field sites and stakeholders allowed me to attain a more comprehensive and nuanced understanding of the multifaceted aspects of asylum decision-making and data production within the Danish asylum system. Consequently, these supplementary field sites and sources afforded me a broader contextual perspective, which in turn enabled me to establish "analytic connections" (Dave Randall, Harper, and Rouncefield

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[15] Refugees Welcome (RW) is a Danish NGO that provides free legal advice and assistance to asylum seekers and refugees. Additionally, RW works at the political level to enhance the legal status of refugees while also disseminating information and knowledge about refugees in Denmark.; https://refugeeswelcome.dk/om-os/

2005, 93) across the different field sites. Thus, this multi-sited ethnographical approach expanded my insights beyond traditional spatial and temporal constraints and significantly influenced and enriched the findings presented in this dissertation.

DATA LITERACY
CARING THROUGH DATA

How is the "asylum seeker" configured by formal categorization practices and what are the "lived" experiences of those subject to this categorization?

- TK modul?
- TG Modul?
- Planlægning?
- Er det ikke alle borbeire, der har vildejgbeft? hvem hvor ag meget?

DFHs rådgivning" i Sandhol...
* Telepapir
* One Pager ✓
Papir, der (måsk) bliver vdle... ifbm skaansationvning

CASEWORKER
DIS CASE OFFICERS   AS THEY PRODUCE ANALYZE INTERPRET
RC CARE WORKERS
DRC LEGAL COUNSELLORS   DATA THAT CASEWORK S

DCR SOM BESLUTNINGSTAGER → AG-PROCEDUREN
(Her ev DCR skrevet ind i Toolj vikringer)

→ vært igennem hele asylprocession
nu gvek og mednil i appan på asyl.)

Studie og brugte asylansagerer gidteyepusnisen"

"Et udbigecenter er ikke nødvendigvis d. center, hvor man rejser ud fra."

ANNULERNE ENKELTELSER   ASYLANSVERING
3 ASYLKONTOR
ASYLANSVERING

BAGGRUNDSPERSNIANGK

DATABASER   Artikel 34
* Dublin rut (on... pa 2 mate EU lande)

* Anmelding (kommelipesory)
* EVIDA

RK → Lethsyl (centernes databore system)
? → IBS (Udlendingestyreisens database system?)

VS → # 350° - Elektromisk sags- og dokumnthåndbring

VELSECREUND/LINDRING: Hélace sture mobiler ena mennesker (per #

* "Vi kan ikke oprethonu velperdssenyndt, da is
→ ...ikke kan finde nok varret handar."

* "Løsning: Mere digi talisering/techno..."
→ Løsning: Mere digitalisering/technology...

A CARE CRISES

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Photo: A photo from my office offering a glimpse into my explorative and iterative approach to data analysis.

4.4. Data analysis

The empirical data that I assembled from the various field sites played a pivotal role in shaping and informing the research questions and data analysis for the four research papers presented in this dissertation. These field sites provided valuable and rich sources of empirical data about asylum decision-making. By situating myself within these diverse organizational settings, I was able to continually refine and adapt the research questions as well as my thematic data analysis to address the complexities and nuances observed in the field.

For analyzing the empirical data that inform the research presented in this dissertation, I drew inspiration from constructivist grounded theory (Charmaz and Thornberg 2021; Charmaz 2006) as well as qualitative thematic analysis (Bryman 2016). Grounded theory is a method that "makes explicit use of the capabilities that nearly all human share, to be curious about the world, to understand the world, and to communicate that understanding to others" (Muller 2014, 25). However, Muller (ibid) argues that it is "difficult to know what a reference to 'grounded theory' means in CSCW and HCI, and it is correspondingly difficult to assess the quality and rigor of grounded theory reports" (p. 27). Drawing inspiration from constructivist grounded theory (Charmaz and Thornberg 2021; Charmaz 2006) as well as thematic analysis (Bryman 2016) meant that my methodological approach to construct theory from empirical data was systematic, albeit far from a straightforward, step-by-step process. I look back at my PhD research as a dynamic and iterative journey, characterized by non-linearity and complexity. This aligns with an understanding of data analysis as

> "a craft, and like every other form of craft it is never fully bound by rules, but only based on them. A rule-based understanding of data analysis acknowledges and celebrates the lived differences between theoretical reality, empirical richness, and situated improvisations on the part of data analysts" (Passi and Jackson 2017, 9).

The data analysis shaping this dissertation is characterized as a process of surprises, constant learning, and reflexivity. The boundaries between defining my research questions, producing empirical data from various sources (figure 2), and coding and analyzing them were flexible and overlapping. Each phase informed and influenced the others. In other words, I revised and refined my research questions several times based on emerging patterns, unexpected observations, and feedback from the participants informing the research. This explorative and iterative approach allowed for a deeper and more nuanced understanding of the role of data in

asylum decision-making from a practice perspective. In the following section, I further elaborate on this explorative and iterative approach to data analysis.

When utilizing data from asylum seekers' mobile technologies, what characterizes asylum data work?

Which types of data? (Make a figure)

When (and who)?

Whom (and who)?

New types of data used for credibility assessment / Back-up data

In favour of the asylum seeker?

A gradual move from authentication in the direction of criminal investigation

A document / A tool for confirmation

A choice to consent? Uneven power relations

Advice from NGO to asylum seeker

An undefined or opaque practice?

Mobile technologies can have multiple users

Double surveillance

Asylum seekers losing their lifeline – for who know how long…

Expectations of state surveillance shaping asylum seekers' technology use

Data i forbindelse med teknologier

Facebook

Mobile technologies and social media as safe space?

Suspicion, when there are no data on the phone…

From an NGO perspective, how do asylum seekers experience this practice?

ML? Searching for what?

Regnumskabe for udlanding?

Ikke nationsspecifik en regnumskabe for udlanding?

LEAP-report Table of Contents

SKAM

Photo: A screenshot from a MIRO board (from Paper 3) serving as a tool for crafting my qualitative thematic analysis.

4.5. Triangulating methodological challenges

In this dissertation, I draw inspiration from the three key aspects of triangulation as laid out by Christin (2020): "saturation," "disengagement," and "positionality." I use these three concepts to describe my data analysis and the challenges involved in combining "multiple research methods, angles, and materials" (Christin 2020, 908), with the overall purpose of understanding the role of data in asylum decision-making from a practice perspective.

I acknowledge that the data informing this dissertation are imbued with my own subjective assumptions and values; they are framed by the questions I ask to the asylum caseworkers as well as to the data analysis. In other words, the representations that I craft as an ethnographer "are as much a reflection of [my] own cultural positioning as they are descriptions of the positioning of others" (L. Suchman 1995, 63). As an ethnographic researcher, I am an interpreter of the empirical data that I produce when engaging with the field that I construct. My background, identity, and perspective shape the empirical data, analysis, findings, discussions, and so on, all which shape this dissertation (also see the following section "4.6 More positionality (and speculations)").

The moment I endeavor to comprehend the meaning of the empirical data, the inherently subjective process of interpretation commences. However, to challenge and scrutinize my own assumptions and values, as well as the analyses I conduct, I engaged in discussions about my observations and findings with various stakeholders, including the RC, DRC, DIS, and fellow academics. In this way, ethnography goes beyond the mere collection of empirical data; to me, it encompasses a commitment to understand the participants' narratives as accurately as possible and to represent them in the research with respect and empathy.

Actively seeking the input and clarifications of these stakeholders served to minimize the potential for misunderstandings or misinterpretations of their data practices, including their perspectives and experiences. I have been dedicated to collaborating with domain experts to assemble comprehensive empirical data, thus enabling me to thoroughly investigate and address my research questions and ultimately achieve empirical saturation.

Conducting ethnography is a prolonged process (Dave Randall, Harper, and Rouncefield 2007). I have learned how it requires building relationships and trust with domain experts, which can be challenging given the sensitive and politicized nature of the asylum system (and Covid-19). Similarly, the protection of confidential information within the asylum process

imposes limits on the depth of insight I have been able to obtain. These factors and others limit the extent to which I have been able to delve into certain aspects of asylum casework. For instance, I have not yet been given permission to observe the DIS's interviews with individuals applying for asylum. That said, I am optimistic that my commitment and ongoing efforts to maintain a persistent and constructive dialogue will lead to the establishment of an even more reliable and cooperative relationship with DIS. My hope is that my proactive approach in building such essential partnerships to navigate this sensitive research context will eventually open the door for me to conduct more comprehensive and in-depth observational studies in the DIS in the foreseeable future.

My PhD research has been influenced by several other factors that have had a substantial impact on the methodology I deploy, shaping the boundaries within which I have conducted my research. These constraints encompass issues related to access, confidentiality, and trust-building with domain experts. I continuously considered the potential implications for asylum caseworkers, such as whether I should (with the best intentions) reveal confidential information or sensitive practices that potentially undermine their work. I remained constantly aware of the fact that the trust and cooperation of these caseworkers could be compromised if my research were to bring to light invisible workarounds, or confidential or potentially controversial data practices, jeopardizing their jobs. For instance, one RC caseworker told me during our second meeting: ***"The moment you write about it, it's over, and then we just have to follow a script"*** **(RC1).** Consequently, I learned how "*discretion is important*" (Dave Randall, Harper, and Rouncefield 2007, 191). Transparency, open dialogue, and discussing my findings with the asylum caseworkers thus became an integrated part of my methodology. This way of establishing and maintaining partnerships with domain experts to seek saturation is a fundamental and ongoing process, even while writing this dissertation, to acquiring long-term access to study and comprehend the complexities of the role of data in asylum casework.

More concretely, as part of my methodology I circulated the research papers as drafts to the participants contributing to this dissertation. This gave them the opportunity to point out where I could possibly nuance my data analysis or point out something I had misunderstood before I sent the drafts to the management level, who then similarly had the opportunity to read the drafts and provide their feedback. Additionally, I presented and discussed my findings (as PowerPoint presentations) in more formal meetings with the RC (one representative on

management level), the DRC (approximately 30 representatives from the DRC asylum team), and the DIS (two representatives on management level).

As a result, I ended up writing and publishing about "it" (referring to the citation above from the RC caseworker) in paper 2 (Nielsen, Menendez-Blanco, and Møller 2023). However, I did so only after discussing and presenting a draft to the caseworkers who participated and shared their work practices and experiences.

4.6. More positionality (and speculations)

As already touched upon, Christin (2020) highlights how "ethnographic fieldwork cannot be separated from the question of positionality" (p. 909). Thus, to provide context for this PhD research, I disclose aspects of my positionality that inherently affect the research (Karusala et al. 2017). I am a white European cisgender woman and mother with a background as a designer, and with a particular interest in in critical, speculative, (Auger 2013; Dunne and Raby 2013) and participatory design (Bødker et al. 2022; Simonsen and Robertson 2013) methods. I hold a full-time PhD position at a state-funded academic institution in Denmark. I am born in Denmark and have lived my entire life here, which has granted me the privilege of holding a beetroot-colored passport that allows me to enter almost any country in the world.

My cultural and socioeconomic background, of course, shapes my perspectives and interpretations, and thereby influences my research. For example, my Danish nationality and the associated privileges, including the freedom to travel almost anywhere, limit my understanding of the challenges faced by asylum seekers and refugees, such as being forced to flee from war and persecution or having to deal with fundamental issues of citizenship and national belonging. My background as a designer has also, to some extend, left an imprint on my research. I have consistently felt a desire to visualize my research, yet I never truly acted on this urge as I had hoped. However, I believe that my interest in critical and speculative methods contributed a critical and reflective dimension to my research. Due to my background, as well as the fact that I had no prior connection to the asylum system before embarking on this PhD, except for what I observed in the news, the question, ***"Who am I to study the role of data in asylum casework?"*** is one that continuously haunts me. However, while this question poses insecurity and self-doubt, I also believe it keeps me humble, curious, and self-reflective regarding the limitations and biases I introduce to the research. I hold onto this belief because I am truly dedicated to continue conducting (hopefully valuable and impactful) research within this domain.

Talhouk et al. (2018) call upon researchers working in the context of refugees and asylum to share their experiences and reflections. In this context, they created "guidelines for HCI researchers working on refugee issues," (p. 50) which I revisited several times throughout the PhD project and with which I can truly relate. Being part of an interdisciplinary research project and conducting ethnographic research on this highly politicized and sensitive topic across

various organizations also meant, for me, having to navigate diverse political opinions, different points of view, and motivations among stakeholders and project peers. Moreover, I have had concerns about the fact that topics like asylum and migration have become central in current debates about what researchers can or cannot discuss without the risk of being labeled as politicized and, consequently, considered less "objective" by certain politicians.[16] Over the past three years, at times I felt I had to restrain myself from expressing my own views and feelings. For instance, during interviews or the more informal conversations, I had to sometimes carefully consider how to phrase my questions and responses, e.g., to build trust or ensure I did not inadvertently offend or simple disturb the person in front of me. Or during observations, as I listened to the traumatic experiences of asylum seekers, I often found myself in an internal battle with my emotional reactions, as exemplified in the following field note:

> [Name of an individual living at the departure center] and the RC caseworker leave the room. I get tears in my eyes… Fuck fuck fuck!!! I can't sit here crying! Pull yourself together!!!(Field note, asylum departure centre, November 4, 2021)

There were other times when I felt overwhelmed, like an intruder, and simply helpless, realizing that my PhD project might not bring about much change to either the working conditions of the caseworkers or asylum seekers, if any at all. In other words, the complexities of the asylum system and the deeply entrenched challenges often left me with a hopeless acknowledgment of the limitations inherent in my PhD research.

At the outset of this PhD project, it was my intention (Nielsen et al. 2021a) that my training as a designer, with a particular interest in in critical, speculative, (Auger 2013; Dunne and Raby 2013) and participatory design methods (Bødker et al. 2022; Simonsen and Robertson 2013), would influence my tools and techniques for conducting ethnographic fieldwork. The first research papers that I published during this PhD (Holten Holten Møller, Rask Rask Nielsen, and Le Dantec 2021; Nielsen, Trine Rask and Holten Møller, Naja 2020) was in relation to a

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[16] https://www.information.dk/moti/2021/06/universitetsverdenen-oproer-politisk-indblanding-henrik-dahl-morten-messerschmidt-pointe and https://politiken.dk/indland/art8242811/»Nu-har-du-stillet-mig-otte-spørgsmål-omkring-min-egen-position-som-forsker-og-om-jeg-har-lavet-fejl-og-vi-snakker-ikke-om-regeringens-politik«

research project, EcoKnow (Hildebrandt et al. 2020), that I was part of as a research assistant. In the context of public services and unemployment, we used speculative design methods to gain an understanding of how vulnerable groups of individuals experience the increasing use of data about them by government agencies. This speculative design study was informed by several years of ethnographic fieldwork (Møller and Cohn 2023; N. L. Holten Møller, Fitzpatrick, and Le Dantec 2019). In this PhD project, I envisioned that a designerly approach would allow me to critically investigate the current data practices of asylum decision-making and discuss alternative scenarios, while actively giving voice to relevant stakeholders, ultimately contributing to a more nuanced and insightful exploration of the complex asylum system.

However, as I began constructing my field site and engaging with stakeholders, I found myself grappling with feelings of intrusiveness and humility in this extremely sensitive context. Additionally, I felt overwhelmed by continuously emerging information about the complex and distributed system, as well as the experiences of asylum seekers. These experiences prompted me to continuously reflect on my initial intention (Nielsen et al. 2021a) of using critical, speculative, (Auger 2013; Dunne and Raby 2013) and participatory design methods (Bødker et al. 2022; Simonsen and Robertson 2013), and, in this regard, my "inaction" (Bødker et al. 2022; Simonsen and Robertson 2013) of not doing so.

During this reflection, I arrived at a crucial realization, drawing from Auger's insights, that:

> One of the key factors responsible for the success of a speculative design project is the careful management of the speculation; if it strays too far into the future to present implausible concepts or alien technological habitats, the audience will not relate to the proposal resulting in a lack of engagement or connection (Auger 2013, 12).

At this point, for me, the implications were not to speculate. To me, it simply did not feel appropriate at the time. Speculation and critical design aim to critique current practices (Ibid). Before I can take a critical stance regarding the role of data in asylum casework and, consequently, craft and manage a speculation carefully and responsibly, it is essential for me to thoroughly investigate and understand asylum data work within its broader context. As a result, I decided in this PhD research to solely draw on ethnography in CSCW as the starting point to comprehend the significance of asylum data work concerning time, space, and its connections to other activities (Blomberg and Karasti 2013) within the immensely complex asylum system.

Currently, artificial intelligence (AI) is not yet a systemic part of the process of making asylum decisions in Denmark or in any of the Nordic countries. However, this dissertation illustrates the gradual evolution and testing of the datafication of the asylum domain. Given CSCW's objective to bridge the gap between ethnography and design, I envision for my future research the use of critical and speculative design (Auger 2013; Dunne and Raby 2013) as well as participatory design methods (Bødker et al. 2022; Simonsen and Robertson 2013; Kensing and Blomberg 1998) to bridge this gap before AI is introduced and integrated into the asylum decision-making process. Such methods can help us critically reflect and engage in a democratic dialogue with stakeholders on the current role of data and data-driven technologies, as well as on the potential future consequences of AI utilized as part of asylum casework.

5. Findings

This chapter presents the overall contributions and findings of the four research papers constituting Part II of the dissertation. Each of the four research papers touch upon the theoretical concepts presented in Chapter 3, highlighting different aspects of the role of data in asylum decision-making from a practice perspective. Table 1 provides an overview of the four publications, including their research questions, their contributions and finding, as well as their authors and status (published or submitted).

Publication no.	Research question(s)	Contribution and findings	Authors / Status
1. Data as a Lens for Understanding what Constitutes Credibility in Asylum Decision-making	How are individuals applying for asylum configured as credible through different forms of data and documentation in asylum decision-making in Denmark?	The paper contributes a qualitative study, analyzing 50 summaries of appeals cases from the RAB's publicly available database. We show how caseworkers operationalize the concept of credibility in practice through data. The caseworker's assessment of credibility reflects a discretionary practice where certainty is attained through the identification of discrepancies or divergencies among various data sources.	Trine Rask Nielsen and Naja Holten Møller. Published in Proc. ACM Hum.-Comput. Interact. 6, GROUP (January 2022) and presented at the The ACM International Conference on Supporting Group Work (GROUP) conference 2022/23 at Hilton Head Island, South Carolina, USA.
2. Who Cares About Data? Ambivalence, Translation, and Attentiveness in Asylum Casework	How are asylum caseworkers enacting care as a relational aspect of casework when producing data about asylum applicants for decision-making?	The paper contributes a care-centric perspective on casework, aiming to enhance sensitivity to the complex relational dynamics and outcomes resulting from work practices increasingly influenced by data and data-driven technologies. We find that caseworkers actively engage in the practice of care during moments of ambivalence, translation, and attentiveness to "new substantial information" relevant for asylum decision-making. Where and how data are produced matters for how an asylum case is constructed; and asylum caseworkers, spanning both NGOs and governmental authority levels, play a pivotal role in fostering asylum seekers' data literacy.	Trine Rask Nielsen, Maria Menendez-Blanco, and Naja Holten Møller. Published in Computer Supported Cooperative Work (CSCW). The Journal of Collaborative Computing and Work Practices (June 2023) and presented at the ECSCW 2024 conference in Trondheim, Norway. The paper was awarded the David B. Martin Best Paper Award.

| 3. Mobile Phone Data Transforming Casework in Asylum Decision-making. | In a context in which asylum case officers obtain and utilize data from asylum seekers' mobile technologies and social media to inform asylum decision-making, what characterizes data literacy? | The paper contributes empirically grounded insights concerning the influence of data derived from asylum seekers' mobile technologies and social media on asylum decision-making. It explores the methods through which DIS case officers curate, interpret, and employ this data.

We find that these new types of data are assembled and used in the following ways: 1) through distributed, collaborative, and resource-intensive efforts; 2) in every stage of the asylum procedure and even after being granted asylum; 3) as back-up data for credibility assessments; 4) within unequal power dynamics; and 5) in an opaque and unsystematic manner. | Trine Rask Nielsen, Thomas Gammeltoft-Hansen, Thomas Troels Hildebrandt, and Naja Holten Møller.

Submitted to the ACM Journal on Responsible Computing. |
| 4. Probing Democratic Dialogue with and through Asylum Case Data | How can a mixed-methods approach, including text mining, Natural Language Processing (NLP), and qualitative data collection with domain experts contribute to opening democratic dialogue about their work or practices? | The paper contributes to emerging debates on approaches to open spaces for democratic dialogue about asylum data practices with and through data.

Our findings show how the category "unknown homeland" in the RAB's database can reveal practices of data work. | Naja Holten Møller, Vasilis Vlachokyriakos, Trine Rask Nielsen, Ioannis Efthymiou, Tina Westergaard Milbak, Kristin Kaltenhäuser, Tijs Slaats, and Paul Dourish.

Submitted for CHI24, The ACM (Association of Computing Machinery) CHI conference on Human Factors in Computing Systems. |

Table 3: Overview of research papers.

5.1. How is the "asylum seeker" construed in and through data that become part of large datasets on legal practice?

The Danish asylum decision-making process is characterized by a complex interplay of various stakeholders, bureaucratic and legal rules, as well as increasingly advanced and intricate data-driven procedures. At this stage, caseworkers are not accustomed to thinking of individual cases as part of a larger dataset that can be utilized to examine practices comprehensively. I find that DIS uses the rejected cases in the RAB's database to gain knowledge of the prevailing practices (see paper 4); however, this is not systematically integrated into their casework. Moreover, the DIS does not operate based on a practice of revisiting previous cases where individuals have been granted asylum, as these cases are not systematically organized in a database like the rejected cases in the RAB's database.

The DATA4ALL research project as well as paper 4 exemplify how data from individual cases can be extracted and turned into a dataset across cases. In this process, individuals are transformed into data subjects—a transformation driven by diverse relationships, interactions, and dynamics between people and technology. The findings across my four research papers show how the practices surrounding this system are distributed, evolving, and continuously influencing the data that become large datasets on legal practice, which are used by caseworkers in their work of construing the "asylum seeker."

From the start of my PhD, I became curious about one of the initial steps in the asylum procedure: when the asylum seeker is requested to complete an asylum application form (see figure 7). This standardized form is 10 pages long, and whatever the applicant chooses to write, or not write, by hand on these pages comes to serve as baseline data, which become an integral part of the process for categorizing the applicant's asylum motive as either credible or non-credible. The applicant can either chose to write from as little as a single line explaining their asylum motive to as much as they can fit in four available pages. If the applicant is unable to complete the form or refuses to, they proceed to the next steps of the asylum procedure without it. This self-reported data then undergoes a process of interpretation or "cleaning" by a DIS caseworker—a step approved by the applicant. By analyzing cases from the RAB's database (Paper 1, Rask Nielsen and Holten Møller 2022), I found that in the subsequent steps of the asylum decision-making procedure caseworkers from both the DIS and the RAB (if the case is

rejected by the DIS) can request elaboration or clarification regarding any divergent asylum motive explanations.

This form immediately caught my interest as it exemplifies how the asylum seeker is construed in and through data that eventually become large datasets, for example in the RAB's database. Moreover, it shows how classifications and standards, such as this form, are not neutral; rather, they carry social values and implications (Bowker and Star 2000). This case, for example, inherently involves DIS caseworkers' subjective interpretation.

The asylum application form is one example of a standardized artefact that produces data that become embedded in the asylum procedure's complex web of legal, political, and subjective factors, which starts with the asylum seeker's completion or noncompletion of the application form and ends with the final decision-making steps.

We learn from prior research that for data to be useful for analysis they "require encounters between people, technologies, and data" (Bossen et al. 2019, 466). By qualitatively investigating summaries of 50 asylum cases (see paper 1, Rask Nielsen and Holten Møller 2022), I find that the asylum seeker is construed in and through data that are created, collected, managed, curated, analyzed, interpreted, and communicated (Bossen et al. 2019, 466) across nation states and caseworkers' intricate relational and discretionary data practices. My findings show how caseworkers at the authority level employ data work to discern individuals whose asylum motives they deem credible and that can be fit into one of the four groups of refugee statuses (Rask Nielsen and Holten Møller 2022). This discretionary distinction is made in contrast to individuals whose asylum motives are assessed as lacking credibility or failing to meet the asylum criteria. Specifically, Paper 1 (ibid) shows how this involves a discretionary assessment that includes cross-examining various data points, spanning from register data (e.g., data from passports, birth and marriage certificates, and residence and travel documents), free text data (e.g., self-reported data from the application form as explained above), biometric data (e.g., finger prints or facial recognition), data from policy-informed reports about the conditions in the applicant's country of origin, data from the applicant's mobile phone and social media, and data produced during the asylum interviews, aiming to identify and rule out any divergences or contradictions across the data.

All four research papers, presented in Part II of this dissertation, empirically contribute grounded insights into how the asylum seeker is construed in and through casework and the

role that data and categorization play in this process. My findings add to studies that suggest that the intricate and complex social realities of individuals exceed available category schemes (Star and Bowker 2007; Bowker and Star 2000). I do this by making visible the relational aspects of care in casework enacted by caseworkers to compensate for the formal coarse-grained categories formulated by those in power, in this case asylum authorities and policy-makers.
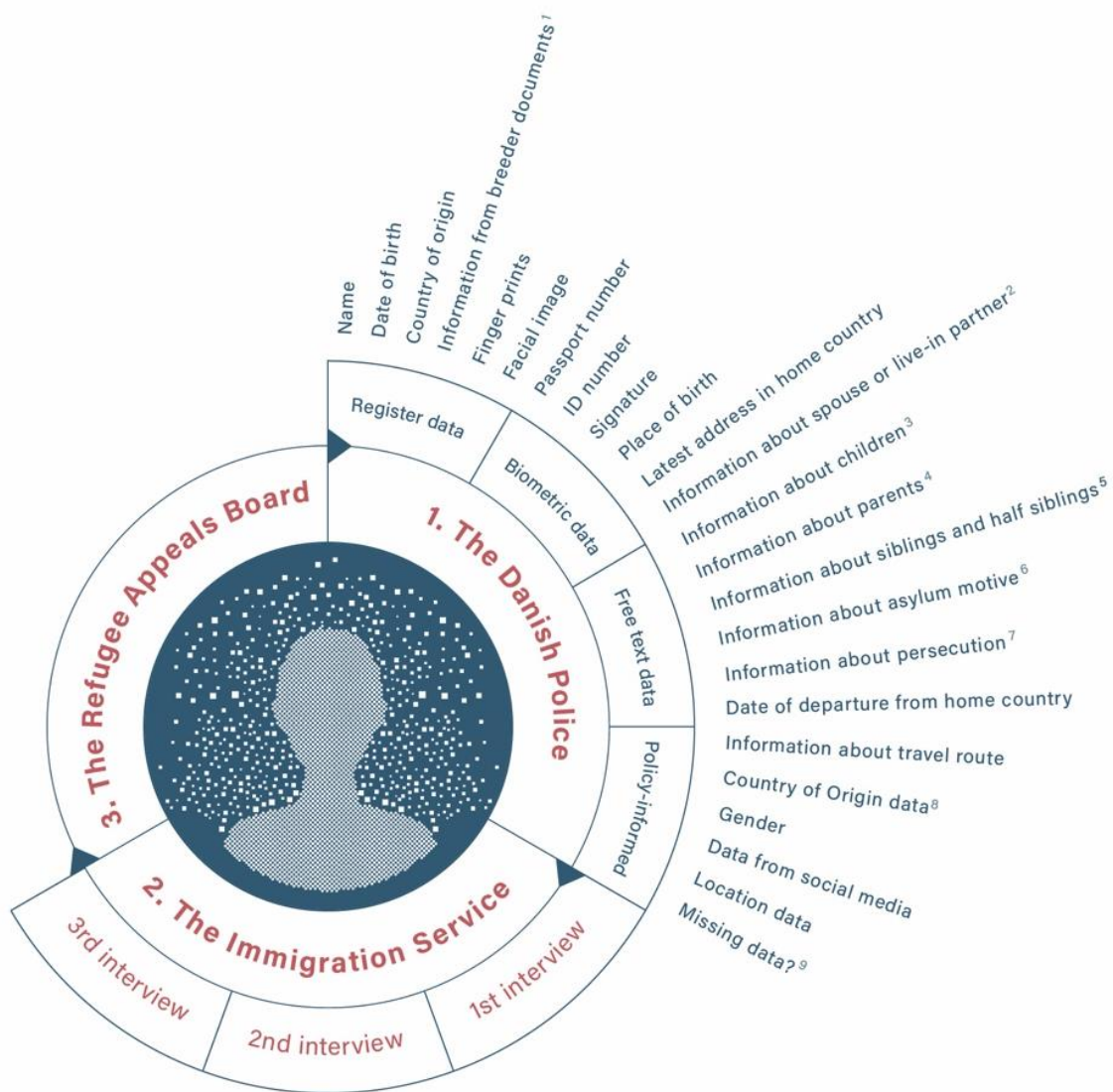
Investigating datasets or designing new technologies to support, for example, asylum casework or data analysis, requires acknowledging that "representations do not innocently reflect reality but also have a role in producing it" (Thylstrup 2021, 40). This is clearly exemplified in paper 2 (Nielsen, Menendez-Blanco, and Møller 2023) and is therefore also a main argument of my research. Previous research (Bowker and Star 2000; D'Ignazio and Klein 2020) reveals this critical risk associated with solely engaging with formal and visible categories formulated by actors in power—in this case, the Danish asylum authorities. If we aim to design new technologies to support, for example, asylum casework, a critical investigation of categories that misrepresent or artificially limit our understanding of actual realities and lived experiences becomes necessary. In my research I take a critical awareness of the constructed nature of data and categories when investigating and making visible metadata about the asylum seeker in and through data as well as the infrastructure of categorization (Star and Bowker 2007, 275) surrounding and influencing caseworkers' data work. My findings confirm that solely focusing on formal and visible data practices and categories can limit our understanding of an often intricate and sensitive reality.

Paper 2 (Nielsen, Menendez-Blanco, and Møller 2023) sheds light on some of the realities and lived experiences that do not neatly conform to predefined systemic categories (either formal or informal). The empirical data narratives show how NGO caseworkers compensate for the coarse-grained categories created by authorities. I find that NGO caseworkers step in and bridge systemic gaps, offering support and guidance to individuals that perhaps to not fit neatly into the categories. Their data work thus goes beyond merely documenting while adhering to bureaucratic processes; it also involves compensating for the system's shortcomings by translating the asylum procedure to the individuals enrolled in the system, while being attentive to "new substantial information" (see paper 2, ibid). Essentially, my findings show how NGO caseworkers translate "between the DIS and the applicant, making the applicants

aware that they should contact the DIS and complete their asylum motive with additional data that are necessary for a relevant, consistent, coherent, and thus credible asylum claim" (Nielsen, Menendez-Blanco, and Møller 2023, 32).

My findings not only problematize the extent to which existing categories can capture the intricate and complex social realities of individuals enrolled in the asylum system, but also challenge us to contemplate more thoughtfully the relational aspects of casework underlying these categories. It prompts reflection on the process by which data about individuals applying for asylum are produced and turned into large datasets that uphold established "master narratives" (Star and Bowker 2007, 278) in the form of coarse-grained categories, such as "asylum seeker", "rejected asylum seeker", "refugee"—or "unknown homeland" as illustrated in paper 4. Paper 4 shows how open datasets like the RAB's publicly available dataset are used to construe the asylum seeker and thus shape asylum decision-making. Moreover, the findings show how Dataset 1 (RAB's database) consists of a structured and systematic collection of data, which, like in all other databases valorize one point of view, while suppressing another. Thus, the findings exemplify how some categories, and thus individuals, are made visible at the expense of silencing others (Bowker and Star 2000, 5).

The notion of "peopling" has been used to elucidate how data practices are progressively involved in constituting certain populations as comprehensible objects of governance and concern (Cakici, Ruppert, and Scheel 2020). This perspective highlights the role of data practices in shaping and defining groups of individuals into categories that can be managed, studied, and acted upon within various contexts. My research confirms this. I find that research, asylum authorities, and NGOs increasingly adopt and apply data science techniques to analyze large asylum datasets with the aim of gaining deeper insights into and enhance asylum decision-making processes. For example, in paper 3, I find that asylum authorities increasingly depend on data obtained from mobile technologies and social media to construe the asylum seeker. Streams of data are extracted from the asylum seeker's phone and categorized by caseworkers. These data, which come to represent the individual applying for asylum, are influenced and prepared through various steps of translation work and discretionary practices across NGO and authority levels.

Figure 6: The formal landscape of data production in asylum decision-making in Denmark – figure from paper 1 (Rask Nielsen and Holten Møller 2022).

Figure 7: An excerpt (3 out of 10 pages) from the asylum application form that the DIS requests an individual applying for asylum fill out shortly after being registered as an asylum seeker (Rask Nielsen and Holten Møller 2022).

My focus has been on qualitatively understanding the distributed and evolving role of data in asylum casework. My findings exemplify the importance of adopting a critical stance on how and where data are produced and transformed into categories as a human endeavor. They show how caseworkers' discretionary data work, which involves the production, contextualization, interpretation, and leveraging of data (Bossen et al. 2019; Møller et al. 2020), plays a pivotal role in construing the asylum seeker. The findings illustrate why it is particularly crucial to explore the categories created by authorities and policymakers to classify specific groups.

I argue that problematizing how the asylum seeker is construed in and through data is crucial because these data are categorized into datasets that come to represent the "ground truth"—a "ground truth" that reflects and reproduces a reality stripped of its nuance, concealing "the messier version of what is inside" (ibid, 273). When researchers, asylum authorities, and NGOs utilize and incorporate these datasets into their practices or analyze them using data science techniques, there is a risk of reinforcing and perpetuating a limited understanding of asylum decision-making practices.

5.2. What socio-technical infrastructures shape stakeholders' usage of data about the individual asylum seeker?

Throughout the past three years, I have investigated the socio-technical infrastructures, including the social practice of work as well as physical and material systems and databases, that facilitate the standardization and categorization of data that represent asylum seekers.

Organization	Database / Casework system
Danish Immigration Service (DIS)	**Public 360°** Case management system
	Carl 2 The Central Address Register Solution for foreigners
	Evida Database supporting case processing with background information bout conditions in the applicants' countries of origin
	DubliNet Database supporting data sharing across member states
Red Cross (RC)	**LetAsyl** Case management system used at the asylum centers
	EDJ Electronic Daily Journal - Part of the RC intranet
	Afmelding Daily registration - Part of the Prison and Probation intranet
Danish Refugee Council (DRC)	**AdvoPro** Case management system
	Nævnsdatabasen Database with asylum decisions made by Refugee Appeals Board (the 2nd instance)

Figure 9: The databases/casework systems of which the first author was presented to by NGOs and authorities as part of the fieldwork (Nielsen, Menendez-Blanco, and Møller 2023, 14).
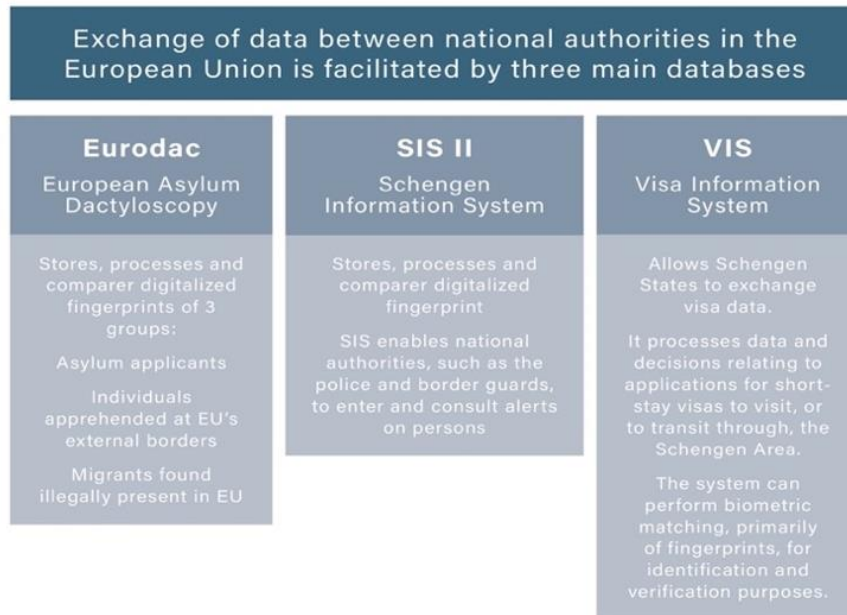
Figure 8: Three main databases, facilitating the exchange of data about asylum seekers between national authorities in the European Union – Figure from (Nielsen et al. 2021a).

Bowker and Star (2000) view infrastructures as complex systems that encompass both technological and social aspects and are formed through social and political processes and negotiations—hence, as socio-technical infrastructures. Socio-technical infrastructures are influenced by those who use them, and vice versa. Furthermore, they embed options for action, often serving as norm-setting in the contexts where they are used or included.

Through my field studies, I became particular familiar with the casework systems used by the RC and DRC. The RC uses a casework system called LetAsyl.[17] LetAsyl includes a resident registry where each individual living in one of the asylum centers has their own file, in which all data, such as personal information, social evaluation, and asylum phase (see figure 1), is registered. Apart from the resident files, it is possible to search the registry using criteria such as personal ID, name, age, or accommodation. Moreover, the system allows for gathering

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[17] https://www.letasyl.dk

statistics, such as the distribution of gender, age, and accommodation time. DRC's primary casework system is called AdvoPro[18], in which DRC's legal team record all information about the people seeking their help. I gained limited insight into DIS's casework system, Public 360°[19], which is the main casework system they use for case processing. All data produced about individuals applying for asylum, staying at Denmark's asylum centers, and/or seeking DRC's support, as well as necessary for DIS, RC, and the DRC to fulfill their work tasks, are registered and stored in these casework systems. Figure 9, from paper 2 (Nielsen, Menendez-Blanco, and Møller 2023) and figure 8, presented in a ECSCW 2021 poster paper (Nielsen et al. 2021a), overview these main casework systems as well as other systems and databases the NGOs and authorities presented to me, either directly or indirectly, during my fieldwork. All these casework systems and databases facilitate the exchange of data about asylum seekers between national authorities in the European Union (see figure 8) as well as connect data representing individuals involved in the asylum system in Denmark (see figure 9). For example, this includes: individuals who have an active asylum case; individuals whose asylum case has been rejected, but who for many different reasons do not have the opportunity to leave the country and are therefore staying at a departure center; or individuals who have been granted a residence permit. In other words, data produced by caseworkers across NGO and authority levels to represent asylum seekers, rejected asylum seekers, and refugees are compiled into casework systems and databases from various locations (e.g., asylum interviews at the DIS, asylum accommodation centers, departure centers, or at the DRC). In this process, data are sorted into categories to align within the formal schemas of databases and thus become an integral part of asylum decision-making in Denmark.

These casework systems and databases work as crucial socio-technical infrastructures that interconnect data representing individuals in the asylum system. They are socio-technical in the sense that they encompass both social and technical elements. Although they serve as tangible

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[18] tps://eg.dk/it/advokater/eg-advopro-advokatloesning/

[19]   https://www.tietoevry.com/dk/tietoevry-industry/elektronisk-sags-og-dokumenthandtering/360-elektronisk-sags-og-dokumenthandtering---esdh/

technical installations utilized by caseworkers in their physical work environment, they are established through social and political processes and negotiations (Bowker and Star 2000).

My findings show how the process of producing data about individuals applying for asylum to inform asylum decision-making consist of socio-technical infrastructures—or "socio-technical intervention[s]" (Bossen et al. 2019, 466)—that makes possible the standardization and categorization of data about individuals' asylum cases. As Passi and Jackson (2017) argue, "it takes work to make data work" (p. 2). Each of the four research papers examine and exemplify characteristics of how data about individuals are constructed, interpreted, and shared by caseworkers in their day-to-day practices across various casework systems and data bases. My findings show how the work of DIS, RAB, DRC, and RC caseworkers, their relations, material resources, the social settings, and the distributed asylum system all collectively shape how and which data about the individual asylum seeker are included and excluded in the various asylum casework systems (see figure 9) and databases (see figure 8).

As mentioned, the Danish asylum system also formally includes the RC and the DRC. I find that the DIS, the RAB, the RC, and the DRC exist within different work settings and situations, each with distinct responsibilities and perspectives, however with a shared goal, namely to better understanding and supporting individuals applying for asylum while ensuring legal compliance. Instead of comprising an all-knowing system, I find that each organization uses a vast array of casework systems and databases (see figure 8 and 9). This decentralization of data is influenced by various organizational, legal, and political factors. Their distinct responsibilities and perspectives, as well as data protection practices (the General Data Protection Regulation (GDPR)), play significant roles in shaping the distribution and utilization of data across these diverse entities.

Although these systems are to some extent malleable (Dourish 2017), the "openness, flexibility, and extensibility of a database lie in the content that fits within the schema. That schema itself, however, is more rigid" (ibid, p. 114). Nadim in Thylstrp (2021) remind us that "with the increasing reliance on data-based knowledge and solutions and mounting data collections, concerns about who and what is being recorded, and how and for what purpose, are more urgent that ever" (p.130). This concern has guided my PhD research throughout the past three years as I have strived to investigate and make visible aspects of asylum casework that are not explicitly formally defined or built into the system.

My findings show that not only the DIS and the RAB, but also the RC and the DRC, play important roles in data construction as well as "making asylum seekers aware of how data are produced, what data are relevant, and what criteria are used to assess the data produced through different artefacts (i.e., the applicant form) and events (i.e., the asylum interviews)" (Nielsen, Menendez-Blanco, and Møller 2023, 43), thereby influencing "who and what is being recorded" (Thylstrup 2021, 139). Although these actors are not directly involved in the official asylum decision-making process, I find that they often serve as the go-to sources for asylum seekers lacking the necessary social and legal support to navigate the asylum decision-making process and understand what constitutes quality data relevant for the documentation of their asylum case (ibid).

In formal bureaucratic casework where NGOs play a role in data construction, it is evident from prior research (Voida, Harmon, and Al-Ani 2011; Le Dantec 2016) that data infrastructures can pose obstacles to incorporating quality data into formal decision-making processes. Such findings prompt a shift in focus from simply enhancing caseworker systems to seriously considering *how* data production, integration, and structuring can be optimized to better include the NGO perspective that is, in this case, formally part of the overall system. This shift of focus, to a higher extend including an NGO perspective, I argue, acknowledges the primary mission of asylum decision-making; namely, to ensure that data are structured meaningfully with the purpose of informing critical decisions, aligning with DIS's mission "that the right individuals are granted residency and protection in Denmark, and that the right individuals receive rejections" (The Ministry of Immigration and Integration 2023, 5). My findings across the four research papers demonstrate that ensuring the quality of data produced at both authority and NGO levels requires as close collaboration with non-data scientists, specifically those producing the data, like asylum caseworkers. Such collaboration can improve the condition for structuring data toward better understanding and supporting individuals applying for asylum while ensuring legal compliance.

5.3. Why are relational aspects of care in data work important to the production of quality data in asylum casework?

The concept of care is not typically associated with casework; instead, casework, especially in its new data-driven forms, is primarily considered in terms of bureaucratic design (Pääkkönen et al. 2020), including the processes involved in documenting and producing data. Scholars in the fields of CSCW and HCI are placing growing emphasis on how technology can support both the material and relational aspects of care (Karusala et al. 2021). This raises questions about how to manage and articulate notions of care in a standardized manner for formal representations of work and decision-making processes. My research contributes to this body of work by demonstrating how relational aspects of care in casework are crucial for facilitating the construction of quality data (Sambasivan et al. 2021) that make an asylum case sufficiently documented.

The main theoretical contribution of this dissertation lies in expanding the concept of data work to include care. Specifically, my findings in paper 2 (Nielsen, Menendez-Blanco, and Møller 2023) contribute rich empirical insights to studies of data work (Bossen et al. 2019; Møller et al. 2020; Sambasivan et al. 2021) and care (Schorch et al. 2016; Karusala et al. 2017; Kaziunas et al. 2017; Ismail, Karusala, and Kumar 2018; Kaziunas, Klinkman, and Ackerman 2019; Seo et al. 2019; Karusala et al. 2021; Sciannamblo et al. 2021; Avlona and Shklovski 2023; Meng, DiSalvo, and Zegura 2019) by investigating and making visible the intricate dynamics of relational aspects of care within the concept of data work in an asylum decision-making context.

My research demonstrates how relational aspects of care in casework such as "*ambivalence, translation*, and *attentiveness to 'new substantial information'*" (Nielsen, Menendez-Blanco, and Møller 2023, 1) are important for enabling the production of quality data (Sambasivan et al. 2021) in asylum case documentation.

My findings show the complex ways in which asylum caseworkers enact care within the restrictive bureaucratic and politicized constraints of the asylum system. For example, while following the work of the RC at the departure center, I experienced first-hand how RC caseworkers often had to "walk a thin line, balancing bureaucratic constraints while collaboratively seeking for spaces for the enactment of care" (Nielsen, Menendez-Blanco, and

Møller 2023, 26). In paper 2, the empirical data make visible the situated and often overlooked aspects of the care that caseworkers enact in their everyday data work. They illustrate how this work is carried out individually and collectively across three asylum stakeholders (the RC, the DRC, and the DIS), balancing bureaucratic boundaries while striving to support individuals enrolled in the asylum system in understanding and navigating the asylum system's intricacies.

My findings contribute to CSCW studies that recognize data and datasets as already cooked (Bowker 2005), and data and databases as relational (Walford 2017; Winthereik 2023; Dourish 2017); thus, how there is no such thing as raw data (Gitelman 2013). Dourish (2017) unpacks database management systems, such as the ones presented in figure 9, as "relational entities", while Borgman (2015) describes such systems as "an ecology of people, practices, technologies, institutions, material objects, and relationships" (p.4). Along these lines, understanding the socio-technical complexities of the relational data work behind these database management systems—the data work of non-data scientists, in this case the asylum caseworkers—supports developing and maintaining them responsibly as well as making sense of the collections of data they store.

Le Dantec and Edwards (2010) show how relational data work enacted to by NGOs to is essential for marginalized individuals to navigate complex systems. Le Dantec and Edwards' (2008) ethnographic inquiries on a shelter staff's situated work with data management illustrate how social work, including care provision, is prioritized above managing and maintaining technology. Their empirical findings exemplify how data systems for nonprofit organizations do not fully support complex human communication and cooperation. In the context of child welfare, Saxena et al. (2022) highlight how discretionary aspects of data work that informs collaborative high-stakes decision-making must be supported by socio-technical systems that are designed based on a worker-centered perspective. Within the domain of job placement, Møller et al. (2020) classify caseworkers' discretion as a starting point "for human values to enter society's decision-making practices" (p. 10). My research contributes to this strand of research by theorizing relational aspects of care in data work in the context of asylum decision-making, thereby expanding the concept of data work to include aspects of care. In paper 2 (Nielsen, Menendez-Blanco, and Møller 2023) I find that relational aspects of care (or the lack of it) in data work shape how data about individuals' asylum cases are constructed. The empirical data presented in this paper illustrate show how some asylum cases would not be

sufficiently documented if it was not for the "relational aspects of data production … enacted in the situated process where asylum caseworkers 'care' that asylum seekers know how to navigate the system" (Ibid, 43).

Thus, the focus of this dissertation goes beyond the caseworkers' documentation of asylum cases to include the caring aspects of the caseworkers' data work. By expanding the theoretical concept of data work to include care, this dissertation underscores the importance of the human element in the increasingly data-driven asylum process. Why? Because this dissertation documents how the subtle yet significant act of care as a relational aspect data work faces growing challenges when "refugee law is increasingly entering the world of big data" (Hamilton Byrne et al. 2023, 1). Particularly, the findings of paper 3 show how new data infrastructures add complexity to an already complex asylum casework and consequently, the agency of asylum seekers is under pressure, which means the applicant's ability to adequately document their case with relevant and consistent quality data is equally challenged.

Acknowledging relational aspects of care in data work, as demonstrated in Paper 2, is a first step toward ensuring that this form of discretionary work is considered when developing casework systems and other data-driven technologies in the asylum domain. In an increasingly datafied asylum context where data science approaches to asylum decision-making are progressively emerging and undergoing experimentation, my research underscores the importance of understanding, valuing, and encoding relational aspects of care in casework. This is crucial if we are to aim for producing quality data to inform asylum decision-making, avoid technological fixes (Benjamin 2019), and thus safeguard the democratic, legal, and human rights of individuals enrolled in the asylum system.

OMSORG

Photo: A photo of the door to the office that I shared with a caseworker at the departure center. "Omsorg" is the Danish word for "Care."

5.4. Given that new types of data are increasingly available in the asylum domain, how is data literacy supported in practice?

A final contribution of this dissertation is to extend and contribute to the concept of data literacy by showing where, how, and by whom quality data are produced to inform asylum casework. This expansion transcends the domain of data scientists by showing that "ground truth" is also influenced by caseworkers who model and label data when they select and curate how an asylum case is constructed. Ground truth is thus a "social accomplishment" (Muller et al. 2021, 11) to Dataset 1 and 2 achieved by both asylum authorities and NGOs, I argue.

Formally, NGOs are not part of the asylum decision-making process; however, a main finding of this dissertation is that asylum caseworkers at both authority and NGO levels play a pivotal role in contextualizing, interpreting, and categorizing data about individuals applying for asylum. In other words, caseworkers from both the DIS, the DRC, and the RC are involved in asylum data work that potentially impacts asylum decision-making outcomes. Moreover, both levels are taking part in making individuals aware of "formal procedures for data production, including the importance of translating their accounts into relevant and credible data for decision-making" (Nielsen, Menendez-Blanco, and Møller 2023, 26). All three stakeholders, to some extent, guide and support individuals enrolled in the asylum system to comprehend the process of data production, the significance of relevant data, and the criteria used to evaluate the data produced and assembled throughout the asylum procedure.

The findings of this dissertation show how asylum authorities increasingly turn to new data and data-driven solutions. In this regard, the empirical data presented in Part II exemplify how asylum authorities incorporate new types of data, such as data from individuals' mobile technologies and social media, to supplement the assessment of asylum claims. Paper 3 provides insights into the real-world practices of how the DIS adopts these technologies in the asylum decision-making process. The empirical data in this paper also indicate that NGOs lack a clear understanding of when, how, and why these new data practices are carried out as part of the decision-making procedure. I find that a lack of transparency and undefined procedures surrounding emerging forms of data work in asylum casework increasingly hinders NGOs' comprehension and navigation of the asylum process, potentially exacerbating the vulnerability of asylum seekers and refugees.

I contend that this lack of understanding and transparency poses a threat to the democratic, legal, and human rights of individuals enrolled in the asylum system, underscoring the importance of research on data infrastructures to inform data literacy initiatives within this domain. This involves raising awareness, promoting transparency, and ensuring agency and accountability in the utilization of new data and data-driven technologies.

Because, "standards are made to disappear from view, to sink to the level of infrastructure, to go unnoticed, and to become second nature" (Mulvin 2021, 46), a central argument of this dissertation is that we need to scrutinize, question, and make visible such new data infrastructures that are not immediately visible to NGOs, the public, and most importantly the individuals enrolled in the asylum system. This dissertation underscores the importance of establishing a collective comprehension among all asylum stakeholders on both authority and NGO levels regarding their specific functions in the process and practice of supporting data literacy to ensure data quality for asylum decision-making. I argue that it is essential that NGOs, who are formally part of the asylum system, possess a comprehensive understanding of how the introduction and utilization of new data infrastructures impacts the processes of asylum casework and the potential implications that arise from them.

Altogether, dissertation emphasizes how it is crucial that all parties involved and responsible for producing quality data understand how to navigate and actively participate in an asylum system increasingly driven by data. Accordingly, it is critical to negotiate a data infrastructure that enables both NGOs and authorities to serve as producers of data. For data literacy to be effectively supported in practice, it is essential to establish more democratic mechanisms for accountability and transparency. This becomes particularly important in the context of the gradual adoption of new data infrastructures, which function as tools supporting caseworkers in the assessment of asylum claims. Such mechanisms should be designed to empower both authorities and NGOs to actively contribute to the construction of quality data. Most importantly, such data infrastructures must avoid the reduction of asylum seekers to mere data subjects and instead make room for individual agency and system accountability, "as it is only when the individual asylum seeker and the caseworker can both navigate the process of data production and case construction that an asylum case is sufficiently documented" (Nielsen, Menendez-Blanco, and Møller 2023, 5).

6. Conclusion

Asylum casework is a socio-technical process and, as such, a practice closely tied to legal rules, guidelines, and institutional procedures. The aim of this dissertation has been to understand the various socio-technical practices involved in producing and utilizing data about individuals applying for asylum—a type of work theoretically known as "data work." From a CSCW perspective, this concept encompasses the data practices performed by non-data scientists, in this case, asylum caseworkers.

Grounded in the research fields of CSCW and Critical Data Studies, I have in this dissertation employed a qualitative research approach to investigate the role of data in asylum casework, exploring the data work performed by caseworkers across authority and NGO levels. This includes caseworkers from the Red Cross at a departure center, the legal team of the Danish Refugee Council, caseworkers from the Danish Immigration Service operating at the main Danish asylum reception center, and the Refugee Appeals Board.

Drawing inspiration from a multi-sited approach to ethnography, I have examined the role of data in asylum casework from a practice perspective, with a particular emphasis on: 1) the datafication of the asylum domain; 2) the data work of non-data scientists 3) relational aspects of data work, and 4) how to support data literacy.

I have drawn inspiration from feminist data studies on the production of counter- or missing data—an approach that investigates and sheds light on perspectives that might be overlooked, misrepresented, or not represented in data and datasets. My emphasis has been on assembling and analyzing small and thick data situated in context, rather than focusing on large datasets. The smaller, ground-up qualitative data that I have produced and curated in this dissertation serve as a foundational exploration of relational aspects of data and data work behind large datasets, addressing some of their inherent data gaps. As part of the ethnographic method, I have emphasized bringing my findings back to the participants of the study with the ambition of achieving empirical saturation, and thus promoting a responsible approach to my research.

My focus has been on the socio-technical data infrastructures shaping asylum casework and the increasing expectation that data and large-scale datasets can be transformed into knowledge instrumental for researchers, asylum authorities, and NGOs, either as part of their practice in determining asylum eligibility or for gaining deeper insights into and enhancing asylum decision-making processes. I find that in the search for "ground truth," data-science approaches

to asylum case work are emerging, in turn transforming asylum casework. In this regard, this dissertation has centered its focus on the reality that caseworkers model when constructing asylum cases, shedding light on relational aspects of data production from a caseworker's perspective.

"Ground truth" is not a concept typically used in law and in the context of asylum decision-making. Nevertheless, my findings suggest that asylum caseworkers' data work contributes to shaping the data that informs asylum decisions and later feeds into large datasets used by research, authorities, and NGOs. This implies that "ground truth", embedded in these datasets, is also influenced by caseworkers who model and label data when they select and curate how a case is constructed. Thus, the findings of this dissertation broaden the understanding of "ground truth" to encompass the perspective of asylum caseworkers and how relational aspects of their data work contribute in substantial ways to enabling the production of quality data.

The main theoretical contribution of this dissertation lies in expanding the concept of data work to include care. A core principle of administrative law asserts that authorities bear the responsibility to thoroughly document a case before arriving at a decision. This requires quality data. My findings suggest that the production of quality data involves aspects of care and meaningful interactions between individuals and technologies. In particular, I find that that care as a relational aspect of casework is enacted by caseworkers in moments of ambivalence, translation, and attentiveness to "new substantial information" relevant for asylum decision-making. Thus, this dissertation adds to the current body of CSCW research on care by expanding sites of care in CSCW and by showcasing the situated relational aspect og data work enacted by asylum caseworkers. With the findings in this dissertation, I bring data work and, in this context, care to the forefront within CSCW and the HCI community more broadly.

Lastly, I find that new data infrastructures introduced as part of asylum decision-making, such as extracting data from individuals' mobile phones, add complexity to an already intricate asylum casework, making it even more challenging for asylum seekers to exercise authority and agency. Consequently, I argue, that for an asylum case to be sufficiently documented, it is imperative for individuals enrolled in the asylum system to comprehend what data, how data, and why data about them are produced, interpreted, used, and shared throughout the asylum procedure. It requires data infrastructure literacy from all parties. Nevertheless, my research

indicates that there is a lack of clarity from both authorities and NGOs regarding who is responsible for fostering data infrastructure literacy.

Although NGOs are not directly involved in the official asylum decision-making process, my findings show that they are often the go-to sources for asylum seekers lacking the necessary practical and legal support to navigate the asylum decision-making process, as well as to comprehend what constitutes quality data that might be relevant for the sufficient documentation of their asylum case. Based on the findings of this dissertation, I argue that when authorities introduce new data infrastructures, we must include the important insights and experiences of NGOs—those who directly engage with individuals enrolled in the asylum system. Such a collaborative approach can, to a greater extent, lead to data infrastructures that take into account the relational aspects of data work enacted by asylum caseworkers and thus enhance data quality, ultimately contributing to more transparent and, thus, democratic asylum processing procedures. Finally, this dissertation opens a space for future research to explore data infrastructure literacy initiatives for supporting asylum seekers' legal, and human rights.

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PART II: RESEARCH PAPERS

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Paper no. 1:

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Data as a Lens for Understanding what Constitutes Credibility in Asylum Decision-making

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In asylum decision-making, legal authorities rely on the criterion "credibility" as a measure for determining whether an individual has a legitimate asylum claim; that is, whether they have a well-founded fear of persecution upon returning to their country of origin. Nation states, international institutions, and NGOs increasingly seek to leverage data-driven technologies to support such decisions, deploying processes of data cleaning, contestation, and interpretation. We qualitatively analyzed 50 asylum cases to understand how the asylum decision-making process in Denmark leverages data to configure individuals as credible (or not). In this context, data can vary from the applicant's testimony to data acquired on the applicant from registers and alphanumerical data. Our findings suggest that legal authorities assess credibility through a largely discretionary practice, establishing certainty by ruling out *divergence* or contradiction between the different forms of data and documentation involved in an asylum case. As with other reclassification processes [*following* Bowker and Star 1999], credibility is an ambiguous prototypical concept for decision-makers to attempt certainty, especially important to consider in the design of data-driven technologies where stakeholders have differential power.

CCS Concepts: • **Human-Centered Computing → Collaborative and social computing**; *Empirical studies in collaborative and social computing*

KEYWORDS: Refugees, Asylum, Discretion, Data, Categorization, Asylum Decision-making, Credibility

1 INTRODUCTION

In 2021 the Danish government announced that it intended to deny renewing the temporary residency status of at least 189 Syrians. Besides Hungary, Denmark would be the first European nation state to revoke the residency permits of Syrian refugees and no longer grant them asylum, based on its assessment that some parts (Damascus area) of the war-torn country are safe to return to[1]. The data that informed the country report were contested by expert sources

[1] https://www.theguardian.com/world/2021/apr/14/denmark-revokes-syrian-refugee-permits-under-new-policy

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used by the Danish government[2]. According to the Danish NGO Refugees Welcome, 90 Syrians, mainly women, have since lost their appeals, since the new policy assumes that because as women they do not serve in the Syrian military, they are not as risk of reprisals for evading conscription.[3] The case in point demonstrates the centrality of data as a lens for understanding what constitutes credibility and certainty, which are both important categories in asylum decision-making.

The research outlined in this paper intersects research on collaborative technologies (e.g., caseworker systems) that support classification and categorization in data-driven bureaucratic practices [6, 23, 34, 36, 41] and research in migration and asylum decision-making – a concrete domain and interest for Computer-supported Cooperative Work (CSCW) and the broader Human-Computer Interaction (HCI) research [1, 42, 43, 44, 45].

An enduring challenge for asylum decision-making remains the uneven application of international law across states. To mitigate this challenge, nation states, international society, and NGOs increasingly are embracing the collection and use of personal data of people affected by forced displacement. The UN Refugee Agency (UNHCR) is rolling out its Population Registration and Identity Management EcoSystem[4], which includes state of the art biometric data.[5] The EU's research fund funneled money to the (since-canceled) iBorderCtrl project,[6] which purported to use facial recognition technology to detect traveler's attempts to deceive border agents during pre-arrival registration.[7] And, aiming to detect migrants and refugees trying to reach Europe, Frontex, the European border and coast guard agency, has tested military-grade surveillance drones in the Mediterranean and Aegean.[8] The UNHCR and the World Bank opened the Joint Data Center on Forced Displacement (JDC) in 2019, with the aim to "enhance the ability of stakeholders to make timely and evidence-informed decisions that can improve the lives of affected people"[9] ; thus, to apply ML on individual cases require large-scale datasets for building and training the underlying data models.

Many of these data-driven technologies entail new uses of machine learning (ML) for decision-making. The EU at the same time considers asylum decision-making as a high-risk area for uses of ML and other types of artificial intelligence (AI) and automation.[10] In other parts of the world, legal scholars endorse using data-driven technologies to support decision-making in asylum adjudications [e.g., 9] with the purpose of minimizing variation in decision outcome between similar cases [35], improving impartiality, and decreasing human errors made by judges [9, 22].

The context of this study is asylum decision-making in Denmark. When applying for asylum in Denmark (as in other EU countries), applicants must prove either previous persecution or a well-founded fear of being persecuted if they return to their country of origin, which become data supporting asylum decision-making. However, international schemes (e.g., the UNHCR

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[2] https://www.thelocal.dk/20210422/denmarks-syria-report-11-out-of-12-sources-reject-conclusion-leaving-only-assad-general-in-support/

[3] http://refugees.dk/fokus/2021/oktober/status-paa-syriske-flygtninge-der-har-mistet-deres-opholdstilladelse-i-danmark/

[4] https://www.unhcr.org/blogs/wp-content/uploads/sites/48/2018/03/2018-03-16-PRIMES-Flyer.pdf

[5] https://www.unhcr.org/blogs/wp-content/uploads/sites/48/2018/03/2018-02-Digital-Identity_02.pdf

[6] https://www.iborderctrl.eu

[7] https://www.euractiv.com/section/digital/opinion/the-eu-is-funding-dystopian-artificial-intelligence-projects/

[8] https://www.nytimes.com/2020/11/26/us/un-panel-technology-in-policing-can-reinforce-racial-bias.html

[9] https://www.jointdatacenter.org/who-we-are/#mission

[10] https://ec.europa.eu/commission/presscorner/detail/en/IP_21_1682

Handbook[11]) are not providing concrete definitions or guidance on these matters to states. Instead, asylum proceedings, and how decisions are made in practice, are left to each state, and for adjudicators to decide based on asylum seekers' testimonies and data and information provided by various authorities, e.g., the Ministry of Foreign Affairs, the Danish Immigration Service, and NGOs such as the Danish Refugee Council. Here the legal authorities and decision-makers use credibility as a measure for determining the identity of whether an individual has a legitimate asylum claim; that is, whether they have a well-founded fear of persecution.

Little is known about how asylum decision-makers establish asylum-seekers' credibility from a data perspective. Scholars tend to describe this decision-making process as a discretionary practice consisting of shifting authorities [27]; it remains understudied perhaps due to the challenges associated with conducting research in a highly politicized domain [33]. In Denmark, after the initial rejection from the Immigration Service asylum appeals are formally decided by a board of 3 members: 1) a chairperson, an appointed judge; 2) a second member, appointed by the Ministry of Refugee, Immigration, and Integration Affairs; and 3) a third member, nominated by the Council of the Danish Bar and Law Society.[12]

The applicant's testimony is one example of data in asylum decision-making that enters the system. In many asylum cases, the applicant is the only witness to their experience. Cases often lack direct evidence either to document or contradict the applicant's testimony about their motive for asylum. The Country of Origin Reports and Notes prepared, for example, by the Immigration Service's Country of Origin Information Division[13], one of the formal authorities of the Danish asylum system, is another source of data with real effects on the applicants, as is the case for Syrians that risk having their residency permits revoked in Denmark when the policy and underlying criteria for asylum change. Whether asylum is granted or not largely depends on the applicant's ability to tell a "credible" story [13] within the statutory "refugee" category. In one case summary of an asylum adjudication from 2019, the Danish Refugee Appeals Board states:

> The Refugee Appeals Board cannot use the claimants' explanation as basis for the asylum motive as the Board finds that the explanation appears constructed for the occasion. The Refugee Board finds that the complainant's explanation appears not to be credible, and the Board attaches particular importance to the fact that the claimant at the asylum interview [a specified date in the spring] 2013 and at the extension interview [a specified date in the spring] 2018 has explained divergently on key points (Refugee Appeals Board, soma/2019/199/JABP *translated by* the first author).

Similar wordings such as "constructed for the occasion", "appears not to be credible", and "divergently" are found in many more asylum adjudications publicly available from the Danish Refugees Appeals Board (also see Fig. 1). The urgency of this research into how asylum authorities determine credibility is clear from prior studies that found that "[t]he judgment of the credibility of the asylum motive at court has profound consequences for the future lives of asylum seekers" [13, pp. 177] and that "the processing of asylum applications is fundamentally a matter of gauging credibility, [wherein] mistrust is a significant factor in the production of negative decisions" [48 pp. 20]. In this paper, we argue for how CSCW and HCI researchers can

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[11] https://www.refworld.org/docid/4f33c8d92.html

[12] https://fln.dk/da/English/General_information_regarding_fln

[13] https://www.nyidanmark.dk/en-GB/Words-and-concepts/US/Asylum/Country-information

work to further the understanding of data and how this category of credibility is functioning in legal asylum decision-making.

As ML and similar data science techniques gain momentum, including in high-risk areas such as asylum decision-making, the seminal work of Bowker and Star [6] is newly relevant for understanding the underlying categorization and classification practices of "that which is perceived as real, and the consequences of that perception" for those subject to asylum decision-making. Since credibility plays a major role in asylum decision-making, this paper aims to qualitatively investigate the formal data practices that inform asylum decision-making in Denmark.

The question we ask in this paper is: *How are individuals applying for asylum configured as credible through different forms of data and documentation in asylum decision-making in Denmark?*

We investigated this question qualitatively as part of an interdisciplinary research project: Data Science for Asylum Legal Landscaping (DATA4ALL)[14]. The paper contributes a study of publicly available summaries of 50 asylum cases processed by the Refugee Appeals Board between 2017 and 2020. Thus, applying data as a lens, our goal is to understand how the individual applicant is constituted or determined 'credible' or 'non-credible' through the data practices of asylum decision-making in Denmark.

We find that credibility appears as a central point for decision-making in all 50 appeals cases. As with other forms of reclassification processes, credibility from a data perspective is an ambiguous prototypical concept [*following* 6]. We find that the assessment of credibility in asylum decision-making in Denmark resembles a discretionary practice, wherein certainty is achieved by establishing *any divergence* or contradiction between the different forms of data and documentation.

Although data can enable more informed decision-making in this and other contexts, an uncritical trust in data and ML risks reproducing bias and intensifying well-documented issues of legal and political discrimination, inequality, and injustice [4]. Recognizing that data is never neutral or objective, research communities in CSCW and HCI are increasingly asking questions about the role of data and data-driven technologies. These questions, we argue, are especially important to consider in domains where individuals and legal authorities have differential power with consequences for people's lives and wellbeing [11, 16, 30].

2   RELATED WORK: DATAFICATION, CLASSIFICATION AND CATEGORIZATION IN BUREAUCRATIC DECISION-MAKING

Data and data-driven technologies are increasingly becoming an institutionalized measure to inform credibility in bureaucratic decision-making, but little research documents the structured and systematic ways that credibility is entering into these processes [7]. In CSCW and the broader HCI community, new research agendas have formed since the major refugee crisis in 2015 [43, 44, 45]. From the perspective of these new research agendas, data are produced through categorization and discretionary practices [5, 18] that become the material manifestation of infrastructures of society and how decisions are made.

Any working infrastructure coexists with classification systems that offer advantages or oppression for individuals or groups [6 pp. 6]. Categories are never merely neutral descriptors

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[14] https://asylumdata.ku.dk/research/data-science-for-asylum-legal-landscaping-data4all/

that objectively inform a set of circumstances. Classifying people into groups can achieve certain tasks [23 *following* 6]. In our case, when a person flees their country of origin and enters another country, according to international law they fall into the categorization of 'a forcibly displaced migrant'. When a person applies for asylum, they can be a 'first-time applicant' or a 'repeated applicant' from the perspective of the country where they seek asylum. If the applicant case falls under the 1951 Refugee Convention definition of refugee, they are granted protection status and re-classified as such.

As with other types of bureaucratic decision-making [23], subtle categorization is characteristic of discretion. Asylum decision makers interpret the categorization by others to establish credibility. Here subtle categorization is applied through the implicit communication of credibility in the authority's documentation of, for example, the asylum motive using residual categories such as "divergently" [*following* 25].

Møller et al. argues [25], that discretion is a practice where human empathy can enter decision-making processes and allow for a human-centered perspective into a highly politicized area. On the other hand, as pointed out by legal scholars in asylum studies [27], discretion can be a space for subjectivity (whether empathic or not) that may threaten the rule of law, and thereby the justness of the resulting legal decisions. From this perspective, discretion constitutes an unruly space outside law that makes new forms of data for decision-making appealing.

The act of classifying people, as Bowker and Star [6] show in their study of the role of documentation in the Apartheid regime in South Africa, demonstrate how power and politics works through categorization. A passport becomes critical for deciding who gets what, when, and why. Categories have politics [41]. The discretion of professionals is thus pivotal when categories and classifications are not mutually exclusive [36].

Attaining a specific legal categorization as a refugee impact whether one has the right to stay in a country, work, and provide for oneself. When the Danish asylum authorities denies a person refugee status, they may be deported to countries where they could face persecution and threats to their life despite the decision that it is not a risk. In this continuum it is an ongoing discussion in migration and refugee studies how forms of persecution that are not related to race, religion, nationality, membership of a particular social group, or political opinion can be accounted for [43, 44, 45].

From this perspective the growing interest of NGOs and nation states and significant investments in ML and other data science techniques for support of asylum decision-making bring to the fore the added power vested in data when such practices are built into data-driven technologies.

2.1 Datafication in Asylum Decision-making

In the process of determining the identity of the applicant and whether there is a well-founded fear of persecution upon returning to their country of origin, there is an increasing pursuit by asylum authorities to gather and share as many data points as possible about the applicant [29, 46]. These data traces, that intersect and datafy the individual, are used to inform asylum decision-making. Asylum applicants cannot opt out of this datafied process. Ustek-Spilda and Alastalo [46] argue that "there seems to be no information that is too private to collect and no data that is too personal to store when it comes to those claiming asylum" (pp. 10). Through various modes of asylum decision-making, the applicant's data is assigned categorical meaning without direct participation, knowledge, or consent.

Sambasivan et al. [37] show the heightened downstream impact, particularly for vulnerable communities and contexts like asylum, if legal authorities undervalue data quality as a factor in decision-making. As data come to play a larger role in society and political life more broadly [24], so does the impact of 'data cascades' – the compounding events causing negative downstream effects following from the undervaluing of data quality. This raises questions on the emphasizing of data modeling - over data work - where data paradoxically is the most de-glamorized aspect of the application of such techniques as ML [37]. Research on data work demonstrates how data is never simply "raw" [19, 24, 34], meaning data is neither neutral nor objective. In the context of asylum decision-making, we must pay attention to how data are created as an inherent part of asylum decision making in order to reach a decision [26, 38].

In a similar fashion, Liodden [27] argues that one of asylum decision-makers most important jobs "is to make correct distinctions among applicants, or in other words, to accord justice to the right group of people" (pp. 247). Cheney-Lippold [10] points out that the "production of data is, at is genesis, encased in a web of preexisting meaning, in which data are not given; they are made" (pp. 54). Pine and Liboiron [34] show that data is produced by techniques of measurement that are imbued with judgments and values that dictate what is counted and what is not, what is considered the best unit of measurement, and how different things are grouped together and 'made' into a measurable entity" (pp. 317).

Across these studies we learn how technologies saturate political life and data justice [e.g., 11] becomes a matter of an individual's possibility for documenting their asylum claim. For the displaced individual, the authority's extraction of their data and documenting of their existence is critical for proving credibility and being 'counted'. The burden of proof is not to be underestimated [14]: it takes local, contextual, understanding for the individual applicant to understand the asylum system.

3   METHOD AND LIMITATIONS

The research outlined in this paper is part of an interdisciplinary research project: Data Science for Asylum Legal Landscaping (DATA4ALL)[15], that uses data science techniques for explanatory research. As a preliminary study, publicly available data from the decision summaries of asylum cases processed by the Danish Refugee Appeals Board were extracted from the Board's repository[16] on October 20th, 2020; that is, approximately 8,000 decisions on asylum applications during the period 2003-2020. The cases are organized by the Secretariat of the Refugee Appeals Board's along three categories: year of decision, the applicant's country of origin, and asylum motive (e.g., "gender-related persecution", "religious matters", "political conditions").

The empirical materials that we study in this paper are 50 randomly sampled cases taken from the 8,000 total cases. The 50 cases were sampled by the data scientist of the DATA4ALL project using the Python embedded function random.sample() that performs random sampling without replacement, where each item in the indicated list has the same probability of being sampled [31]. That probability would be 1/N for each item, N being the length of the list. These 50 cases were settled in the period 2017-2020.

Drawing on qualitative thematic analysis as our guiding set of principles [8], we approached our empirical dataset in 5 steps:

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[15] https://asylumdata.ku.dk/research/data-science-for-asylum-legal-landscaping-data4all/
[16] https://fln.dk/da/Praksis

1. A close reading of the 50 summaries, aiming to thoroughly acquaint ourselves with the body of empirical material to be analyzed.
2. Based on the close reading, as well as prior studies that have shown that asylum rejections often occur due to doubts about the 'credibility' of applicants, we performed a search for keywords related to 'credibility' across the 50 decision summaries. The purpose of this search was to gain an overall understanding of how frequent the notion of 'credibility' and related words and phrases occurred in the material (Fig. 1). The aim of figure 1 is to showcase and clarify how often the concept of credibility occurs in the summaries and thus the asylum decision-making.
3. We performed an open coding, meaning that we categorized different portions of the empirical material based on:
   a) the preliminary close reading
   b) the keyword search (Fig. 1)
   c) the different types of data practices, relevant to asylum decision-making according to Danish authorities (that we outline and discuss in Section 4]
   d) repetitions, meaning topics that recurred several times in the summaries relating to our research focus
   e) our research question: How are individuals applying for asylum configured as credible through different forms of data and documentation in asylum decision-making in Denmark?

We further reviewed these codes to outline connections and relations to concepts and categories in the existing literature relevant to our research question. We reduced the number of codes into 5 higher-order themes (Fig. 2), and conceptualized them by naming each one, allowing us to capture better insights into the data and thus explore our research question.

Keywords	Occurrences
credibility	10
made probable	58
not made probable	26
not probable	10
divergently	63
divergent	12
divergence	3
the divergence	1
striking	10
constructing for the occasion	16
expansive	24
incoherent	8
unlikely	19
convincing	12
self-experienced	6

Fig. 1. The occurrences of keywords taken from the 50 decision summaries relating to credibility.

Higher-order themes	Occurrences	Case number
Divergence Across "Raw" Data and "Cleaned" Data	10 out of the 50 cases	1, 3, 11, 13, 16, 17, 18, 30, 34, 50
Divergence Across Records of Legal Authorities	13 out of the 50 cases	2, 8, 10, 17, 34, 38, 39, 41, 42, 46, 47, 48, 50
Divergence Across Countries' Shared Data and Records	5 out of the 50 cases	4, 5, 12, 20, 21
Divergence Across Policy-informed Background Data and the Asylum Claim	15 out of the 50 cases	1, 5, 8, 17, 19, 20, 24, 28, 30, 31, 35, 37, 41, 42, 47
Technology-Induced Data Informing Credibility	3 out of the 50 cases	9, 16, 26

Fig. 2. The 5 higher-order themes, their number of occurrences, and case number where they occur.

The data from these cases have 3 obvious limitations. First, they are cases that were initially rejected by the Danish Immigration Service, and thus not representative of the overall asylum cases processed in Denmark. Second, not all cases processed by the Refugee Appeals Board are publicly available, and our sample is therefore not representative of the complete set of asylum cases. Third, the 50 cases contain only summaries of the asylum decisions. Despite these limitations, we argue that these cases open a window to better understanding the various data practices of relevance to the categorization of credibility in asylum decision-making in Denmark.

In the following we outline how data can enter the asylum decision-making process.

4   THE FORMAL DATA LANDSCAPE OF ASYLUM DECISION-MAKING

People seeking asylum in Denmark are introduced to and managed by a range of authorities (Fig 3). Asylum-seekers entering Denmark first encounter the police, either at the airport close to the Danish capital, on the border between Denmark and Germany, or in Sandholm, the asylum reception center in the Capital Region of Denmark. Next, the Danish Immigration Service decides where the case shall be processed according to the Dublin Regulation (another country might be responsible for processing the case, what is called the "1st asylum country"). If the applicant only applied for asylum in Denmark, the application will be determined in Denmark as either: 1) Manifestly unfounded procedure (if the Immigration Service finds that the applicant has no valid grounds for seeking asylum - e.g., if the applicant seeks asylum for economic reasons. The Danish Refugee Council[17] can veto this decision, if so: Normal procedure), 2) Expedited version of manifestly unfounded procedure (i.e., the applicant comes from a number of certain countries that are considered safe. Danish Refugee Council can veto, if so: Normal procedure), or 3) Normal procedure, where most cases are decided. If the applicant receives a rejection (a written decision) from the Immigration Service, the case is automatically appealed to the Refugee Appeals Board. The Refugee Appeals Board examines the appeal and ultimately confirms the claimant's rejection or approves asylum[18].

In the following, we briefly review the different types of data that are relevant to asylum decision-making according to the Danish authorities.

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[17] An international humanitarian displacement organization supporting refugees and internally displaced persons in 40 countries. They assist refugees and displaced people and safeguard their legal rights.

[18] https://www.nyidanmark.dk/en-GB/Waiting/Asylum/Processing%20of%20an%20application

4.1   Register Data

For the first data collection relevant to asylum decision-making, the police will collect data such as the applicant's full name, date of birth, and country of origin. The applicant is asked to check whether the police have spelled their name correctly and accurately recorded their date of birth and country of origin. Applicants are asked to provide any breeder documentations (documents used to support applications for identity) they may have with them, such as passports, birth and/or marriage certificates, and residence and travel documents. The Danish immigration authorities may in some cases keep these original documents until the examination of their asylum application is completed[19].

4.2   Free Text Data

A 10-page asylum application form (Fig 4), which is the starting part of the overall Danish decision-making process, critically shapes the data collection and categorization. NGOs in Denmark such as Refugees Welcome argue that the application is critical for decisions on credibility [3]. The application form includes questions about name, date of birth, place of birth, latest address in home country, information about spouse or live-in partner, children, parents, siblings, asylum motive and what the applicant fears will happen if they are sent back (three blank pages available for this part), date of departure, and travel route. The form states that the applicant is obliged to provide all relevant information, and that it is an offense to give misleading information. The asylum form is available in 27 languages and can be answered in any preferred language. Illiterate people are offered an interpreter to fill out the application form[20].

4.3   Biometric Data

During the first interview, the Immigration Service can require an age estimation of the applicant. In Danish migration law, age estimations fall under 'elucidation of identity.' The estimation consists of a dental examination, an X-ray of the wrist, and a naked body examination [12]. If the applicant's age is estimated over 18 years, they no longer fall under the protection of the status of an unaccompanied minor. For applicants aged 14 years and above, police record their signature and biometric data (fingerprints and facial images) and store them at the Danish Immigration Service.

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[19] https://flygtning.dk/danmark/asyl/asyl-i-danmark/asylproceduren
[20] https://flygtning.dk/danmark/asyl/asyl-i-danmark/asylproceduren

Fig. 3. The Landscape of Data Collection in Asylum Decision-making in Denmark.

Biometric data also plays a central role in European border collaboration [12]. Denmark cooperates with all other EU countries, as well as Norway, Iceland, Liechtenstein, and Switzerland, under the Dublin regulation, which determines which country is responsible for assessing an asylum application. An application for asylum may be processed in another "Dublin country" if the applicant has close family member(s) (e.g., spouse and/or children under 18 years) there, has a visa or residence permit, or has entered without permission or has been staying for five months or more, or if the applicant has already applied for asylum.[21]

These rules were updated in 2018 when the European Parliament and Council agreed to reinforce the Eurodac system. This means that in addition to fingerprints, additional data from applicants are collected, including passport photos and alphanumerical data (name and ID or passport number), and register data in the Eurodac system before a decision on admission is made through the resettlement procedure. In addition, the EU agreed to lowering the age for

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[21] https://ec.europa.eu/home-affairs/what-we-do/policies/asylum/examination-of-applicants_en

obtaining fingerprints and facial images of minors from 14 to 6 years.[22] In the new rules, an applicant's fingerprints are also transmitted to The Schengen Information System (SIS). SIS is the most widely used and largest information sharing system for security and border management in Europe.[23]

When the Danish Immigration Service has received an applicant's biometrics, the processing of their asylum case begins. If the applicant declines to have their signature and biometric data recorded and stored, the application will not be processed and is rejected by the Danish Immigration Service. If the applicant is granted asylum, biometric data is stored for 10 years by the Immigration Service; if the applicant is not granted asylum, the data is stored for 20 years. The data is deleted if the applicant becomes a Danish citizen.[24]

If a person applying for asylum is granted a residency permit in Denmark, they are provided with an identity card (or white card) with an embedded microchip storing their biometric features (facial image and fingerprints). A seven-digit personal ID number is also printed on the asylum card, which the police, the Danish Immigration Service, and the asylum center use to identify the applicant. The applicant is required to always carry this card. Within the first two weeks of receiving a residency permit, the applicant is invited to a personal interview concerning their medical health.

4.4   Policy-informed Documents as Data

Data about the conditions in the applicant's country of origin are provided by The Immigration Service's Country of Origin Information Division. The data are retrieved from online reports covering a general or specific human rights situation in a country of origin, newsletters, journals, newspapers, and from a selection of international databases. Individual regional experts gather data through both national and international networks, other stakeholders with specialist knowledge about the area, and by consulting the Danish Ministry of Foreign Affairs, United Nations organizations, and other relevant sources. The data are then published in reports and notes that are passed on to caseworkers in the Immigration Service[25].

After the police have conducted their investigation and once the asylum seeker has completed the written application, the case is processed by the Danish Immigration Service. The application is translated, and the applicant's credibility assessed, both in terms of internal consistency and in relation to the array of country of origin data the Danish Immigration Service maintains [48].

A first interview is eventually conducted by a legal representative from Immigration Service at the reception center Sandholm, located in the Capital Region of Denmark, again asking questions regarding identity, nationality, itinerary to Denmark, family, asylum motivation, etc. The average maximum processing time for asylum cases is 120 days.[26]

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[22] https://www.biometricupdate.com/201806/eu-adds-face-photos-to-eurodac-fingerprint-database
[23] https://ec.europa.eu/home-affairs/what-we-do/policies/borders-and-visas/schengen-information-system_en
[24] https://www.nyidanmark.dk/da/Words%20and%20Concepts%20Front%20Page/Shared/Biometric
[25] https://www.nyidanmark.dk/en-GB/Words-and-concepts/US/Asylum/Country-information
[26] https://www.nyidanmark.dk/en-GB/Words-and-concepts/US/Diverse-US/Application-processing-times-in-the-Danish-Immigration-Service

5 ANALYSIS: DATA AS A LENS FOR UNDERSTANDING WHAT CONSTITUTES CREDIBILITY IN ASYLUM DECISION-MAKINGFINDINGS

We now turn to the analysis of how individuals applying for asylum are configured as credible through different forms of data and documentation in asylum decision-making in Denmark. In 6 out of 50 cases where the individual is configured as credible, the data and case documentation has been interpreted by the Danish asylum authorities in favor of the applicant. We learn from the 44 remaining cases, in which the applicants' asylum appeals are rejected, that individuals were configured by the Danish asylum authorities as *non-credible* due to a divergence across: 1) applicants' disclosed "raw" data and the legal authorities' "cleaned" data; 2) records of the different legal authorities; 3) countries' shared data and records; 4) policy-informed background data and the asylum claim; and/ or 5) technology-induced data and the applicants' disclosed data (see figure 2).

5.1 Divergence Across "Raw" Data and "Cleaned" Data

The Danish asylum procedure begins with the applicant's raw data: the disclosed or self-reported data the applicant provides in the asylum application (Fig. 4). Filling in this form is voluntary. If the applicant chooses not to fill out the application form, the applicant "moves" on to the first interview with the Immigration Service without it. If the applicant chooses to fill out the form, this self-reported data will then serve as a starting point for the subsequent case processing. It then serves as baseline data, which is part of the process for categorizing the applicant as either credible or non-credible. These are also the data that come to form the basis for appeals in these cases.

During the first interview, a legal representative from the Immigration Service asks the applicant to elaborate on the information they provided in the application form. The self-reported raw data undergoes a process of interpretation and "cleaning" by the legal representative as this person writes up a summary report. At the end of the interview, an interpreter reads out loud to the applicant this cleaned data, so that the applicant can correct any errors or misunderstandings.

Fig. 4. An excerpt from the asylum application form: three out of ten pages.

As part of the final assessment during the meeting with the Refugee Appeals Board, Board members consider the asylum application form. The Refugee Appeals Board can request elaboration or clarification about any divergent asylum motive explanations that appear in the raw data in the application form, or the cleaned data produced by the Immigration Service. This is illustrated in the following excerpts:

"The Refugee Appeals Board cannot use the applicant's explanation as basis for the asylum motive as the applicant has explained divergently and expansively. The applicant has thus stated in the asylum application form that his parents were captured and killed in 2004. During the asylum interview…, he has explained that his parents were kidnapped and killed in 2002…. He has stated in the asylum application form that the bodies were found after a week on [a] mountain. During the asylum interview, he explained that the bodies were never found." (Refugee Appeals Board, Demo/2020/11/JHB *translated by* the first author).

"The Refugee Appeals Board has furthermore emphasized that the applicant, in the asylum application form, has stated that he was born in Qout in Iraq, which does not match the applicant's information given to the Danish Immigration Service in the information and motive interview and the asylum interview, and to the Refugee Appeals Board" (Refugee Appeals Board, Iraq/2019/58/HHU *translated by* the first author).

"In his application form [from the summer] of 2012, the claimant stated that al-Shabaab had inflicted a lot of injuries on him, torturing the claimant in an inhuman manner and beating him very hard. Also, the claimant stated that al-Shabaab tortured him because he had fled al-Shabaab many times. In an interview with the Danish Immigration Service [in the summer] of 2017, on the other hand, the claimant explained that he had been beaten with sticks in the training camp because he did not listen. The Refugee Appeals Board finds that the information concerning torture is such a central part of the claimant's asylum motive that the claimant would be expected to have explained this during the interview [in the summer] 2017, if the information was truthful." (Refugee Appeals Board, Soma/2018/97/EMU *translated by* the first author).

"The Refugee Appeals Board does not find that the claimant's explanation of her conflict with the Syrian authorities can be used as a basis, as it appears constructed for the occasion. The Refugee Appeals Board has emphasized that the claimant has not stated anything about her conflict with the Syrian authorities in the asylum application form." (Refugee Appeals Board, Syri/2019/1/EMU, *translated by* the first author).

"The Board cannot use the explanations about the subsequent threats as reason. The Board has hereby emphasized that the applicants have explained divergently regarding whether there were only telephone threats, or whether there were both telephone and threats via letter. Furthermore, the male applicant did not make any statements, in his otherwise detailed asylum application form, about these seven threats." (Refugee Appeals Board, Afgh/2018/220/TBP, *translated by* the first author).

These findings that an applicant is non-credible when their self-reported data does not match the cleaned data raises questions to further explore the asylum application form and the kind of work it is doing: Why is filling out the application form voluntary? What are the consequences if the applicant chooses not to fill out the asylum application form? Could an applicant increase their chances of being deemed non-credible if they choose not to report any data? Does choosing to fill out the asylum application form increase the risk of inconsistencies in the applicant's claim for asylum, potentially harming the applicant's credibility and chance to be granted asylum?

5.2 Divergence Across Records of Legal Authorities

The applicant attends 2-3 interviews with a legal representative from the Immigration Service. If the applicant receives a rejection (a written decision) from the Immigration Service, the case is automatically appealed to the Refugee Appeals Board (See Fig. 3). The Refugee Appeals Board makes its decision through a meeting. Participants at this meeting are the applicant, the three members of the Refugee Appeals Board, one interpreter, one attorney, one representative of the Immigration Service, and one legal officer from the Refugee Appeals Board.

During the asylum decision-making process, we analyzed across the 50 summaries, that these two bodies—the Immigration Service and the Refugee Appeals Board—determine applicants as either credible or non-credible based on whether they provide consistent or contrasting data. This we see illustrated in the following extracts:

"The applicant has explained divergently about how and by whom he was made aware that the Taliban had sought out and searched his residence. In the asylum interview on December 12, 2016, the applicant explained that he was notified in the morning by his father-in-law, who came and told him. During the meeting with the Refugee Appeals Board, he first explained that he was notified by his wife, who called him in the morning, and when he was asked about the divergence, that he was notified by telephone by both his wife and his father-in-law" (Refugee Appeals Board, Afgh/2018/296/JHB, *translated by* the first author).

"The board finally notes that the applicant, during the information and motive interview [in the summer] 2016, has explained that at one point, five people came home to the applicant's residence to get him to join jihad, whereas he has explained to the Refugee Appeals Board that his uncle always came alone. The applicant's explanation about the fact that the five persons – unlike his uncle, were not allowed to enter the residence, cannot lead to a change in the assessment, as this is a not insignificant divergence" (Refugee Appeals Board, Afgh/2018/235/TLNJ, *translated by* the first author).

"The Refugee Appeals Board cannot use the applicant's explanation of being individually persecuted. In this regard, the Refugee Appeals Board places particular emphasis on the fact that the applicant did not explain anything in his asylum application form or during his first conversation with the Danish Immigration Service [in the summer] of 2018 about he being politically active up to the referendum. The Board can thus not assume that the applicant has performed any further activities in

relation to this" (Refugee Appeals Board, Iraq/2019/79/FAM, *translated by* the first author).

"The majority has emphasized that the claimant has explained divergently about his alleged detention with al-Shabaab. At the interview [summer] 2017, the claimant initially stated that the other prisoners were taken out of their cells and beaten, while the claimant was never subjected to such things. Later, during the same conversation, the claimant changed his explanation to the fact that it was he who was whipped and beaten with a rifle. For the Refugee Appeals Board, the claimant has stated that he was not beaten" (Refugee Appeals Board, Syri/2019/1/EMU, *translated by* the first author).

What our findings suggest in these cases are that divergence in the data records across the Immigration Service and the Refugee Appeals Board leads to the determination of applicants as non-credible. We also find that the data that informed these decisions have been produced through, for example, differing interview techniques across the two instances. This suggest to us that the data that informed the decisions are (*following* Pine and Liboiron [34]) imbued with judgments and values that dictate what is collected and what is not depending on the legal asylum authority.

5.3 Divergence Across Countries' Shared Data and Records

Whether the applicant recognizes the interpretation of data or not, the interpretations by legal authorities affect the decision-making. What we find in the in the following excerpts of decisions, is that the applicant is at risk of being deemed non-credible when the Refugee Appeals Board identifies discrepancies in relation to third party data and records stemming from other countries, where the applicant has previously been registered:

"It is thus stated to the Swedish immigration authorities that he was detained by the Taliban for two years, while he has stated to the Danish authorities that he was detained for about three years" (Refugee Appeals Board, afgh/2019/159/MLVT, *translated by* the first author).

"The Refugee Appeals Board initially notes that the applicant has previously been refused asylum in Norway on a completely different basis, which the applicant could not explain at the Board meeting. He has presented to the Norwegian authorities a document stating an incorrect date of birth.... The applicant explained to both the Norwegian and Danish authorities in 2009 and 2010, respectively, that he was an Iraqi citizen. The information, about the fact that he is a stateless Feyli Kurd is therefore considered an extension that is not further probable." (Refugee Appeals Board, Iraq/2019/26/JABP, *translated by* the first author).

"The Refugee Appeals Board finds that it weakens the claimant's credibility as the claimant has explained divergently about the passage of time concerning his departure from Somalia. The applicant has thus explained to the Norwegian authorities in connection with their processing of the applicant's asylum case in 2010 that she met a human trafficker [one day in the summer] in Mogadishu and that she came to Addis Ababa, Ethiopia, [13 days later] in 2009, from where she [eight days later] flew to Sweden via stopover in an unknown country. The claimant has further explained that

she landed in Sweden [one day in the summer] 2009 and that she traveled directly to Oslo by train. However, it should be noted that it can be established via Eurodac that the applicant crossed the border into Greece [at the end of] 2008" (Refugee Appeals Board, Soma/2017/28/ATN, *translated by* the first author).

The data traces produced across multiple countries intersect and datafy the individual, these excerpts demonstrate. Here the applicants might not have been aware of the production of certain data. At the same time opting out of this datafied process is obviously not an option when applying for asylum. Whether the applicant recognizes the data or not, this datafication affect credibility determinations and thus whether the applicant is granted asylum or not. The non-/credible refugee is constructed via produced, cleaned, contested, and interpreted data, not only in Denmark, but also across country borders.

5.4 Divergence Across Policy-informed Background Data and the Asylum Claim

The assessment of whether an individual should be granted asylum supposes knowledge of the applicant's home country or country of residence. The Refugee Appeals Board accesses policy-informed data from various background material in form of reports and notes provided by e.g., the Ministry of Foreign Affairs and the Danish Immigration Service to construct this knowledge, we learn from the following excerpts. This policy-informed data is also obtained from various organizations, for example, the Danish Refugee Council, Amnesty International, and other international human rights organizations, as well as UNHCR. The Board also refers to other countries' authorities and to some extent articles from international journals.[27]

> "It should be noted that the available background information shows that human trafficking has been criminalized in Morocco and that the Moroccan authorities are seeking to provide protection to persons who have been exposed to human trafficking. There are referenced a report published by the United States Department of State, Trafficking in Persons Report - Morocco, dated June 28, 2018. The e-mail submitted by the applicant's lawyer of [spring] 2019 from the International Organization for Migration to the Center against Human Trafficking, cannot lead to a different assessment." (Refugee Appeals Board, maro/2019/4/mme, *translated by* the first author).

> "...with reference to the applicant's general unreliability, [the Board] cannot assume that the documents are genuine and therefore find no reason to accede to the request for adjournment of the case on authentication of the documents. In this connection, reference is also made to the background information, including Landinfo's thematic note: "Afghanistan: Tazkera, passports and other ID documents" of 24 April 2017 about the fact that it is easy to obtain forged documents in Afghanistan" (Refugee Appeals Board, Afgh2018/312/SND, *translated by* the first author).

> "According to the Refugee Appeal Board's background information on the possibility of obtaining false documents in Afghanistan, it cannot be assumed that the threatening letters are genuine.... The general security situation in Afghanistan is not of such a nature that anyone, by his or her mere presence, would be at risk of abuse covered by

Article 3 of the European Convention on Human Rights" (Refugee Appeals Board, Afgh/2018/296/JHB, *translated by* the first author).

We find in these cases that the Refugees Appeals Board compare policy-informed background data with the applicant's claim for asylum. In all three cases, the Board reach the conclusion of divergence across data. They show that the applicant is construed through interpreted data points across nation states, international organizations, and NGO's. Hence, when the cleaning and interpretation of these various policy-informed data points does not align, the applicant is configured as non-credible.

5.5 Technology-induced Data Informing Credibility

Technology-induced data (e.g., data from private mobile phones and social media accounts) can be triangulated with other types of data to determine the applicant's credibility. Upon arrival in Denmark, the Danish police occasionally seize mobile phones from people applying for asylum and downloaded content from them (e.g., photos, videos, contact lists, apps). This data can then later be interpreted by the Danish Immigration Service to assess the applicants' identity, nationality, and testimony[28].

> "There may be a lot of information on the phones of a personal nature that is irrelevant to the authorities, but our primary focus is to ensure that those [individuals] we are facing are who they claim to be. And the more material you have to support or disprove it, the better"[29] (*translated by* the first author).

A prior study [2] shows that the Danish Refugees Appeals Board uses data from individuals' private mobile phones and social media accounts (e.g., Facebook) as evidence to either confirm or disconfirm the applicant's credibility; we found this in 3 out of the 50 cases we analyzed. In the example below, the Danish Immigration Service collected data from an applicant's Facebook profile and cross-examined it with the applicant's self-reported data. The non-credible refugee again is configured when these two types of data points contradict each other, as we see illustrated in the below transcript:

> "During the interview [in the spring] 2018 at the Danish Immigration Service, the applicant was given information from his own and his spouse's Facebook profiles, from which it appeared that they had been married [in the winter] 2016. The applicant explained that the date did not fit and that it had to be a mistake" (Refugee Appeals Board, Egyp/2019/2/CMA, *translated by* the first author).

In the following example, the Refugees Appeals Board found contradictory data between video material and biometric data, finding that the lack of physical scars and documentation of mental injuries justifies suspicion towards the applicant's credibility.

> "With regard to the videos and photos that the applicant has presented in connection with the meeting with the Refugee Appeals Board, the Refugee Appeals Board notes that it is not clear from the presented the torture video that it was the applicant who was being tortured. Furthermore, the Refugee Appeals Board notes that it seems

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[28] https://www.information.dk/indland/2016/02/hundredvis-asylansoegeres-mobiler-kopieret-politiet
[29] https://www.information.dk/indland/2016/02/hundredvis-asylansoegeres-mobiler-kopieret-politiet

striking that the applicant should not have gotten any physical scars, cf. the applicant's explanation, after such very violent torture as the person in the video presented, had been and was subjected to, and that the applicant has not given any information regarding mental injuries as a result of this violent torture." (Refugee Appeals Board, Iraq/2019/58/HHU, *translated by* the first author).

We find that data from individuals' private mobile phones and social media accounts (e.g., Facebook) are only mentioned in relation to the applicant's credibility in a small number of cases (3 of 50 cases). In the example where the applicant is configured as non-credible when the Refugees Appeals Board interpret the technology-induced data (e.g., the torture video presented by the applicant in a meeting with the board), the expectation of other forms of data and documentation of, in this case, physical scars from the torture, are brought into the decision on the applicant's credibility.

6 DISCUSSION: WHAT CONSTITUTES A 'CREDIBLE REFUGEE' FROM A DATA PERSPECTIVE?

This paper explores asylum decision-making from a data perspective. We investigate cases where the individuals are not granted asylum, focusing on the possible ways that data can formally enter asylum decision-making. Our findings confirm what others have established before us: that nation states, international society, and NGOs increasingly trace and act upon data [40]. This has implications for the design of CSCW-technologies for support of asylum decision-making; when international schemes (e.g., the UNHCR Handbook) are not providing concrete definitions or guidance on these matters to nation states, the data practices encoded into a country's decision-making processes are key to investigate. Whether the applicant recognizes these data practices or not, the resulting categorizations will affect the decision-making, we argue.

6.1 Situating Data in Context

If data science techniques, such as ML, are to be applied to advance asylum law, we as researchers must ask critical questions about how the displaced individual is construed by data into a non-/credible applicant. Data has inherent biases as "[...] bias enters through the backdoor of design optimization in which the humans who create the algorithms are hidden from view" [4 pp. 11]. Also, authorities and decision-makers are human, after all [9, 25]. An uncritical trust in large-scale datasets and data science risks reproducing bias and intensifying well-documented issues of discrimination, inequality, and injustice in legal and political contexts [4].

Credibility is construed in asylum decision-making in all 50 cases that we analyzed. Little is known about the steps and processes where certain data are not being considered as part of the asylum decision. This opens space for future research to ask questions concerning basic democratic values in the case of asylum: How can we design collaborative technologies that enable processes that serve values of accountability and agency so that data points represent the individual applying for asylum?

With the rising development of more complex data practices, the challenges of applicants' agency and accountability grow, especially in bureaucratic decision-making processes where individuals and legal authorities have differential power.

Contextual and political factors affect data production, and thus new approaches to research that explicitly and directly contend with these factors are required [15]. Davis [14] and others show how data-driven tools tend to skew the power balance to the advantage of those designing and implementing such tools. Paradoxically, data is the most de-glamorized aspect of the application of data science techniques like ML [13], and so far, data practices are mainly setup for authorities to exercise discretion in the individual applicant's case, our findings suggest.

If we are to design data-driven technologies to support the asylum decision-making process, these are factors to consider. Thus, in the next section, we continue to discuss what constitutes credibility in asylum decision-making and the role of discretion.

6.2 Credibility as a Form of Discretion

International law, particularly the conventions that apply to asylum, makes no mention of credibility. Nevertheless, prior studies have shown that rejections of asylum are often granted specifically due to doubts about an applicant's credibility [e.g., 49]. If an application for asylum is assessed as credible and the described experiences and/or fear of being persecuted applies with current interpretations of the Refugee Convention, asylum is granted.

Legal tradition in the asylum context prescribes a strong focus on applicant testimonies and motives. Judges' practices have been described as a "random process" [35] and questionable when compared to principles of law.

Credibility forms a discretionary space of the asylum decision-making process. For an applicant to present as credible can be challenging, as in many cases the applicants often have little more to share with legal government officials than their own testimony [13]. Asylum decision-making involves an assessment of credibility, which the Refugee Appeals Board interprets as the applicant having explained consistently and coherently their personal motive and fear of being persecuted and whether their explanation seems probable and self-experienced. It also involves a judgement about whether the information given by the person seeking asylum, if true, would render the applicant eligible for asylum under Danish law. Such narratives enter databased systems and become the basis for the practical administration of the Refugee Convention across countries. As a result, the credibility of the individual applying for asylum and the credibility assessment have become core elements of the asylum decision-making procedure in Denmark [13, 39, 48].

In this sense, the broader implication of this research relates to the emerging role of various forms of data that inform caseworker systems where credibility is enacted as a category. In CSCW and broader HCI, we recognize that categories tend to be much blurrier (e.g., subtle categorization [23]) than we might first think, which complicates the design of data-driven technologies where both NGOs and nation states are stakeholders.

Despite decades of regional harmonization and international jurisprudence, the chance of receiving asylum for people from the same country or groups varies across Nordic and European countries. For example, in 2018 Somali applicants had an 8% chance of receiving asylum at the first instance in Denmark, as compared to 34% in Norway and 48% in Sweden [20, 21]. Inconsistent decision-making challenges the idea of the asylum seeker and credibility as straightforward categories.

Contributing to emerging agendas in CSCW and the broader HCI community on how research communities can respond to the refugee crisis [1, 42, 43, 44, 45], we set out in this paper to qualitatively investigate the formal data practices informing asylum decision-making in Denmark and what constitutes credibility from a data perspective. In particular, asylum

decision makers' cleaning and interpretation of testimonies are sensitive to the heightened downstream impact that we recognize from ML and other data science techniques. Future research can consider how to mitigate the burden on the asylum seeker built into asylum decision-making and allow such data to still influence appeals cases as new types of data become available.

7   CONCLUSION

In the process of determining the identity and credibility of the applicant and whether there is a well-founded fear of persecution upon returning to the home country of origin, there is an increasing pursuit by nation states, international organizations, and NGOs to gather and share as many data points as possible about the applicant [29, 46]. These data points, that are being cleaned and interpreted across stakeholders, datafy the individual and are used to inform asylum decision-making. Data and data-driven technologies are increasingly becoming an institutionalized measure to inform credibility in asylum decision-making, but qualitative studies are few probably due to the secrecy of the appeals process.

Since credibility plays a major role in asylum decision-making, this paper aims to qualitatively investigate the formal data practices that inform the process in Denmark. We ask: *How are individuals applying for asylum configured as credible through different forms of data and documentation in asylum decision-making in Denmark?*

We investigated this question as part of an interdisciplinary research project: Data Science for Asylum Legal Landscaping (DATA4ALL)[30]. The paper contributes a study of publicly available summaries of 50 asylum cases processed by the Refugee Appeals Board between 2017 and 2020. Applying data as a lens, we show how the individual applicant is constituted or determined as credible through the data practices of asylum decision-making.

We find that credibility is central for configuring displaced individuals in all 50 cases into asylum seekers. Most cases show that asylum decision-making involves the Refugees Appeals Board assessing whether the applicant has consistently and coherently explained their personal motive and fear of being persecuted and whether their explanation seems probable and self-experienced.

Furthermore, we find that data and categorization from asylum adjudications stem from a complex and cooperative decision-making practice. In this context, we learn that data needs to be prepared for the asylum decision-making processes through various steps of interpretation by different asylum authorities.

Lastly, we find that data can be used as a lens to explore decision-making processes, where access to studying the cooperative data work is limited.

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RESEARCH

Who Cares About Data? Ambivalence, Translation, and Attentiveness in Asylum Casework

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Abstract. Scholars across Computer-Supported Cooperative Work (CSCW) increasingly focus on the topic of care when investigating data-driven technologies in contexts of re-humanizing technology design and usage. Previous studies have shown how care work eludes complex bureaucratic systems shaped by data, digitalization, and a restrictive political agenda. This research aims to understand how asylum stakeholders enact care as an aspect of asylum casework, while navigating what is largely acknowledged by NGOs, nation states, and the EU to be a broken asylum system (von der Leyen). We investigate care as a relational aspect of casework in which knowledge and technology of the implicated caseworker and asylum seeker are attuned to one another in a way that takes the unaccountable into account (*following* Mol 2010). We add to studies of care in CSCW by empirically expanding the research sites of care and data work. In this multi-sited ethnographically informed study, we conducted interviews ($n = 19$) and 160 h of observational studies amongst: 1) Danish Red Cross care workers; 2) Danish Refugee Council legal counsellors; and 3) Danish Immigration Service case officers. We contribute empirically grounded insights into the meanings of care in a datafied asylum context. We find that care is enacted by caseworkers in moments of *ambivalence*, *translation*, and *attentiveness to "new substantial information"* relevant for asylum decision-making. We find that these relational aspects of care in asylum casework impact the production of data about the asylum seeker. We end with a discussion of how a care perspective increases our sensitivity as CSCW researchers towards understanding the conditions for producing quality data and documentation in casework.

Keywords: Asylum, Care, Casework, Datafication, Data Work, Decision-making, Documentation, Ethnography, NGOs, Refugees, Caseworker Systems

1 Introduction

Data and digitalization increasingly shape work and how people cooperate. Scholars propose designing technologies centered around human needs to address social context and ethical issues in data production, analysis, and use

(e.g., Aragon et al., 2022). Kaziunas et al., (2017) suggest that care can be a design material, impacting the development of information systems in fields like health services. They propose *caring-through-data* as a concept that they use as a lens to analyze types of care and thus turn researchers' and designers' attention towards the relational complexities and consequences of living with (health) data. They argue for bringing to the fore empirical data narratives that showcase the "multiplicity of emotional concerns and social arrangements" of care work (Ibid, p. 1).

For asylum casework, data are also a critical aspect of people's lives to establish their identity and asylum motive. An asylum case is assembled of various data points collectively produced by multiple caseworkers. To claim asylum, a displaced individual is constructed through data into an asylum seeker (Rask Nielsen and Holten Møller, 2022). The distributed and cooperative activities across authorities and non-governmental organizations (NGOs) show the complexity of the asylum domain. In Denmark, the context that we investigate, Danish Immigration Service (DIS) case officers, Red Cross (RC) care workers, and Danish Refugee Council (DRC) legal counselors work side-by-side in Danish asylum centers as front-line workers struggling to do their jobs just reasonably satisfactorily within the framework of the restrictive system. In the broader field of asylum studies, scholars point out how the symbiosis of NGOs and authorities in the asylum domain resembles an industry (Gammeltoft-Hansen and Sørensen, 2013; Hamilton Byrne et al., 2023); thus care cannot be taken as a given in what drives this type of casework.

A CSCW viewpoint investigates how cooperative activities can be maintained and further supported. We study this work domain from the perspective of RC care workers, DRC legal counselors, and DIS case officers, who are accountable to both the displaced individuals applying for asylum and the political system. In an asylum decision-making context, where data act to reinforce vulnerable people's marginality and where data are used to target these vulnerable people for suspicion and scrutiny, this calls for a sensitive approach to the role of data and digitalization. When technological advances increase, nation-states' and NGO's ability to uphold people's well-being and human rights are even further tested. When developing data-driven approaches to casework, it is therefore critical to investigate and question the situated (Kantowitz and Suchman, 1990) data practices already embedded—to the context in which data are produced—since "data are not given; they are made" (Cheney-Lippold, 2017, 54) and never simply "raw" (Gitelman, 2013).

We contribute to and extend CSCW work that takes *care* as a perspective to increase sensitivity towards the *relational* complexities and consequences of work practices being shaped by data and digitalization in a highly politicized context. Following Mol et al., (2010), we investigate care as a relational aspect of

casework in which "bodies, knowledge and technology are attuned to one another in a way that takes the unaccountable into account, that is attentive to the indeterminate" (p. 82).

Care in a CSCW context has been researched in relation to healthcare (Kaziunas et al., 2017, 2019; Ismail et al., 2018; Seo et al., 2019), homelessness (Le Dantec et al., 2011; Le Dantec, 2016), family caregiving (Schorch et al., 2016), social welfare (Sciannamblo et al., 2021), education and learning environments (Karusala et al., 2017; Lu et al., 2021), and asylum and refugee studies (Talhouk et al., 2016; Tachtler et al., 2020; Krüger et al., 2021a, b). Instead of focusing on 'care work' as yet another type of work (care is not our object of study), we investigate care as a relational aspect of casework. By relational we mean the construed nature of data and data use and re-use across contexts. Building on prior CSCW research, we contribute by empirically exploring how authorities and NGOs *support* individuals in *navigating* an asylum system that is becoming increasingly data-driven.

Examining care as a relational aspect of asylum casework is crucial, we argue, when the asylum system is becoming more data-driven (Rask Nielsen and Holten Møller, 2022), politicized (Gammeltoft-Hansen and Tan, 2017), based on increasingly restrictive policies (Gammeltoft-Hansen, 2017) and grounded "in a climate of closed-door immigration policies" (Ticktin, 2011, 2). We argue for a focus on care because the political structural conditions that are shaping casework today are also shaping the development of new data-driven technology to support asylum casework; thus, we seek to describe and expand a theory of care as a design material.

RC care workers, DRC legal counsellors, and DIS case officers all produce, curate, analyze, interpret, and communicate data about the asylum seekers—data that enter and intersect various casework systems and are used to construct asylum cases. Thus, in this paper, we refer to these three asylum actors collectively as *asylum caseworkers*.

We base this paper on ethnographic fieldwork conducted between 2021 and 2022 across multiple settings. Our three field sites: 1) RC, at a so-called 'return center[1]' in Denmark; 2) the DRC; and 3) the DIS; allowed us to examine the question that guides our research:

> *How are asylum caseworkers enacting care as a relational aspect of casework when producing data about asylum applicants for decision-making?*

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[1] https://www.nyidanmark.dk/en-GB/Waiting/Asylum/Housing%20of%20asylum%20applicants/Asylum%20centre

We investigate this question as part of a larger interdisciplinary research project: Data Science for Asylum Legal Landscaping (DATA4ALL).[2]

When we first started conducting this research, we did not intend to study care, nor to make it part of our analysis. However, the importance of care in an asylum casework context started emerging early on, while conducting interviews and observations aimed at obtaining background information about the Danish asylum system. While learning about "the brutal measures [that] accompany actions in the name of care and rescue" (Ticktin, 2011, 5), we experienced how traces of care appeared as important aspects of our empirical data, which comprised the narrations of the RC care workers, the DRC legal counsellors and return counsellors, and the DIS case officers. These narrations came up in interviews and more informal talks, for example, and contained both affective and ambivalent dimensions of asylum casework.

Our ethnographic study suggests that care impacts how data about a person applying for asylum are produced and consequently how this person's asylum case is constructed. Focusing on the process of constructing the case documentation, we show how paying attention to other sites of data production, for example 'sites' beyond the authorities' interview process, shifts our understanding of data and case documentation. The relational aspects of casework, we find, are enacted in the situated process where caseworkers *care* that asylum seekers know how to navigate the system. In this sense the paper points to the specific ways in which asylum caseworkers enact care within the boundaries of the asylum system, both individually and collaboratively, in order to ensure that a case is sufficiently documented.

Even if the aim of this analysis is not to be representative or generalizable of the collective asylum caseworkers' working practices, care is an aspect of casework more generally when caseworkers enable individuals to navigate a system (Holten Møller et al., 2019). Casework is a practice "where the interaction and relation between officials and the public [individuals] create space for contextual discretion in the application of policy, rather than systemic enforcement" (Ibid p. 243). The aspects of care that we present in this paper are not technically but rather socially determined; thus, we argue that affective labor and socially supportive work is not fully recognized, evaluated, or formally valued as an important property of asylum casework.

Theoretically, this research brings a notion of care to research on datafication and data work in casework (Bossen et al., 2019; Meng et al., 2019; Møller et al., 2020). Our contribution to CSCW does not lie in technological innovation. Rather, this paper contributes to bringing care to the fore within CSCW and the HCI community more broadly. Empirically, we contribute grounded insights on the role of care and argue for the importance of care in relation to

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case documentation. Our study shows how care is enacted as a relational aspect of casework through i) *ambivalence*; ii) *translation*; and iii) *attentiveness to "new substantial information"*.

Data about the asylum seeker are produced in a setting of asymmetric power relations. People applying for asylum need caseworkers' *translation* to set the framework and draw up a map of the asylum system's many opaque and complex bureaucratic rules and procedures. The relational aspects of care in casework are essential, we argue, for countering the inadequacies or technological fixes of formal procedural data-driven caseworker systems and processes (Eubanks, 2017; Benjamin, 2019). Caseworkers are positioned to support individuals that have been rejected asylum through caseworkers' *attentiveness toward "new and substantial information"*. This can impact data quality in important ways, including shaping what data about the applicant are being produced and how they are shared across authorities and NGOs and used to construct asylum case documentation. Following Bowker (2005): "data should be cooked with care" (p. 184), as it is only when the individual asylum seeker and the caseworker can both navigate the process of data production and case construction that an asylum case is sufficiently documented. Why? Because a fundamental principle of administrative law is that authorities have the responsibility to document a case sufficiently before reaching a decision. In other words, relational aspects of care in casework are essential to ensure asylum seekers' democratic and legal rights.

The structure of the paper is as follows: first, we situate our analytical approach in relation to the CSCW and HCI literature on datafication and data work in casework on the one hand, and care on the other hand. Second, we provide an overview of the study and context, followed by our methodology. Third, we present our findings, and lastly, we discuss why it is important to build on the CSCW agenda of strengthening care practices in increasingly data-driven casework, meaning the relational work that facilitates the production of data that makes an asylum case sufficiently documented.

2 Related work

2.1 Asylum casework as a 'datafied' practice

In CSCW and related fields of research, concerns about 'datafication' are part of a standing debate about its consequences on bureaucratic casework as governments encode hierarchies of citizens and non-citizens into the infrastructures of European societies (Amrute, 2016). Studying asylum casework as a 'datafied' practice and questioning its consequences is important and timely because researchers, governments, and NGOs are increasingly testing how data-driven technologies could be applied to asylum and migration, including domains such

as border enforcement, decision-making, and data mining (Metcalfe and Dencik, 2019; Molnar, 2019; Ustek-Spilda and Alastalo, 2020).

Datafication describes the increased reliance on data for decision-support across sites of data production, which makes it challenging for individuals to contest or correct data-born accounts of their situation (Holten Møller et al., 2019). A key argument in this debate is that data not only represent lived realities but also shape them—data shape structures (systemic, social, economic etc.), identities, and citizenship. Datafied practices are core to constructing a European people (Ruppert and Scheel, 2021). Data are used in asylum processes to encode people applying for asylum into categories that have profound consequences for the applicants' futures (Rask Nielsen and Holten Møller, 2022).

Asylum casework as a domain is set to be fundamentally reformed by data-driven technologies. Such technologies are often mobilized based on the assumption that they are more objective and fairer than humans' discretionary judgment (Brayne and Christin, 2021). Such procedural changes, for example in Canada, include experimenting with automated decision-making in immigration and asylum determination (Molnar and Gill, 2018; Molnar, 2019). In Canada, as well as in the United States, people applying for asylum can be assisted by a chatbot to complete their applications (Ng et al., 2022). In Germany, pilot projects using language biometrics software support case officers to establish the identity of asylum applicants (Tangermann, 2017; Beduschi, 2021). Scholars also use data science techniques to better understand the complex, cooperative work practices in asylum decision-making (Kaltenhäuser et al., 2022) as well as to predict previous asylum decisions made by judges (Chen and Eagel, 2017), with the purpose of minimizing variation in decision outcomes (Ramji-Nogales et al., 2009).

Most research in CSCW and the broader field of HCI approach data production as data gathering and collection; however, how data are produced – and especially the power relations through which data are produced and how they influence data production in the first place – tends to be overlooked (Ellingson and Sotirin, 2020a). In this regard, little is known about how the role of care shapes data production, and so we turn our attention to how data are shaped as a basis for such emerging areas for technology development.

2.2 Power relations in casework and the production of quality data

Power relations influence how stakeholders are involved in collecting, cleaning, or modelling data (Stephensen and Treré, 2020; Holten Møller et al., 2021) as a situated practice (Kantowitz and Suchman, 1990). The term 'data cascades' describes the technical "debt" in machine learning model deployment that results from data produced by disregarding local conditions or aspects of data work. Sambasivan et al., (2021) remind us of the need "to move from current approaches that are reactive and view data as grunt work, to a proactive focus on "data excellence", meaning "focusing on the practices,

politics, and values of humans of the data pipeline to improve the quality and sanctity of data" (p. 10). Thus, this "debt" is important to unpack in a context where datafication and restrictive political agendas increasingly shape asylum decision-making into a distributed practice.

Chancellor et al., (2019) call for investigating "CSCW's relationship with and responsibility to issues around data, power, and justice". Dencik et al., (2018) suggest using data justice as a lens to "understand the relationship between data and social justice […] [and] how data contributes to structural conditions that continue or create new injustices". D'Ignazio and Klein, (2020) propose that, if we are concerned with justice in data science, we should "practice recognizing, naming, and talking about these structural forces of oppression" (p. 167). This also includes understanding social power relations with regard to the data setting.

It can be difficult to analyze how power relations shape data production in practice. In the case of Danish asylum decision-making, the main setting for data construction is interviews that can last up to 7 to 8 h. However, these interview data are co-constructed with, for example, data from NGOs, data and records from other countries, policy-informed background data, and/ or data from the applicant's mobile technologies and social media (Andreassen, 2020; Rask Nielsen and Holten Møller, 2022). As CSCW researchers, we need to broaden our understanding of the sites for data production as *distributed*; thus, to take into account the role of NGOs in supporting asylum seekers and how such relational aspects shape data and case documentation.

The interview data of asylum casework are produced in a relational setup, wherein they derive their quality and meaning from other types of data as well (e.g., social media). From a modelling perspective, quality data is defined as "proactively considering care, sanctity, and diligence in data as valuable contributions in the AI ecosystem" (Sambasivan et al., 2021, 2). Sambasivan et al. argue that any "solution needs to take into account social, technical, and structural aspects" (Ibid, p. 2). Winthereik and Vikkelsø, (2005) describe quality data by their ability to travel across organizational settings while enacting organizational accountability and trustworthiness.

Large-scale data are often presented to help us create better tools, public goods, and to solve complex problems; nation-states, international institutions, and NGOs increasingly seek to produce, interpret, and share data about people applying for asylum (Rask Nielsen and Holten Møller, 2022). Data that are stored and shared across various casework systems are assigned categorical meaning, often without the applicant's direct involvement, consent, or comprehension of this datafication (Ustek-Spilda and Alastalo, 2020). Displaced individuals (or the so-called data subjects) cannot opt out of this datafied process when seeking asylum. As noted by Cheney-Lippold, (2017), data about us have many times come to replace who we actually are.

In asylum and migration, legal authorities rely on the criterion "credibility" as a measure for determining whether an individual should be granted asylum or not (Rask Nielsen and Holten Møller, 2022). Here, asylum decision-makers increasingly rely on data produced through established protocols and procedures. Data about the asylum applicant are often treated with more credibility than the oral testimony of the asylum applicants themselves (Ibid). With the rising development of data-driven bureaucratic decision-making processes—where individuals and legal authorities have differential power, the challenges of applicants' agency and accountability grow (Ibid).

The corpus of work on which this paper is grounded "pay particular attention to undervaluing of data in high-stakes domains that have safety impacts on living beings" (Sambasivan et al., 2021, p. 1). Research that acknowledges the various forms of processing that necessarily occur *before* data production are especially relevant to our paper. Context affects and shapes which data are produced, and which are not. In other words, data are political in the sense that they are produced on assumptions, judgments, and values that dictate how and which questions are asked, and thus which data are produced (Pine and Liboiron, 2015). In casework, the construction of the individual's data depends partly on the caseworkers' discretion and what they find to be relevant (Boulus-Rødje, 2018).

Similarly, technologies that are not developed for an NGO context (such as casework systems used by the DIS – see Figure 2), will shape the data production and influence existing practices. Voida et al., (2011) find that in the context of care provision, data and digital technologies add complexity. Passi and Jackson write, "it takes *work* to make data work" (2017, 2438). Data work is performed by all kinds of professionals who carry out the mundane socio-technical practices involved in the production, contextualization, interpretation, and leveraging of data (Bossen et al., 2019; Møller et al., 2020). Technological advances increase daily, including in high-stakes domains such as asylum and migration, where nation-states' abilities to uphold people's well-being and human rights are tested. If data science methods are to be applied to advance asylum law, it is critical to investigate and question the situated data practices embedded in casework (Boulus-Rødje, 2018; Holten Møller et al., 2019; Ammitzbøll Flügge et al., 2021) and explore "how the digital plays a role in organizational practice" (Dourish, 2017, 45). In this study, we therefore set out to empirically investigate the role of care in relation to the production of quality data.

2.3 Expanding sites of care in CSCW

Care is of growing interest within CSCW and the broader field of HCI (Schorch et al., 2016; Karusala et al., 2017; Kaziunas et al., 2017; Ismail et al., 2018; Kaziunas et al., 2019; Seo et al., 2019; Karusala et al., 2021; Sciannamblo et al., 2021). Several scholars have theorized on the notion of care in various ways and questioned normative stances that care is inherently good. For

example, in the context of healthcare, Vlachokyriakos et al.'s (2021, 778) findings illustrate "the ambivalent dimension of care—as both something that nurtures care, but also as something that has a distressful dimension (e.g., burn out)". Similarly, Sciannamblo et al. show care as a type of cooperative maintenance work with affective implications (2021, 4).

This strand of research illustrates the complexity of care as an object of study, but also challenges normative stances on care that tend to disregard that "to care can feel good; it can also feel awful. It can do good; it can oppress" (Puig de la Bellacasa, 2017, 1) – "its double meaning is clearly on display" (The Care Collective et al., 2020, 27).

In the context of child welfare, Roberts, (2007) describes "caseworkers' dual roles as both investigator and supporter" (p. 886). Caseworkers are here characterized as both potential sources of useful information and material aid for families and, due to the system's restrictive policies, as a monitoring body. Saxena et al., (2021, 2022) also show how families are cared for and supported by caseworkers having to navigate the framework of the system's structural constraints and power asymmetries.

Distress and other negative affective dimensions of care are particularly relevant to work contexts within systems based on restrictive bureaucratic procedures and especially in work settings where caseworkers experience care as "persistent tinkering in a world full of complex ambivalence and shifting tensions" (Mol et al., 2010, 14). Deleuze and Guattari, (1987) categorize affect as a relational force that either strengthens or weakens the human capacity to act. In this context, Teli et al., (2018) show how collecting narratives can enable an understanding of situations deeply influenced by affects, especially situations "dealing with the relation between democracy and digital technologies" (p. 129). Poderi, (2020) describes how identifying traces of affect allows

> "us to foreground how situated and embodied knowledge, emotions, expectations, needs, or desires are triggered through the 'contact' with other bodies, how these drive us to act (or not) in specific ways, and in turn how these actions (or lack thereof) trigger other human and non-human bodies" (p. 33).

Aligned with this thinking, Puig de la Bellacasa, (2017) writes that there "are situations when care work involves a removal of the affective" (p. 5) and argues that "good care" – or as-well-as-possible care – is never neutral because the work of care can be done within and for worlds that we might find objectionable" (p. 6). In this regard, Puig de la Bellacasa, (2017) remind us to pay "attention to the invisible but indispensable labors and experiences" of care (p. 162). Since care might entail oppression, there is a need to pay "attention to the ambivalent rhetoric and practices taken up in its name" (Martin et al., 2015, 630).

Sevenhuijsen, (2003) points out that care will never be free from power and conflict, and thus tightly intertwines with mutual trust and intention. Choosing to care "is not an individual action but intrinsically relational" (Puig de la Bellacasa, 2017, 69). Through continuing interactions that support and sustain individual and/or collective well-being, care is enacted (Karusala et al., 2017).

In this paper, we focus on how "caring can be identified, researched, and understood concretely and empirically" (Puig de la Bellacasa, 2017, 1) with the aim of bringing to the fore relational care practices in data production. Based on this study, we argue, that data documenting an asylum case "should be cooked with care" (Bowker, 2005, 184) as a way to care for those who care about others (Puig de la Bellacasa, 2017). CSCW researchers (e.g., Balka and Wagner, 2021) remind us to study and make visible the complex influences that shape the work of those who are 'othered' in diverse settings and across multiple contexts. We study asylum caseworkers' informal care work practices. Why? Because a care perspective increases our sensitivity as CSCW researchers towards understanding the conditions for producing quality data and documentation in casework. Making this kind of invisible affective care work visible is crucial to understand "who is doing the work of data" (D'Ignazio and Klein, 2020, 26; Møller et al., 2020). It is critical to acknowledge and understand the relational aspects of care and data work to safeguard that this type of work is taken into consideration when developing new technologies.

We study how care is enacted as a relational aspect of asylum casework. In doing so, we focus on care as both a set of practices and narratives "that engages a wider range of human experiences between people, data, and technologies" (Kaziunas et al., 2017, 2269). We aim to "avoid reductionist simplifications of the good and evils of care" (Puig de la Bellacasa, 2017) as we unpack "what is actually done in different situations under the blanket category of care" (p. 10) in a bureaucratic asylum context.

Bureaucratic principles, we argue, can never be an argument for a system that does not care for the individual. More so, in asylum, which is a bureaucratic context where the individuals applying for protection are subjected to data-driven classification, privacy issues, and other surveillance in ways that do not even remotely compare to what the general population is subjected to.

3 Overview of study and context

The context for this study is Danish asylum policy. Denmark signed the 1951 Refugee Convention (UNHCR, 2021a), of which a core principle is *non-refoulement*, which asserts that refugees must be protected from being sent back to a country where they risk persecution. Another principle is that people requesting asylum have the right to have their application processed through a fair and efficient asylum system, while having their fundamental human rights

respected. However, there is overall agreement that the European asylum system "no longer works" (The European Union, 2000). When legal principles are put into practice, the politics of the individual European member states shapes what it means that asylum decisions are, for example, "fair and efficient" as prescribed by the UNHCR, (2021a).

According to the Convention, legitimate asylum motives fall into one of three different categories: 1) *Convention protection*: the applicant is individually persecuted in their home country because of their religion, sexuality, political position, race, ethnicity, etc.; 2) *Individual protection status*: the applicant risks being subjected to torture, the death penalty, or other treatment in violation of European human rights if they return to their country of origin; 3) *Temporary protection status*: acts of war in the applicant's home country hold a high probability of abuse against the civilian population (newtodenmark.dk, 2021a). Humanitarian residence permits are rare and only granted "if you suffer from a very serious treatment-requiring illness, or if you risk deterioration of a serious handicap by returning to your home country" (newtodenmark.dk, 2022a).
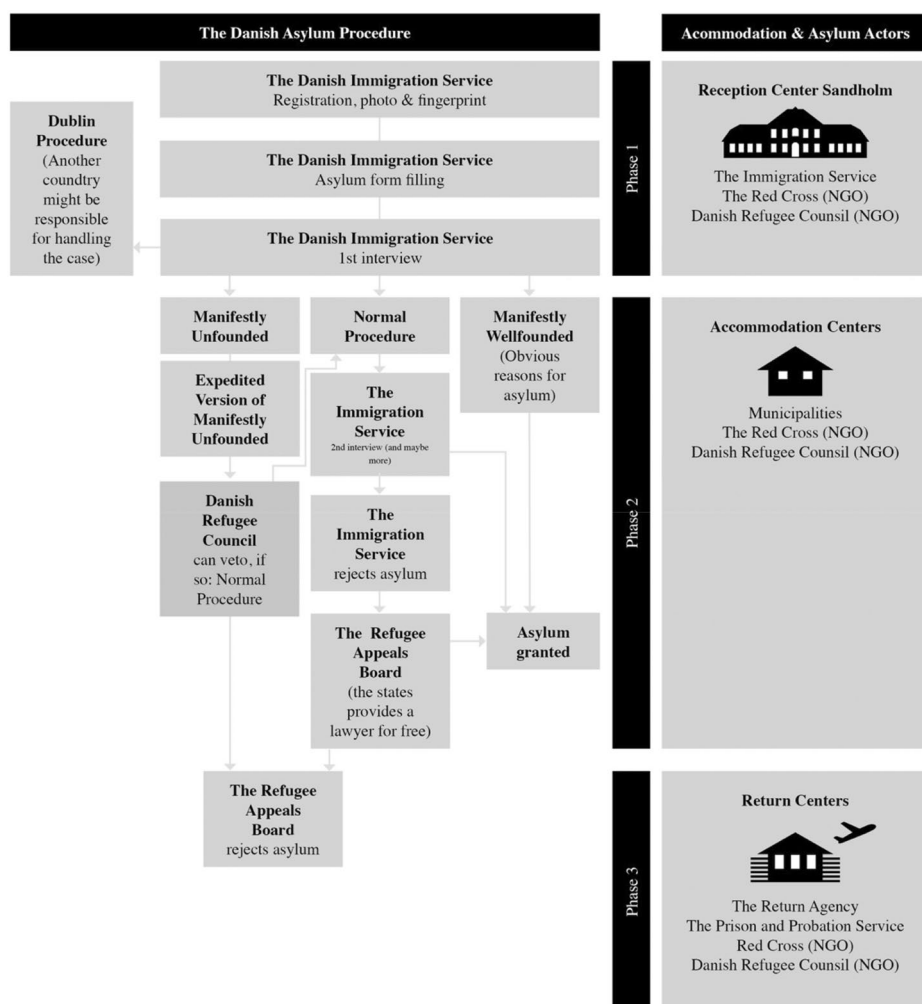
In recent decades, a series of restrictive deterrence policies around asylum and immigration has been imposed by the Danish government (Fischer et al., 2017; Gammeltoft-Hansen and Tan, 2017). While Denmark does not formally participate in the Common European Asylum System (CEAS) of the EU,[3] the UNHCR considers Denmark to have a well-established asylum and reception system. However, the UNHCR has criticized a range of Denmark's legislative changes, such as the passing of a new temporary protection status Article 7(3) in 2015, which constitutes a weaker protection than the previous Article 7(2). Article 7(3) targets people applying for asylum who lack an individual asylum motive but have fled because of the general situation in their country of origin (UNHCR, 2021b). People in this category will have their asylum cases reassessed if the situation in their home country improves.

3.1 The Danish Immigration Service and the asylum procedure

The Danish asylum system comprises three main phases: 1) registration and initial case processing, 2) processing of the case and accommodation, and 3) in case the application is rejected – departure position (Figure 1). As in other EU countries, the Danish asylum system is founded in law and thus based on a legal process. Furthermore, it is to a high degree also administrative and bureaucratic, with many different actors e.g., the police, immigration case officers, and NGOs. The asylum procedure is multifaceted, complex, and opaque (Berti et al., 2016). To provide the reader with an understanding of the asylum procedure, we

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[3] https://www.unhcr.org/neu/wp-content/uploads/sites/15/2021/01/UNHCR-Recommendations-to-Denmark-on-strengthening-refugee-protection-in-DK-Europe-and-globally-January-2021.pdf

Figure 1. The (simple and linear) Danish asylum process.

sketched out a streamlined general view of the process (Figure 1). However, there are many exceptions and examples of asylum cases that do not fit into the simple, linear, and coherent depiction.

In the prototypical asylum case in Denmark, the DIS performs the initial data registration. Next, asylum seekers who can read and write are asked to fill in an asylum application form, which serves as baseline data for the subsequent case processing. The applicant is then invited to a first interview with the DIS, which decides in which country the case is to be processed.

According to the Dublin Regulation, if an asylum seeker is registered in another EU country, that member state is responsible for processing the case. If the asylum seeker's first registration is found to be in Denmark, the application

can follow different procedures. The DIS can determine that the application should follow the *manifestly unfounded procedure* if they find that the individual has no valid ground for seeking asylum, such as if the individual applies asylum for economic reasons. The application can also be determined as an *expedited version of manifestly unfounded procedure* if the applicant comes from a country that both instances consider as safe, or *manifested well-founded procedure*, if the reason for asylum clearly falls into the recognized categories. In all the other cases, the application follows the so-called *normal procedure* to decide whether the applicant should be granted or rejected asylum.

If the person applying for asylum receives a rejection from the DIS in the normal procedure, the case is automatically appealed to the Refugee Appeals Board (RAB). The RAB examines the appeal and ultimately confirms the rejection or approves asylum. During this process, databases are key to storing and sharing information, since asylum decision-making is practiced within a widely distributed organizational network. Individuals applying for asylum in Denmark encounter a range of authorities that collect, produce, and share data about them in and across various databases—e.g., the databases in Figure 2, to which the first author was introduced as part of the fieldwork.

In the year of 2021, 2099 displaced individuals applied for asylum in Denmark, of which 1362 were granted asylum (Ministry of Immigration and Integration, 2022). The people not granted asylum are obliged to leave the country. The RAB allocates a departure deadline, which is either immediate, after 7 days, or 30 days. After this, the rejected asylum seeker no longer has legal residence in Denmark (The Return Agency [Hjemrejsestyrelsen], 2022a).

3.2 Return centers of the Danish asylum system

At the time of the study, there were 12 asylum centers in Denmark, including one reception center, three so-called return centers, and three centers for unaccompanied minors (newtodenmark.dk, 2022b). The centers are formally classified into three categories: 1) the reception center is for people applying for asylum who have just arrived in Denmark; 2) accommodation centers are for people who are having their asylum case processed; and 3) return centers are for people who have either had their asylum application rejected or are to be transferred or returned to another EU country according to the Dublin Regulation (newtodenmark.dk, 2022c).

The DIS has the overall responsibility for the asylum centers in Denmark, but has entered into agreements with municipalities, the RC, the Danish Emergency Management Agency, and the Danish Prison and Probation Service. The Danish Prison and Probation Service, which also runs Danish prisons, is responsible for the accommodation and operation of the return centers (newtodenmark.dk, 2018).

Figure 2. The databases/case-work systems of which the first author was presented to by NGOs and authorities as part of the fieldwork.

Organization	Database / Casework system
Danish Immigration Service (DIS)	**Public 360°** Case management system
	Carl 2 The Central Address Register Solution for foreigners
	Evida Database supporting case processing with background information bout conditions in the applicants' countries of origin
	DubliNet Database supporting data sharing across member states
Red Cross (RC)	**LetAsyl** Case management system used at the asylum centers
	EDJ Electronic Daily Journal - Part of the RC intranet
	Afmelding Daily registration - Part of the Prison and Probation intranet
Danish Refugee Council (DRC)	**AdvoPro** Case management system
	Nævnsdatabasen Database with asylum decisions made by Refugee Appeals Board (the 2nd instance)

This multi-sited ethnographically informed study was carried out by following the work of: 1) an RC care team at a return center; 2) DRC legal counsellors at their main office in Copenhagen; and 3) by conducting interviews with DIS case officers in their offices at the asylum reception center.

The return center, in which a large part of this study was carried out, is (at the time of the study) for adults without children,[4] and mainly for rejected asylum seekers in the so-called 'departure position'- "those who fall outside the ambit of care by nation-states" (Ticktin, 2011, 10). The center also houses applicants who

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[4] At the time of this study, there were people living at the center who have children but who have either been forcibly removed or where custody of the child / children has been given to the other parent.

either fall under a manifestly unfounded urgent procedure or the Dublin procedure. The center has a capacity of 400 residents, although at the time of the study approximately 110 individuals were living there.

The center has 24-h staffing, video surveillance, and access control; however, it is still rather open. Residents are free to come and go during the day, while in principle they are subject to a residency requirement that compels them to stay and spend their nights at the center (The Danish Immigration Service and The Danish Agency for International Recruitment and Integration (SIRI), 2021). If residents want to spend the night outside the center, they must apply for permission by submitting a form no later than one week before the start of the desired stay outside the center. The application must be submitted to the operator of the center, the Danish Prison and Probation Service, which then forwards it to the Danish Return Agency, which makes the decision (The Danish Immigration Service and The Danish Agency for International Recruitment and Integration (SIRI), 2021).

The individuals living at the center are obliged to carry an identification card that is checked each time they pass the front gate (there are fences all around the center). An electronic system "the Adgangs- og Meldepligt system AMS" (formerly the SALTO-system) is installed to register whether the residents comply with their duty to report. In 2020, the DIS became aware of some unscheduled interruptions in the system, which caused a loss of personal data (newtodenmark. dk, 2021b) and potentially improper listing of some as absent from the center—a violation of the law. The duty to report residency is now manually handled 24 h a day by two people employed by the Danish Prison and Probation Service.

The residents are housed in the former military barracks, located in a still active military training area. Tanks cross the nearby main road and shooting practice is carried out on a regular basis (Ministry of Defence, 2022). The geographical placement of the center is rather isolated for people without a car, bike, or money for a bus ticket. This, combined with the registration that the residents are obliged to comply with, limits their freedom of movement.

3.2.1 The Red Cross department at the return center

RC has, in agreement with the Danish state, run asylum centers since 1984. The organization is responsible for the humanitarian and practical work at some of the centers (Red Cross, 2021). However, RC does not run the return centers. Instead, they are hired in by the Danish Prison and Probation Service to provide care, social work, health services, education, and activation, as well as volunteer efforts at the centers.

The RC care team have the responsibility to take care of residents living at the return center. It is the RC social coordinators' job to ensure that people with special needs are identified, for whom the care team can then provide special guidance and support. Residents can be suggested in need for a "care spot" if, for

example, they are mentally or physically ill and thus in need for extra care and nursing. These so-called "care spots" are approved by the DIS. Regular meetings are held together with other professionals, such as employees from the RC clinic and the Prison and Probation Service. In these meetings, it is discussed which efforts can best ensure the wellbeing of the individuals with special care needs.

3.2.2 The Danish Refugee Council (DRC)

Another part of this multi-sited ethnographic field study took place at the DRC's headquarters in Copenhagen. The DRC is a private humanitarian organization, founded in 1956, that works to help refugees and displaced individuals, protect their rights, and strengthen their prospects.

The DRC Asylum Department offers impartial counselling on all phases of the Danish asylum procedure, including counselling on the possibilities for rejected asylum seekers and prospects for voluntarily returning home (repatriation). In this phase of the asylum procedure, the DRC collaborates with the Danish Return Agency[5] (The Return Agency [Hjemrejsestyrelsen], 2022b), which is the public authority that since 2020 has taken over the task from DRC of handling the counselling in relation to the return of rejected asylum seekers (Danish Refugee Council (DRC), 2022).

The DRC's legal counselling takes place over the phone, via email, video, or at a meeting either in their office in Copenhagen or when they visit the asylum centers, prisons, detention centers, and municipalities. DRC's return counselors are present twice a week at their offices at the return center where this study took place.

4 Methodology

4.1 Constructing our field site

We constructed our field site across multiple stakeholders. Firstly, we set out to qualitatively investigate the technology-supported collaborative data work practices and the workflows that support the asylum procedure. We wanted to explore how and which data about the displaced individuals applying for asylum are produced, stored, categorized, and shared across different actors, and used to inform asylum decisions.

> The site is not simply out there, waiting to be discovered, but instead is constructed reflexively by every choice the CSCW researcher makes. In other words, selecting "the site" is a matter of interacting and participating with the material artefacts and the people engaged with them (Bjørn and Boulus-Rødje, 2015, p. 326).

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[5] https://www.eng.hjemst.dk

The distributed nature of data production in the asylum decision-making process is not easily reduced to an investigation of, e.g., a single actor, artefact, site, or process, we argue. Partnering with NGOs who have experience with and/or work to end oppression (e.g., based on class, race, gender, ability, sexual or gender orientation), is important for understanding their experiences of these matters (Dombrowski et al., 2016). To this end, the field sites in this study are: 1) RC at a return center, 2) the DRC Asylum Department, and 3) the DIS.

We recognize how power relations represent a critical issue in this study. Why? Because there is no neutral study of individuals in a highly politicized and conflictual context as asylum. In a study like this, there "is an obvious issue of representation and interpretation: whose voices are being heard? Are other, potentially relevant, voices being excluded?" (Wulf, 2018, 261). We understand that the choices we make throughout this ethnographically informed (Forsythe, 1999; Randall et al., 2007) and interpretivist study and while interacting with the "research site are integral to the method and its outcomes" (Le Dantec and Fox, 2015).

For contextualizing the study, we disclose aspects of the authors' positionalities that inherently affect our work (Karusala et al., 2017). We are all white, Europeans, and identify as cis-gendered women. We have full-time employment at state-funded academic institutions. The first author carried out the main part of the field studies that informed this research paper. She worked in sensitive contexts prior to this study. The second author has worked in Denmark and comes from and works in southern Europe, a central "route" for many asylum seekers before they enter the Danish asylum system. The third author engaged with casework across several contexts, with a special focus on sensitive context, data, and power differences – and similar to the first author – works and comes from Denmark.

While conducting this research, we had weekly meetings where we reflected on our "inaction" (Homewood, 2019) and discussed our emotional struggles in conducting studies of asylum work processes. For example, how it can include feeling difficulties in making a difference for asylum seekers – and caseworkers. How it can feel like being an intruder when observing the meetings between them. Feelings of not being able to "fix" the injustices of asylum. How to deal with such feelings and how we communicate this part of our research process in a publication.

Our research is presented through the context; who and what perspective, we have chosen (and were able) to study, as well as through the lens of our own pre-understandings and assumptions, which of course contribute to the interpretive act between us as researchers and our constructed field site (Harding, 2004). We as "[r]esearchers bring data into being – construct, build, craft, formulate, compose, fashion, concoct, produce – in short, we make them" (Ellingson and Sotirin, 2020a) *following* (Ellingson and Sotirin, 2020b). It is "only the ethnographer's

presence in the field and engagement with the site—through action and interaction—that produces the data that is then the basis of analysis" (Dourish, 2014, 3).

> It is not simply what the ethnographer might see or hear, but also, for example, what the ethnographer might feel; that is, the ethnographer's discomforts, disquiets, joys, and anticipations are as much ethnographic data as the statements of others to the extent that they reveal something of how a setting is organized (2014, 4).

4.2 Negotiating access

Negotiating access to interview asylum caseworkers and observe their work practices included considering how we could fairly represent the caseworkers' perspectives. Much of the work of gaining access concerned explaining the aims of our research while negotiating with the DIS and the NGOs our presence in their work.

The backstage work of setting up a study is complicated. Access negotiation took various forms, such as reaching out to already trusted contacts, back-and-forth e-mails, phone calls, informal face-to-face conversations, interviews, etc. Ultimately, we negotiated access to conduct two long-term observations conducted by the first author, following the work of: 1) RC at a return center; and 2) the DRC. We conducted interviews at the DIS. It was important for us to establish a cooperation with all relevant stakeholders, including NGOs and authorities (Holten Møller et al., 2020).

Gaining access to study the two NGOs relied on several different people, some of whom became especially important for this multi-sited ethnographic field study (Bjørn and Boulus-Rødje, 2015; Van Duijn, 2020). Accessing both work settings was a matter of gaining the support of a key employee in one of the two organizations. This person saw the value of the research and was willing to vouch for the first author and became the sponsor of this study (Bryman, 2016). This key employee helped direct the first author to relevant people in other organizations, including the DRC, and to the more senior people who then, in the end, acted as gatekeepers for this study in the sense that they gave the final consent (Ibid) to let the first author 'hang around' for a longer period of time in both organizations.

The following snippets from interviews with legal counsellors from the DRC illustrate the difficulty of finding someone willing to give the final consent to "letting the first author in":

DRC1: Yes, I will ask what they [DRC1's boss and colleagues] say to that. It is just that we are so time constrained… But I think that it [the project] is wildly important...
DRC2: I will pass your inquiry on to my boss […]. It should be cleared with my boss because it is not up to me to decide [laughs].
DRC3: It is my boss you should talk to, yes.

> DRC4: [the boss of DRC1, DRC2, and DRC3]: You may be allowed to observe conversations [with applicants] and then have a 10-minute talk with the legal counsellor before and afterwards. However, I just need to have this cleared with my boss.

Gaining access to study a non-public and complex asylum work setting in a Danish context is a challenge. Ultimately, the ethnographic field study unfolded over a period of 10 months, which we will describe below.

4.3 Data assembling and analysis

The work practices of the caseworkers were our research focus in this study and thus this study is solely on the caseworkers' perspective. The first author observed the work practices of an RC care team and the DRC legal counselors, including their internal meetings as well as meetings with residents (at the return center) and individuals seeking counselling (at the DRC), conducted interviews, listened in on phone calls with other asylum actors (e.g., the DIS, the Return Agency, the DRC), and engaged in more informal conversations (e.g., while sharing an office, during lunch, and in transport to and from the return center) with the people working at the two field sites.

The first author became immersed in the work settings for a period, including the day-to-day informal conversations between caseworkers and with the rejected-/asylum seekers. The overall focus was on paying attention to both what the caseworkers that we studied said they were doing, as well as what the first author observed them doing (Randall et al., 2007; Dourish, 2014). Everyone in this study was made aware of the reason for the researcher's presence (Bryman, 2016).

When we first started conducting this research, we did not intend to study care, nor to make it part of our analysis. However, the importance of care in an asylum casework context started emerging early on while conducting interviews and observations aimed at obtaining background information about the Danish asylum system.

Part of this study relied on observations of rejected-/asylum seekers' meetings with DRC legal counsellors (20) and with the RC care workers (10), in addition to the general activities of DRC and RC employees (Table 1). Furthermore, the study was informed by qualitative data produced in interviews with DIS case officers. In total, we conducted 19 interviews (in situ and semi-structured) with: DIS case officers ($N=4$), DRC legal counsellors ($N=10$), RC care workers ($N=5$).

The in situ and semi-structured interviews lasted between 15 min and up to 2 ½ hours and were all conducted by the first author in the period from June 2021 to May 2022 (see activities in Table 2). To make the interviewees feel as comfortable as possible, the interviewees determined the time and place of

Table 1 Overview of participants.

Participants	Organization	ID	Number
Care worker	The Danish Red Cross	RC	8
Teaching and activation worker	The Danish Red Cross	RC	3
Volunteer Coordinator	The Danish Red Cross	RC	3
Legal counsellor	The Danish Refugee Council	DRC	12
Volunteer	The Danish Red Cross		1
Case officer	The Danish Immigration Service	DIS	6
Journalist	The Danish Immigration Service	DIS	1
Rejected-/asylum seeker (observation only)			30
Total number of participants			64

Table 2 Activities.

Type of activity	Duration
Telephone conversation (e.g., negotiating access)	5 h
Interview (recorded)	9 h
Interview / meeting (not recorded)	19 h
Observation (incl. conversations w. participants)	160 h
Total duration	191 h

the interview and whether or not we recorded it. 'Recorded participants' all signed a consent form in advance.

In the following, we report findings from our qualitative thematic analysis (Bryman, 2016) that formed the guiding set of principles as we analyzed the transcribed notes from non-recorded/recorded interviews, fieldnotes, photos, memos, reflections, etc. In addition, various documents such as news articles, press releases, legislation, etc., described to us the various actors of the Danish asylum system and their different professional roles as preparation before the actual interviews and observational studies were conducted. The inductively coded data were discussed, and codes and themes were refined across the research team into three themes characteristic of care in data work: i) *ambivalence*; ii) *translation*; and iii) *attentiveness to "new substantial information"*. In the following, we elaborate on how care is part of casework and the production of quality data between the caseworker and the individual applicant.

5 Findings: Care in Asylum Casework

5.1 Ambivalence about care for the individual

When investigating how care is enacted as an aspect of asylum casework, we must acknowledge the ambivalence in such care situations. From our multi-sited

ethnographic field study, we learn about moments of ambivalence between case-workers and rejected-/asylum applicants, influenced by pressing bureaucratic rules, and the law. Our study reveals how caseworkers strike a delicate balance between bureaucratic constraints and seeking spaces to provide care. As a result, our findings suggest that the production of data about rejected-/asylum seekers occurs in moments of ambivalence, which can influence the types of data that are produced and entered casework systems.

Most of the asylum applicants are in a vulnerable situation (e.g., risking being sent back to persecution, violence, or poverty) and in critical need of support (e.g., due to language barriers, cultural differences, and lack of knowledge of the asylum process). However, not all the reasons to request help are legally con-sidered a motive for granting asylum. Motives that fall out of the *convention, individual,* or *temporary protection status* are not considered legally valid and therefore these applications are rejected. We learn from our empirical data that the relational context between caseworkers and the displaced individual's vulner-able situation and lack of legal knowledge, is characterized by ambivalence.

The following transcribed excerpt shows an instance of how the information, provided by the asylum applicant is being considered by the DIS case officer as irrelevant, as it does not fall into any of the three categories. Still, the DIS case officer explains their ambivalent feeling of engaging with an applicant in clear need for help, but lacking legal grounds for asylum:

> DIS6: 'There are also just rejections where we… I may well agree that the correct decision is a rejection, but I still think it's the unhappiest ever [to have to make that choice] … It can for instance be an Indian man sitting the entire day crying because he was born in the slums and raised in the slums, and he will never come out of the slums. It… it can be insanely hard, but it is not a valid reason to grant asylum [to this man]. And I do know that. I can agree with that, of course, but it's just still the world's most unhappy soul you meet who has no future prospects because he's just pulled the shortest straw ever… And that applies to him and a billion others, right. And poverty is just not at reason for asylum. […] I feel sorry for him. But we do not use such a thing as "feeling sorry for" in DIS…'

We learn from our empirical data that providing what would in some cases feel like an ideal form of care towards the person who is in front of the asy-lum caseworker many times fits uneasily into practicing the rules of the law. By the caseworkers not being able to offer an ideal form of care we, in this case, mean when their instinct to care contradicts their lack of agency to influence the decision-making process. The above example illustrates how care, as an aspect of casework, is enacted in moments of ambivalence and distress, that leads to a removal of the affective in the decision-making process.

In our empirical data, we find further signs of how asylum caseworkers cope by exploring forms of caring that are allowed within the institutional boundaries. As an RC care worker explains: "We cannot help them [the residents at the return center]—but we can guide them" (RC1). The ambivalent feeling of working within a system with restrictive rules that determines what can—and cannot—be done while witnessing a humanitarian emergency resonates with empirical data from an interview with a DRC legal counsellor, who explained to the first author how asylum casework sometimes makes it difficult to stay fully true to the "NGO heart" (DRC3):

> DRC3: 'Well, sometimes I spend a little too much time on counselling because I sit with my NGO heart while listening to a person who tells me their story and who thinks their situation is unfair. And then I have a tendency to say: Well, that's not right. It's not the right decision [asylum decision granted by for example the DIS].'

We learn from this example that the boundaries to "how to care" in casework are distributed across caseworkers and contexts, meaning that care is shaped by situated practices. The distribution of care exacerbates the feeling of ambivalence since the caseworkers ability to provide humanitarian care often juxtaposes their lack of agency to influence the decision-making process.

The RC care team at the return center "try to help people to endure being in the situation they are in" (RC4). Every week, the RC care team updates a list in excel of all residents living at the return center. The list is printed out and serves as an important tool for the RC care workers. In this list, the individuals living at the center are marked with either a green, blue, or red color. Green is for the category "new residents". Blue is for residents who have been assigned a so-called "care spot", while red is for residents that the RC care team must pay extra attention to.

The core of RC's care work is "to ensure a safe, meaningful and dignified waiting time with a focus on the future" (from an internal RC document: "Professional work description"). However, RC1 explains: "We work in an industry where there is no solution". Most individuals who live at the center cannot be sent out of Denmark, which is why many live at the center for a longer period of time". "Many are double-excluded – they have received a rejection both from Denmark and from their home country" (from an internal RC document: "Professional work description").

At the return center, there are rules, tasks, and a framework that challenge RC's ambitions of care. "We have very, very strict frameworks within which we must operate, which means that there are not so many options. […] The political discourse sets the framework for how we work" (RC1). The RC care team is hired by the Prison and Probation Service, not only to offer care to the rejected

applicants, but also to take on the "role as an authority", meaning that [RC] "has a control function, is behind a desk, has to make decisions on behalf of the residents, or has otherwise increased power in the relationship with the resident" (from an internal RC document: "Professional work description"). In this regard RC1 explains:

> RC1: 'A lot can be written about a resident. There are some heavy requirements regarding what to report. For example, if you do not follow 'The House Rules'.[6] You may wonder why 'The House Rules' are specifically mentioned in the new Return Act. Is it really that important to mention a house rule? It is often the resident's… how do you say this… the resident's following or not following 'The House Rules' that creates a lot of attention around the resident. […] If you [a resident] have an unfortunate behavior, then you may actually have created so much attention that it can somehow affect your case, right.'

The RC care team ensures "documentation of observations, relevant contact, and correspondence between relevant actors in connection with the resident's case in order to offer the resident the best possible care under the given framework" (Citation from an internal RC document: "The care work at [name of the return center]"). Meanwhile, it is also part of their work description to report to the authority level if, for example, a individual living at the center does not follow the rules.

> RC1: 'Everything that happens at an asylum center can have an impact on a resident's case in one way or another. This may mean that the person in question may have their case reassessed and that [the authorities] will reconsider whether the person in question should in fact be a resident in Denmark. But it may also lead to the consequence that you can be moved to [another return center], for example. […] So, you [the resident] just must follow the rules and if you do not, then you can easily get in trouble.'

The example also illustrates the hierarchy of power from asylum seekers to care workers and then to the legal and formal rules and procedures. The RC care workers carry out tasks, such as reporting whenever a resident breaks "The House Rules", that can lead to negative consequences for the resident. In these cases, the RC care workers expressed a need to prioritize their work duties and

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[6] 'The House Rules' is a set of rules made – and signed by the Prison and Probation Service and specifically mentioned in both the legislation on repatriation for foreigners without legal residence (The Return Act) applied the 26.05.2021 (Ministry of Immigration and Integration Affairs, 2021) and the contract between the DIS and the Prison and Probation Service on accommodation and maintenance of rejected asylum seekers and others (The Danish Immigration Service., 2022).

the formal rules of the asylum procedure in favor of their personal beliefs or emotions:

> RC1: 'DIS looks through LetAsyl [the RC case management system (see Figure 2)] for a month and then they say... [...] And then they see all the reports and [ask] why is there no police report on this? So, and it's *really* down to the very last detail. So, it's not like we [RC] can just say: No, we don' t have to [report] and stuff like that. There is a [higher] body that keeps an eye on it [reports], because it is an important part of this concept around the return center... It is not a holiday colony... Or a place where you just have to stay. But it is actually a place you have to leave.'

A Danish return center rests upon a framework and bureaucratic rules that are built on restrictive policies. RC5 reminds us how "it's not about fences and bad conditions… that's <u>not</u> the key! – It is the asylum policy that should be the core concern!" We see in our empirical data how this political framework, based on restrictive asylum policies, many times contradicts RC's professional ambitions for humanitarianism and for carrying out their conception of care. The next two snippets from the first author's fieldnotes illustrate the RC care workers' struggles of care. Together these examples show two situations where the notion of care leads us to the notion of limit as the RC care workers are prevented from fulfilling their ideal of care—meaning creating "a safe, meaningful and dignified stay":

> Example 1: It is early morning and I [the first author] just arrived to [the name of the return center]. I go to the coffee machine in the kitchen in the RC office building. Here I start small talking with RC3. RC3 tells me about one of "her residents" (RC3 is this person's contact person to this resident), who came from [another return center] to [this return center] about a month ago (to be closer to family), and suddenly has to move back to [the other return center] - already on Monday (it is Friday, so after the weekend). The resident is on so-called "tolerated stay".[7] People that fall into this category are not supposed to stay at [name of return center]. RC3 tells me that the booking department in DIS may not have been aware of this when agreeing to let this person move to a center closer to family. Suddenly, while we are talking, employees from the Danish Prison and Probation Service enter the RC building. They are coming to talk to RC3 to let RC3 know that RC3 needs to make sure that the resident

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[7] A person on tolerated stay is an expelled person who is however considered to be at risk of persecution if returning to their home country. This person will therefore not be deported. Instead, this person is "tolerated" in Denmark but will however not get a resident permit and is required to live at a return center and on a daily or weekly basis report to the police.

is made aware of this move today, so they [Prison and Probation Service] can pack all of this person's things and send them to [name of an asylum center] so the resident will have the things when arriving. This seems like disturbing news for RC3 who appears frustrated, while informing the employees from the Danish prison and Probation Service that RC3 *finally* established a good contact with this person, and [RC3] therefor will not be the one pass on this message to the resident. RC3 *will* however go and talk to the resident afterwards to make sure that person is okay.

This and the example below highlight the care worker's dilemma of both having to follow bureaucratic rules and procedures and at the same time feeling empathy with and wanting to support the individuals living at the center. It illustrates how RC, as an organization, must submit to both the concept of neutrality and uphold their contract with the Prison and Probation Service.

The example below, also shows how caring involves a commitment to act. Here, the RC care worker's motivation to act arises out of frustration and concern. Even though the RC care worker will never be able to understand how it feels to be in this person's unbearable situation, the RC2 is *attentive* to it.

Example 2: I [the first author] am at my new office at [name of the return center] that I share together with RC2. A woman enters [the door to the office is always open whenever RC2 does not have a meeting with a resident]. She is here to inform RC2 (RC2 is this person's contact person) that she is to be deported back to Syria the day after. RC2 seems very surprised about this message. This woman has adult children with residence permits in Denmark. She has had her residence permit revoked and has since lived at this return center for a long period. It seems like RC2 knows the woman quite well. RC2 can tell that she is scared (RC2 informs me afterward). The woman has not been given any financial support from the Return Agency other than 50 dollars for a cab to the airport. RC2 seems frustrated. RC2 looks resigned and compassionate for the person while telling her that all RC2 can do at this moment is to try and call both the Return Agency and DRC to find out if this can be right. It turns out to be the case. RC2 gives the person a heartfelt hug while letting the resident know that RC2 thinks that she is tough…

Through our empirical data, we show how care in an asylum context has to do with complexities and ambivalence. It has distressing dimensions (e.g., the care workers feeling disturbed and frustrated), which need to be ignored in favor of the restrictive rules within the system. To avoid burnout and compassion fatigue, caseworkers' care work might entail a removal of the affective when their conception of care exceeds the boundaries of what can be done within the restrictive

system and the law. The caseworkers still try to ease the difficult circumstances, even if it is far from an ideal solution.

The above example also illustrates how care is not necessarily verbal. "It may involve putting a hand on an arm at just the right moment" (Mol et al., 2010, 10). RC1 explains to the first author that "what is spoken is not always the most important thing. Body language, facial expressions, tone of voice, etc. are often just as important for understanding each other" (RC1). RC5 shares a thought in a meeting with the other care workers: "We must in our work accommodate the feeling of powerlessness—because we cannot solve the situation [for the resident]". RC4 reflects in relation to this: "I think we all sometimes get a little too involved—but where we really do not have any say".

Asylum caseworkers are accountable to both the individual applying for asylum and the political system. From our empirical data, we learn about the caseworkers' double and paradoxical roles as both supporters, working to offer the care possible within the institutional boundaries and as a monitoring body, obliged to produce data about the rejected-/asylum seekers—data that enter asylum casework systems (Figure 2). Our study shows how caseworkers walk a thin line, balancing bureaucratic constraints while collaboratively seeking for spaces for the enactment of care. This dual function of simultaneously supporting rejected-/asylum seekers, while being obliged to report them if, for example, they do not follow the rules of the asylum system, triggers a sense of ambivalence. Thus, when investigating how care is enacted as a relational aspect of data production for asylum decision-making, we must acknowledge that data about asylum seekers are produced in moments of ambivalence—moments of ambivalence that affect and shape which data about the rejected-/asylum seekers are produced and enter casework systems, and which do not.

5.2 Care as translating the decision-making process

Navigating the Danish asylum system is extremely demanding and complex for the displaced individuals seeking asylum, as we learn from our empirical data across all three work settings. In this complex process, we find that DIS case officers, DRC legal and return counsellors, and RC care workers are key to data production and translation to make applicants aware of how data are produced, what data are relevant, and what criteria are used to assess the data produced through different artefacts (i.e., the application form) and events (i.e., the asylum interviews). Translation is not only critical to making asylum seekers aware of formal procedures for data production but also to making asylum seekers aware of the importance of translating their accounts into relevant and credible data for decision-making. We learn how care is enacted as the concrete work of translating the decision-making process, including the data work that asylum casework entails, for the asylum seeker.

From the moment an asylum applicant applies for asylum at the DIS to when the decision on their application is reached, applicants might need to wait for several years, and sometimes even longer.[8] During this period, applicants are expected to move across some of the (at the time of the study) twelve asylum centers in Denmark. Throughout the asylum process, data about the applicant are being produced, as the applicants interact with many different institutional actors e.g., the police, DIS case officers, NGOs, and municipality workers. As part of the procedure, we learn that applicants are often asked to hand in their digital devices and sometimes their passwords for their social media accounts, and that data from these sources can be used to document their case. However, our empirical data suggest that the methods and means of data production and how these data can be used as part of decision-making are largely unclear to the applicants.

An RC care worker informed the first author that "some of these people do not know what the hell is going on" (RC5), which resonates with a statement from a DIS case officer: "It is so insanely complex to understand what it takes to be granted asylum and from where and why and in which cases" (DIS6). Furthermore, by following the work of the RC care team and the DRC legal counsellors we also experience first-hand that the asylum applicants experience the asylum system as complex and difficult to navigate:

> Asylum applicant: 'We did *not* understand the significance of having our fingerprints taken. If I had understood the meaning, I would *never* have placed my fingers on the glass [the applicant cries]'.
> DRC12: 'Unfortunately, it does not matter to your case whether you knew it or not…'

Another asylum seeker living at the return center is confused and frustrated after receiving a letter from the DIS and therefore seeks guidance from RC2: "It's all very unclear to me. It is incomprehensible to me…" To the asylum seekers, the asylum system is a "black box": an obscure and long-lasting procedure consisting of practices that vary according to factors that seem confusing and unclear.

RC and DRC strive to translate the process by explaining the different phases with words, pictograms, and diagrams. More importantly for the translation process, they strive to explain important aspects that applicants need to consider. In some cases, this translation process is literal, since applicants who do not speak English or Danish require an interpreter to help them communicate by, e.g., translating the asylum motive they described in the application form, or interacting with the DIS case officer during the asylum interview. In some other cases, asylum caseworkers engage in translation processes as they make applicants aware of what practices are used in the processes of producing data for their case.

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[8] https://asyl.drc.ngo/for-asylansogere/det-danske-asylsystem/praktiske-oplysninger/

In addition, caseworkers engage in producing data for decision-making based on the applicant's narrative of their case. We learn from our empirical data that many asylum applicants arriving in Denmark have gone through complex and often traumatic experiences. The asylum procedure seeks to identify, unfold, and put into words these experiences so the DIS can use them for decision-making. Therefore, data are not simply gathered or collected but also to a high degree produced and co-constructed through processes influenced by authorities and NGOs using different artefacts and events (e.g., the asylum application form, the applicant's phone and through interviews). Asylum caseworkers support applicants to become familiar with the procedure and make them aware of the importance of providing consistent and coherent information without any divergences.

We find that caseworkers have different approaches for supporting the asylum seekers to navigate these often opaque complexities of the asylum system. For example, some DIS case officers contextualize the asylum interview in legal and procedural frames, emphasizing the severity of what they are going to go through and how their attitudes, the information they provide, and the information they do not provide in the interview can impact the asylum decision. Other case officers kick off the interview without providing such an introduction:

DIS6: 'They [the applicants] need to know how important it is ... Well, if they say something that is not true, then it can be used against them. They must also know that if they are not actively taking part in informing their case, then it is also to their own detriment. So, because – and it might sound harsh to start out with those things, but in reality, it's also just very fair/real, I think, to tell them how harsh this legislation is. So, it's an insanely important conversation and what they say is just really important, right. It is just as much a reassurance that it is a safe space and that what we write down is preserved safely and we have a duty of confidentiality. […] And we do it [guide the applicant] very differently because not everyone does it at all. Someone hands over the guidance to the interpreter and then the interpreter just pulls it off and then the interview starts. Well... there we find our own approaches.'

As part of the asylum procedure, the DIS case officer needs to start by informing the applicant about their rights and obligations: "So, we start [the interview] by going through a guide about the form and content of the asylum case. That is, the fact that they are obliged to speak the truth and state their own case" (DIS6). However, the method of conducting the interview is left to the case officer's discretion. We learn that there is not a formal plan, procedure, or process on how to support the applicant in comprehending and thus navigating the asylum interview other than a written formal guide explaining the overall form of the interview, including the applicant's rights and obligations.

DIS6: 'And that's what I think is important. That we create a space where they are given the best opportunity to inform their own case. But that does not mean that I... that I help them with their asylum case. That's not what it means. It just means that I help them to state their own claim. Well because, it's really up to them. It is not up to us to state their claim. We must give them the opportunity to do so, right. […] And it's really difficult for people to have to tell something about their life if they feel scared or unsafe.'

From our empirical data, we learn that DIS6 finds it important to offer an honest and detailed translation on the "harsh legislations" (DIS6). The DIS case officer can choose to let the interpreter read aloud the applicant's rights and obligations. However, from our fieldwork, we learn that DIS6 chooses to be the one to thoroughly inform the applicant about the important aspects to keep in mind when navigating the asylum interview. It is central for this case-worker to create a "safe space" (DIS6) in order to establish the best possible grounds for the applicant to report their asylum motive "sufficiently for us to be able to believe it" (DIS6). DIS6 also clarified to the first author that this creation of a safe space and how the individual caseworker chooses to support the applicant has no influence on the final assessment:

DIS6: 'However, the decisions, as I see it… the decisions will not be any different if we approach it in a... I do not know if you can call it... in a caring way... a respectful way, where we talk and we face them and we are polite and friendly and flexible if they need a lot of smoking breaks or if they need to clear their head every 20 minutes or... In other words, the outcome of the case is no different than if we approach it in a harsher way... or more such a regularly and a distant way. So, the decision will ultimately be the same. So why not approach it in a respectful and caring way?'

DIS6 explains that the way in which the asylum interview is introduced and conducted does not influence the outcome. However, DIS6 also acknowledges that the way in which the applicant tells their story may have an impact on informing the process of decision-making:

DIS6: 'That is, the better you are at telling your story, the more likely it is that your case will be sufficiently informed for us to be able to believe it. Where for some [applicants]... Well, for some it's just super, super challenging - but that does not mean that they are not telling the truth... not necessarily.'

According to DIS6, an emphasis on creating a safe space for the applicant is often crucial for the applicant to feel comfortable to talk more freely about

topics "that are extremely taboo", which can be decisive in the decision-making process:

> DIS6: 'Everything from pre-marital relationships or abortions or rape, sexuality, gender identification, female circumcision. So, there are really many topics that are very delicate and something that they have never before put into words and talked about. And that is also what makes our work difficult.'

From the interview with DIS6, we learn that the setting for how data for decision-making are produced—meaning for example how the applicant is approached and how the interview guidance is delivered by the caseworker—might in fact influence the asylum applicant's ability to talk more freely about sensitive asylum motives and thus their ability to construct a relevant, coherent, consistent, and sufficiently documented claim for asylum.

Our empirical data also shows that DRC legal counsellors are crucial when it comes to making the applicants aware of data that are relevant in the decision-making process. In this way, the legal counsellors not only support the applicants in making their claim, but also in ensuring the claim contains relevant, coherent, and consistent data:

> DRC1: 'When we [DRC legal counsellors] offer early counselling, we always hope to catch people before they have filled out the asylum application form. Because people, they do not know how important this part of the asylum procedure is for their case.'

The DRC offer their support to the asylum applicants both early on and during the asylum procedure, but also after a person has been rejected asylum. The DRC legal team provides counselling over the phone, via email and video call, in person by appointment at their office in Copenhagen or in prisons, as they strive to meet in person with imprisoned asylum seekers. "More and more people [asylum seekers] are imprisoned and deprived of their liberty. More and more counselling is therefore being held around the country's prisons" (LC7 and LC1). Every weekday the DRC's phone line is open and once a week their door is open for people to stop by to have their questions answered by a legal counsellor. Here, the DRC report to the DIS the types of questions asked by the asylum seekers. DRC8 clarifies how it is often easier for the asylum seekers to reach the DRC by phone than the DIS. DRC3 elaborates about the importance of informing the asylum seekers about how all the little details they enter for the asylum claim are crucial for the asylum decision-making:

> First author: 'What do you experience that rejected asylum seekers would have liked to have known at the beginning of the asylum procedure?

> DRC3: Well, for example information about how important those details are. So, what does it mean when the applicant says: Well, it was a big car. And then the DIS case-worker says: What do you mean by a big car? And is the car red or green? In other words, it is important that the applicant can remember *all* the details. And say only things they remember. If they are in doubt, they must make sure it says so in the summary: I think it's like that, but I'm a little in doubt. You must make sure that it is in the minutes! So, it does not say in the minutes that it was a red car. So, information like that, people would have liked to know - among other things. And then also information about being at the first interview. They [DIS] say: Well, you just must tell us *briefly* about your asylum motive. But what does *briefly* mean? It's important for us to explain to them: Well, you must describe to them [DIS] *all* the elements of your asylum motive. It may be that you shouldn't inform them about details about when they were inside to search your house. But you *must* tell that they *searched* your house 5 times... So, it may well be that it is not until the next interview that you will explain exactly about the searches.'

We learn from our empirical data that *relevant* information must be *consistently* and *coherently* provided by the applicant to the DIS throughout all phases of the asylum procedure. "Divergent explanations in the asylum motive lead to credibility rejections" (DIS1 and DIS2).

The examples above and below also show care as a relational aspect of case-work as DRC takes on the role of informing the applicant of the most crucial, according to the DIS, aspects of data production, namely that consistent and coherent data equate to relevant and thus credible data.

> DCR3: 'The problem is that sometimes when we come to 'Early Counselling', they [the asylum applicants] have already filled out the asylum application form. And they have already been to the first interview. And what we then usually say to them it is: Well, write to them [DIS]: I have been to early counselling. I have been made aware that I should have written about all these things. I had just understood it as in the way that I were to write less detailed. However also this and that happened. So, that this information is added to the case *before* the 2nd interview.
> First author: Yes, so it is clear that there will be a further explanation?'
> DRC3: 'Exactly. I have been made aware that I should actually have told you about all the things that I have experienced. I have not done that.
> First author: So, that information thus becomes important "new substantial information' rather than divergence?'
> DRC3: 'Exactly. Yes. Because if they come to the 2nd interview and they have not talked about it until then, then they [the DIS] will say: Well, why did you not write about this in the asylum application form? Why did you not talk about it at the 1st interview? And then it does not matter that the applicant says: Well, I was not allowed to talk about it in detail. They say: No, you did not, but you had still been told to talk about *all* your experiences. So, you did not. Why do not you not do that? But what are they to tell [in the application form and at the asylum interviews]? It might be a bit of a mystery to them, right.'
> […] I can give an example. Almost 90% of the women who come [to us] say that they have no idea that it may be relevant to asylum that they have been exposed to FGM [Female genital mutilation]. That they have been sexually assaulted either by government officials or... And then you tell it afterwards [after they have filled in the asylum

application form] and then they say: But why have you not told me before [filling in the asylum application form]? Or something relating to incest, for example. It is not directly an asylum motive, but you cannot tell a person who has been exposed to incest to seek protection at their family, for example. Or at least you should not do that. We've had cases where this kind of information first comes to light when the person is in return position. Those are obvious reasons, right. Well, you also know from Danish cases and European cases that this is not the first thing you mention when you come in contact with authorities.

The example above illustrates the critical role of the DRC legal counsellor in identifying potentially missing relevant data in the asylum motive registered about the applicant. We find that the DRC translates between the DIS and the applicant, making the applicants aware that they should contact the DIS and complete their asylum motive with additional data that are necessary for a relevant, consistent, coherent, and thus credible asylum claim. In this case, the translation process not only entails supporting applicants in looking at their personal accounts through the lenses of relevant asylum motives, but also involves translation and attention to subtle cues that might add important details to these personal accounts.

In practice, asylum decision-making happens through several translations from the moment data about the applicant are produced and until the data are interpreted and used by the DIS case officers to make a decision. During the asylum process, data about the individual applying for asylum are produced, shared, and interpreted across asylum NGOs and case officers. Data from our fieldwork show how the production and co-construction of data can change depending on the caseworker's approach and the setting. We argue that care enacted through translation can make a difference in producing relevant data, meaning data that fall into any one of the three categories justifying asylum (newtodenmark.dk, 2021a), and data that are consistent, coherent, and thus credible data.

We learn from our empirical data that care is enacted as the concrete work of translating the decision-making process to the asylum seeker, including the data work that asylum casework entails. Thus, when investigating relational aspects of care in asylum casework, we must acknowledge that data about asylum seekers are produced though processes of translation—processes of translation that affect and shape which data about the rejected-/asylum seekers are produced, and which are not.

5.3 Care as being attentive to "new substantial information"

A Danish return center is a place where rejected asylum applicants stay, either because they have been rejected asylum (they need to leave the country) or they have been granted a so-called "tolerated stay" (they cannot leave, but they cannot

freely live in DK).[9] However, we learn from our empirical data that "a rejection is not necessarily a rejection. Some [asylum seekers] are still granted a residence permit while living at the return centers" (RC1).

Being granted a resident permit while staying at a return center requires "exceptional conditions" (LC8) and rarely happens. Still, we argue that these rare cases are relevant from a care perspective because they show how resilient aspects of care are enacted at the margins. They illustrate that enacting care in data practices requires countering or supplementing data production and thus case documentation.

From our field work, we learn that reopening an asylum case that has been rejected by the RAB requires that "new substantial information" comes to light. In asylum decision-making, where most cases are rejected due to diverging information in the asylum claim, it is important to distinguish between "diverging information" and "new substantial information" to understand what it takes for a rejected asylum case to be reopened. In the transcriptions below, two DRC legal counsellors elaborate on the concept of "new substantial information":

> DRC1: 'It's a hair's breadth, right. It is a very classic issue in asylum law - that you have the information, but if the person already mentioned it before, then they [RAB] will say: Well, that is not 'new [substantial] information'. We have used this information as a basis [for the decision]. We knew of this when we made the decision, so we do not have to make that decision again.'

Another DRC legal counsellor gives an example of what kind of information could be classified as "new substantial information" and therefore could be grounds on which the RAB would consider reopening a rejected asylum case:

> DRC3: 'This decision is from 2018, but now the situation in the home country has suddenly changed. [...] Or some new information that the asylum seeker comes with: Threats on Facebook or yes... something where you say, well now something new has come up.
> First author: So, this is what one would call "new substantial information"?
> DCR3: Yes. Exactly. Or they've [the asylum applicants] done something here [in Denmark]. Then they have suddenly been in some demonstrations where they have been demonstrating. And their name has come up, right. Because they have been interviewed by the news.
> First author: So, something like this could mean that the case could be re-assessed by RAB?
> DRC: Yes.'

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[9] https://nyidanmark.dk/da/Words%20and%20Concepts%20Front%20Page/US/Housing/udrejsecenter

This excerpt suggests that information about a new situation in the applicant's life, which had not yet occurred when the person first applied for asylum, can be characterized as "new substantial information". Additionally, new information about a situation that happened *before* the applicant fled and applied for asylum can potentially be characterized as "new substantial information".

Identifying "new substantial information" requires knowledge about what data are relevant as well as a particular commitment to care. More specifically, asylum caseworkers need to be responsible and attentive to recognize sensitive information that might have been overlooked or recently added. In addition, they must possess the integrity to react and respond to support the applicant to translate this information into relevant, coherent, and credible data for the decision-making process.

Our empirical data show that NGOs are not formally part of the asylum decision-making process, however they implicitly collaborate with the DIS around assembling a case in situations where "new substantial information" comes to their attention. For example, an RC care worker explained on one occasion to the first author:

> RC1: 'So, a return center is not necessarily a center that you travel away from. But yes, of course, everything that happens at a center can have an impact on a resident's case in one way or the other. It may be that the person in question may have his or her case taken up again and one considers whether the person in question should not in fact have a residence permit in the country. But it may also have the consequence that you can be moved to [the other return center] in Denmark], for example. It can be said that it [name of another return center in Denmark] is perhaps more a return center than this center. Although, there are also people who get a residence permit while staying at [name of another return center in Denmark].'

Important here is the distributed nature of data production, co-construction, and data sharing in the asylum decision-making process. Data about an asylum seeker's case is mainly produced in the interviews with DIS case officers. However, in the example below, we see how the processes of data production and assembling an asylum case also relies on trust and the kind of relational work that is not necessarily possible in the common interview setting. "We equip them to better handle their everyday life and to be able to handle the fact that they are in the so-called departure position" (RC2). The relational care work enacted by the NGOs potentially enables the production and sharing of "new substantial information", which can be crucial for a rejected applicant's case. RC1 and RC2 elaborate to the first author:

First author: 'And this 'new substantial information', could that by any chance be information that has come to light through the RC, for example or...?'
RC1: 'Yes, that's possible. It can have come to light in many different ways. It may basically be a woman who has been sexually abused for many years but who has never

talked about it because it has been too shameful. So, then she has just been talking [to the DIS and RAB] about something else...'

First author: 'So, this ['new substantial information'] may have come up in a conversation with RC2 for example?'

RC2: 'Yes.'

RC1: 'Yes, it might. Because there are also some relations of trust, you could say. That is, some relations that can cause something to be said. And there may be some people living here, who say something to us where we then say; Hey, what is it you are saying?'

RC2: 'Hmm… exactly.'

These empirical data suggest that care as a relational aspect of casework has the potential to open a space for trust between the rejected asylum seeker and the RC care worker. This relationship of trust can in some cases provide the, in this case rejected, asylum applicant with better understanding of the asylum decision-making processes and what the possibilities are for supplementary data. In a situation like this, the RC care workers support the asylum applicant in the sense that they are attentive and help raise awareness about other asylum actors, e.g., a lawyer or a DRC legal counsellor, who might be able to use potential "new substantial information" that has come to light in a moment of trust. This is further elaborated by RC1 and RC2 in the below transcript:

RC2: 'I coordinate so they communicate with the right body. And so, of course, I get a lot of knowledge and insight into a lot of different things, but I've never ever taken on the role that I shouldn't take.'

First author: 'But in that way, as I hear it, then... [I weigh my words] then your work may well have an influence on… the asylum case? It might have an influence on a change in the asylum decision?'

RC2: 'Well, we can at least draw attention to possibilities and limitations. So, for example... if a resident tells you something - or tells me something... or I can tell that someone is saying something, then I can make their lawyer or the DRC aware of it; the fact that there is someone who says this and that. It's not for me to change anything, but then they [the lawyer or the DRC counsellor] can take action regarding this new information.'

First author: 'Okay.'

RC1: 'Or the best way is to inform the resident: You know what, I think you should go down and talk to the DRC or I think you should call your lawyer.'

RC2: 'Yes, so it always goes through the resident.'

First author: But the work you are doing - as I hear and understand it, may not have been done [by the DIS or the RAB] - that is, this care work, which may create some trust and give some courage for some new information to come out... information which is actually crucial for an asylum case.

RC1: 'Yes, which can be crucial? Yes, *that* we can agree on! That is completely correct. Yes.'

In the elaboration above, the first author was presented with a concrete example where care created a moment of trust between an RC care worker and a rejected asylum seeker, which then gave a rejected applicant the courage to provide supplementary data. In this case, our empirical data shows how care

constitutes an openness and attentiveness to the unpredictable and unlikely. The first author talked to both the DRC and the RC about this particular case. The following transcript is from the first author's field notes from the return center:

> A woman flees her home country with her children because her husband is abusive, and he tortures them. They seek asylum in Denmark. However, because the woman is not aware of women's rights, she gives the DIS a different asylum motive. While their case is being processed by the DIS, they are moved from the asylum reception center to an asylum accommodation center. While staying here, the DIS rejects them asylum. They dare not travel back to their home country, therefore they move to a return center where they stay for about 1 ½ years. During their stay at the return center, the woman tells an RC care worker, in a moment of trust, about the actual reason why they fled their home country. She also informs the RC care worker that she, while staying at the accommodation center, gave this information to the RC health clinic, which did not act on this information. The RC care worker advises her to talk to the DRC about this perhaps "new substantial information". DRC hear her story and ask the woman for consent to collect the health data from the RC clinic to use in the construction of data in assembling this "new important information" to send to the DIS. The DRC send the request to the DIS who then reconsider the case. The DIS assess the new data as "new substantial information" (not as diverging information) and grant them asylum. Finally, they are, after being more than 4 years in the system, granted *Individual protection status*, as the DIS assess that they are at risk of being subjected to torture if they return to their country of origin.

Our empirical data suggest that the care enacted by RC as a relational aspect of their care work has the potential of making the asylum seeker capable of supplementing data, meaning bringing "new substantial information" to light. In this regard, the RC care worker has a rather close collaboration with the DRC – both the DRC return counsellors present at the center and the DRC legal counsellors working at the DRC main office. This informal collaborative work across NGOs was also confirmed and exemplified though another example while conducting fieldwork at the DRC main office:

> DRC3: 'Well, for example a woman who has been rejected asylum. Her ex-husband has been granted a resident permit. They have a child together. But her ex-husband wants her out of the way and their relationship is completely skewed... However, she has a lawyer who helps her in the family court to secure contact with the child. There is a good collaboration with the municipality. And that is, among other things, due to the [RC care worker] who is on the case. […] So, that way we exchange information. And then I managed to secure her a family reunification permit because that collaboration worked so well. Because the fact that she was finally granted at family reunification was because she was able to spend time with her child.

> First author: And where the work of the RC was a decisive factor?
>
> DRC3: Yes. Because otherwise we would not have the good contact to the municipality and the flow of information will just be far too difficult. And that's the thing with these kind of cases.
>
> First author: And is it such a one-time.... Uh... or is it something you have experienced several times that...?
>
> DRC3: It's rare... Well, but when it's these cases… There are some special enthusiasts [RC care workers], because in reality, it's a bit dangerous to talk about such an example, because they [RC] goes a little beyond their role... And so, do I. And we all do it to make this happen. So, it also shows just how hard it can be. With this flow of information, right? Because it is quite important for me to know that the municipality wants to help this person. Because the municipality actually thinks it' relevant that this mother is in the child's live, right? Because if it was not for this flow of information, I would only have the argument to work with that the ex-husband is trying to get her out of the country…
>
> First author: But in that way, one can say, that the work the RC has done in this case, has influenced the decision?
>
> DRC3: Yes, it has. But it also just shows how vulnerable it is, right. Because these are actually a child that could have been neglected and a mother could be [deported] .... So, if this work had not been done, then it was a mother who had been refused asylum and refusal of family reunification. Then she had just been sent out of the country and then she had lost touch with her child. And that is despite the fact that we have signed the Convention on the Rights of the Child, right? Which means that a child has a right to both their parents.'

This conversation with DRC3 contributes empirical insights to the understanding and meanings of care in an asylum casework context as it shows how relational aspects of care practices such as attentiveness, responsibility, competence, responsiveness, and integrity supplement the production of data about the asylum seeker. The "new substantial information" that makes the asylum case sufficiently documented is produced, co-constructed and shared through affective labor and socially supportive data work across the municipality, RC, and the DRC. When investigating relational aspects of care in asylum casework, we learn from our empirical data, that we must acknowledge that data about asylum seekers are produced though caseworkers' attentiveness to "new substantial information".

Based on our findings, we continue the next section by discussing the difference in case documentation when recognizing care as important for data production.

6 Discussion: Care as an aspect of quality in data production and case documentation

In this paper, we investigate how care is enacted as a relational aspect of data production for asylum decision-making. As we set out to discuss this matter of care, we draw attention to the difficulties of characterizing what constitutes care.

From a formal perspective, caseworker practices tend to be described in bureaucratic terms, whereas care for the individual is harder to capture and describe. Even so, caring is critical in a datafied society, as care (or the lack of care) in casework shapes the production of data and thus the case documentation, we argue in this paper.

Aligned with Puig de la Bellacasa, (2017), we seek to unpack how care is enacted in the situated context of asylum decision-making, instead of producing value assessments on what caring means. Thus, with this study, we add to CSCW research of care by expanding the research sites of care. Following Kaziunas et al., (2017), we build on care as a relational aspect of casework, arguing that an applicant's ability to navigate the asylum process is interdependent with the production of relevant data.

Our analysis contributes to the concept of care by showing how *ambivalence*, *translation*, and *attentiveness to "new substantial information"* impact the production of data about the asylum seeker. At the same time, our study illustrates how these three dimensions of care also contribute new insights into prior studies of data work (e.g., Bossen et al., 2019; Møller et al., 2020) and casework (e.g., Roberts 2007; Saxena et al., 2021, 2022).

Building on this strand of research, our study shows the asylum caseworkers' dual role of having to balance bureaucratic constraints while collaboratively seeking spaces for the enactment of care. Our empirical data exemplifies how asylum caseworkers across three different settings enact care as a relational aspect of casework when producing data about asylum applicants. We learn that this data work is often carried out in moments of *ambivalence*—an ambivalence, characterized by tensions in the caseworkers' way and ability to exercise care in a highly politicized and bureaucratic system. Thus, this study also builds on a strand of research that highlights the complexity of care (e.g., Sevenhuijsen, 2003; Mol et al., 2010; Sciannamblo et al., 2021; Vlachokyriakos et al., 2021). Our findings suggest that asylum caseworkers struggle to maintain a balance between support and policing of rejected-/asylum seekers because their reporting role tends to dominate, and this influences and thus shapes which data about the rejected-/asylum seekers are produced and enter casework systems, and which do not.

The empirical narratives of this study exemplify how data production is a socio-technical process. Our study builds on prior work by showing how the concept of *translation* (Dombrowski et al., 2012; Passi and Jackson, 2017; Verdezoto et al., 2021) also impacts the production of data. We find that, *following* Passi and Jackson, (2017), it takes *translation* work to make data work, (2017, 2438). In the context of health, Verdezoto et al., (2021) show how translation work is not a simple or straightforward task. Instead, it is a situated practice, involving "many different tasks to fill in the data" (p. 12). In the context of services systems, Dombrowski et al., (2012) highlight mediation as an important concept in

information-rich organizations, since it allows for fostering a *process*, bridging *relationships*, and providing broader *scaffolding* (p. 1977).

In this paper, we argue that *translation* is key in data work since it brings to the fore an important aspect of care impacting caseworkers' documentation. Asylum caseworkers produce data to construct an asylum case. In an asylum system that increasingly relies on data from various sources, asylum applicants become data subjects through varying relations, interactions, and dynamics between humans and technology. Displaced individuals applying for asylum are shaped through various data practices.

Our findings illustrate that asylum caseworkers strive to *translate* the asylum system and its sometimes "black box" procedures. In other words, they are caring for displaced individuals in the act of de-black-boxing, for example, by helping them navigate and by explaining the importance of providing consistent and coherent data about their case without any divergences. Thus, in the context of asylum, we characterize *translation* as a relational aspect of care in casework that affects and shapes which data about the rejected-/asylum seekers are produced, and which are not.

We extend the growing body of work that attends to discretionary and situated practices in data work (Passi and Jackson, 2017; Holten Møller et al., 2019; Petersen et al., 2020; Lu et al., 2021). Following this line of work, our study calls attention to the socio-technical practices of producing, and using data – practices that require interpretation and contextualization of data. In this context, we learn from our empirical data, that data about asylum seekers are produced through caseworkers' *attentiveness to "new substantial information"*. We find that this relational aspect of casework has the potential to open a space for trust—especially in cases where particularly sensitive asylum motives, for example, gender-related issues, depend on trust, time, and personal relationships.

Certain practices are, or are not, embedded into the collaborative workflow technologies (e.g., caseworker systems) used in asylum decision-making. Winner (1980) reminds us how technical artifacts are inherently political, suggesting how politically infused social systems shape how and which types of tasks are built into asylum casework systems. When certain supportive aspects of casework are not explicitly formally defined and built into the system, they are invisible. In this study, we learn that support for the asylum applicant in navigating the asylum process is not formally built into the system. Here, asylum caseworkers have different starting points and approaches to supporting applicants.

Asylum decision-making requires data work, involving humans producing, curating, analyzing, and interpreting data. Data about the asylum applicant that ultimately influence the asylum assessment and thus the applicant's future are constructed in a socio-technical process through mechanisms that may or may not support the applicant. Accordingly, the data that inform asylum decisions are (*following* Pine and Liboiron, 2015) imbued with assumptions, judgments and

values that potentially influence the direction of the asylum motive. What data are produced, or not, can depend on the individual caseworker's style of supporting (or not supporting) the asylum seeker, we argue.

6.1 Reinforcing status quo while compensating for inadequacies

Another question for CSCW research into care is: What does it mean to carry out professional care in a humanitarian organization, such as 1) RC, hired in by the Prison and Probation Service at a return center and, 2) the DRC, which formally collaborates with the Return Agency (The Return Agency [Hjemrejsestyrelsen], 2022b) and whose return councilors also have offices at the return center? The RC care team agree to practice their work under the Prison and Probation Service's rules. This means that they (in some way) also accept the current political agenda in which the DIS is obliged to operate. Regardless of whether the RC care team aligns with the current political agenda, they are in the position of maintaining and implementing the procedural conditions that uphold conditions for rejected asylum seekers living at a return center in Denmark.

Ticktin, (2011) writes about "the politics of care" and how the "danger is that in pretending to be outside power, unarmed, power is wielded without acknowledging it and therefore often without accountability" (p. 20). RC seek to offer the best possible care and to do good; nevertheless, by working for the Prison and Probation Service and thus the DIS, RC are "instituting repressive measures in the name of care" (Ticktin, 2011, 20). In a way, RC reinforce the status quo: the established order based on the current restrictive policies. Does RC pretend to be outside power or does RC actually know they are a channel of power? One might speculate (hence, the debate about the asylum domain and if it resembles an industry (Gammeltoft-Hansen and Sørensen, 2013; Hamilton Byrne et al., 2023)) as to whether the mere presence of the DRC and RC in the return center legitimizes the harmful practices and structural conditions carried out by asylum authorities. Or whether these two humanitarian organizations are put there by authorities to ensure compensation for inadequacies of the asylum system – or in other words, the lack of accountability.

RC follow seven principles, one of which is the principle of neutrality. This means that the RC cannot engage in disagreements of a political, racial, religious, or ideological nature. If RC does not comply with this principle, they may risk their cooperation with the asylum authorities, which in the worst case will make life even more unbearable for the people who live at the centers. At the same time, RC's work also, to some extent, actively preserves this complex, political (Gammeltoft-Hansen, 2017; Byrne and Gammeltoft-Hansen, 2020), bureaucratic, and increasingly data-driven (Molnar and Gill, 2018; Molnar 2019) asylum system.

In this context, our findings show how (some) RC care workers, DRC legal- and return counselors, and DIS case officers compensate for the

restrictive policies and opaque complexities of the asylum system by supporting the displaced individuals applying for asylum on how to navigate. Our findings illustrate how human relational care is many times essential for the displaced individuals' ability to find their way through the data-driven system and to make sense of its complex rules, procedures, and what is needed for their asylum case to be sufficiently documented.

In this paper, we recognize the delicate balance of making these relational aspects of care in asylum casework visible. We chose to make visible this compensating affective labor and care work, as we argue for a greater focus on care in increasingly data-driven asylum casework. Why? Because it is difficult to assemble a puzzle without having a picture on the box. In this study, we find that asylum casework is not simply data processing. Rather, it requires "the passion that understands the pulse of life beneath the official version of events" (Lee, 1998). Following Eubanks, (2017), "caseworkers [at their best] promote equity and inclusion by helping [asylum seekers] navigate complex bureaucracies and by occasionally bending the rules in the name of higher justice" (p. 195).

Our empirical data suggest that the asylum system today, with its increased focus on data and data-driven technologies, needs the crucial affective human labor and relational care, meaning the more informal and invisible part of the work of RC care workers, DRC legal counsellors and return counsellors, and DIS case officers. The production of data and the construction of the asylum case happens in settings where caseworkers are the power holders. The asylum caseworkers not only produce data about the rejected-/ asylum applicant but are also doing the work of interpreting and contextualizing data, adding to combining datasets, and helping data move to different asylum offices.

We argue that it is fundamental to make visible, and thus to a higher degree than now legitimize, the informal care practices enacted in asylum casework, which are increasingly distributed and driven on opaque data production, analysis, and interpretation. For an asylum case to be sufficiently documented, it requires that people applying for asylum understand what data, how data, and why data about them are produced, interpreted, used, and shared. They need translation from the asylum caseworkers to set the framework and to draw up a map of the asylum system's many opaque and complex bureaucratic rules and procedures.

The relational aspects of care in casework are essential, we argue, as they are precisely about setting a frame and showing empathy, bridging, building trust, meaning, and compensating for the inadequacies or technological fixes that often appear in formal procedural data-driven systems and processes (Eubanks, 2017; Benjamin, 2019). By merely ignoring these crucial aspects of care in asylum casework, we risk impairing data quality, for example, the context of data. Thus, following Bowker, (2005, 184): "data should be cooked with care", as it is only when the individual asylum seeker and the caseworker can both navigate the

process of data production and thus case construction that an asylum case (perhaps) can be sufficiently documented.

6.2 Implications for design

The broader implication of this research relates to the increasingly technological gaze on care work (Karusala et al., 2021). In an increasingly data-driven asylum system, the invisible act of care as an aspect of casework is progressively challenged and thus is the asylum seeker's agency, meaning the applicant's power to sufficiently document their case with relevant and consistent data. Data registration processes, biometric data collection, data from social media and so on inform a vast part of the asylum system (Molnar and Gill, 2018; Andreassen, 2020; Rask Nielsen and Holten Møller, 2022). People applying for asylum must place a great deal of trust in both the authorities and NGOs working side-by-side in their host country. Whether the applicant identifies with their digital double or not, the data production and caseworker's interpretation will affect the decision-making and thus the applicant's asylum case.

Design decisions have an active role in enabling or constraining democracies. A critical stance on digital technologies within societies contributes to a growing corpus of work in CSCW, where researchers, caseworkers, and other stakeholders converge (Vlachokyriakos et al., 2021; Menendez-Blanco and Bjørn, 2022). "[N]ovel technologies are reproducing the logics that devalue caring labor and justify a lack of care infrastructures for marginalized communities" (Karusala et al., 2021, 339). Eubanks, (2017) reminds us that "high-tech tools that protect human rights and strengthen human capacity are more difficult to build than those that do not" (p. 212). In this context, our study opens space for future research to ask, for example: What should *not* be automated in asylum decision-making? For those processes that are/will be automated, how can we take a *sensitive approach* to the design of collaborative technologies and enable processes that serve the practices of care that we make visible in this paper?

We see the different stages of the asylum procedure (Figure 1) and the various casework systems (Figure 2) being used by and across the various asylum authorities and NGOs as central starting points for setting the ground for future follow-up work. Exploring how the identified aspects of relational care work are undertaken at different stages of the asylum procedure and in the various casework systems and how they pertain to data production would extend critical perspectives on care and data work in CSCW, we argue.

Puig de la Bellacasa, (2010) describes how "[e]thical obligation to care stands against 'neglect'" and that "[n]eglect is what happens when the doings of care are not attended" (p. 164). With this study, we push the agenda of strengthening care practices in increasingly data-driven and distributed asylum casework. In other words, we find that relational care as an aspect of casework is crucial in facilitating the production of data. Consequently, we suggest that, if we are

to design care technologies for supporting displaced individuals to navigate the asylum procedure, this system should make room for relational aspects in distributed casework—at both authority and NGO levels. Such care technologies (e.g., a further development of ASYLYMDK; an app developed by the DRC to support asylum seekers in Denmark[10]) should be sensitive to supporting asylum seekers in minimizing divergent data through processes of *translation*, while also attentively seeking relevant data that might constitute *"new substantial information"* for sufficiently documenting their case.

7 Conclusion

This study adds to CSCW research of care by expanding the research sites of care in data work. We investigate how care is enacted as a relational aspect of data production for asylum decision-making. The study is based on an ethnographic inquiry into a specific domain of agencies of care, namely asylum caseworkers, who operate in a complex, political, bureaucratic, and increasingly data-driven asylum system.

Our study contributes to the body of CSCW research that recognize data as already cooked. We unravel and articulate dimensions of care as relational aspects of asylum casework. Based on our ethnographic field study, we offer empirical data narratives exemplifying how data production in asylum casework is a socio-technical process and how there is no such thing as raw data.

We contribute empirically grounded insights into the meanings of care in a datafied asylum context. Our empirical data narratives illustrate how care is enacted by caseworkers in moments of *ambivalence, translation,* and *attentiveness to "new substantial information"* relevant for asylum decision-making. In this context, we show that where and how data are produced matters for how the asylum case is constructed. In this complex asylum procedure, we find that DIS case officers, DRC legal counsellors and return counsellors, and RC care workers are key to data production and to making asylum seekers aware of how data are produced, what data are relevant, and what criteria are used to assess the data produced through different artefacts (i.e., the applicant form) and events (i.e., the asylum interviews).

Paying attention to other sites of data production, for example, 'sites' beyond the interview process, shifts our understanding of quality data. The relational aspects of data production, we find, are enacted in the situated process where caseworkers "care" that asylum seekers know how to navigate the system. The paper in this sense points to the specific ways in which asylum caseworkers enact care within the boundaries of the asylum system, both

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individually and collaboratively, in order to ensure that a case is sufficiently documented.

By making this informal and invisible care explicit part and parcel of data work, we argue for a focus on care. Why? Because the political structural conditions that are shaping casework today are also shaping the development of new data-driven technologies to support asylum casework; thus, we seek to describe and expand a theory of care as a design material and condition for quality data.

Data availability Not applicable.

Declarations

Competing interests The authors declare no competing interests.

Ethical approval We followed the University of Copenhagen's Code of Conduct for Responsible Research (https://research.ku.dk/integrity/documents/code_of_conduct_for_responsible_research__2018_.pdf).

Consent to participate The people, who took part in this this study, gave their consent to participate. They were informed about the aim and procedure of the study, as well as their rights to withdraw.

Conflict of interest The authors have no conflicts of interest to declare.

Who Cares About Data? Ambivalence, Translation, and…

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Paper no. 3:

Trine Rask Nielsen, Thomas Gammeltoft-Hansen, and Naja Holten Møller. Mobile Phone Data Transforming Casework in Asylum Decision-making. Submitted to the ACM Journal on Responsible Computing.

Mobile Phone Data Transforming Casework in Asylum Decision-making

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In Denmark, approximately 20% of asylum seekers' cases are informed by data extracted from their mobile phones. This enables more comprehensive constructions of data about asylum seekers than passport or similar identification documents provide. Such data (e.g., social media data) feed into caseworker systems, inform decisions on whether to grant asylum to an applicant or not. In this paper we ask: In a context in which asylum case officers obtain and utilize data from asylum seekers' mobile technologies and social media to inform asylum decision-making, what characterizes data literacy? The research presented in this paper suggest that data obtained from mobile phone readings have become indispensable to asylum decision-making casework. Our findings indicate that these new types of data are assembled and utilized in the following ways: 1) through distributed, collaborative, and resource-intensive efforts, 2) in every stage of the asylum procedure and even after being granted asylum, 3) as back-up data for credibility assessments, 4) within unequal power dynamics, and 5) in an opaque and unsystematic manner. Based on our findings, we highlight the need for a systematic approach to data infrastructure literacy, as both authorities and NGOs have yet to clarify who bears the responsibility of supporting data infrastructure literacy.

1 INTRODUCTION

Mobile technologies are a key infrastructure for refugees, asylum seekers, and other displaced populations. Previous research have demonstrated how mobile technologies serve as navigation and communication tools, digital repositories of memories, sources of news, and platforms for citizen journalism and activism

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[*] Place the footnote text for the author (if applicable) here.

[1,17,19,29,30,39,59,60,69]. Mobile technologies are essential lifelines and crucial information resources, connecting displaced individuals with families, friends, and organizations in their homelands or elsewhere [1].

While mobile technologies and social media provide displaced individuals with greater autonomy and self-empowerment, they may also ultimately pose risks [29,30]. As bureaucracies adapt to a datafied reality, a number of countries have introduced legislation enabling authorities to access asylum seekers' mobile phones and social media accounts to track travel routes and establish identity and personal networks—information that can impact the applicant's case.

In this paper, we seek to investigate this dilemma between the empowering role of data and mobile technologies for vulnerable populations and the concomitant data harm [20]. Like other populations, displaced individuals produce enormous amounts of data via mobile technologies. Social media platforms, geolocation apps, and physical movement within sensor-embedded spaces produce manifold and constant streams of data. The resulting digital footprints are stored in various databases comprising a broad range of data points, such as name, age, country of origin, geopositioning, names of family members, as well as information about a person's political orientation, religion, or sexual identity.

Both governments and humanitarian organisations increasingly seek to assemble and leverage these types of data about displaced individuals, albeit for different purposes [48,50,55]. In this study, we turn our attention to how national asylum authorities, specifically the Danish Immigration Service (DIS), assemble and utilize data from displaced individuals' mobile technologies and social media. A key finding is that the DIS today request individual asylum seekers to hand in their mobile technologies and/or their username(s) and password(s) for their Facebook or Instagram account(s) in up to 20% of all cases. The DIS use the term "read out" to describe the extraction of the asylum seekers' phones. Legally, the prerogative for Danish authorities to collect applicants' mobile phone data is enabled by an amendment to the Danish Aliens Act [40] adopted in 2017 and finds parallels in a number of other European countries. More specifically, the provision legally equates mobile phones to identity documents, such as passports, educational certificates, or travel documents.

Despite the pervasiveness, these new powers have gone largely unnoticed in the public debate. Before entering our field site, this new data infrastructure was, at least to us, largely invisible. It is not mentioned as part of the formal asylum procedure on newtodenmark.dk, which serves as the DIS's "official portal for foreign nationals who wish to visit, live or work in Denmark" [51], nor in the Danish Refugee Council's (DRC) description of the Danish asylum procedure [23]. Our interviews further revealed that concrete knowledge of how these data practices operate is highly localized, and not shared among the wider set of stakeholders in the asylum domain. Following Gray et al., it is essential to bring attention to such new data infrastructures, questioning their functioning and broadening "their aspirations beyond data as an informational resource to be effectively utilised, by looking at how data infrastructures materially organise and instantiate relations between people, things, perspectives and technologies" [31:1].

From the perspective of CSCW and digital infrastructure theory, we examine how mobile phones are used as proxies [49] for personal information and how this proxy is becoming a standardized data infrastructure in the asylum decision-making procedure. In this paper, we ask:

In a context in which asylum case officers obtain and utilize data from asylum seekers' mobile technologies and social media to inform asylum decision-making, what characterizes data literacy?

In the Danish context, no existing work to our knowledge has been done to explore this question. We qualitatively explore this question as part of an interdisciplinary research project [ANON], based on empirical data

assembled from the DIS, the Refugees Appeals Board (RAB), the Danish Refugee Council (DRC), and the Danish Red Cross (RC).

With this study, we contribute empirically grounded insights on the role data assembled from asylum seeker's mobile technologies and social media play in asylum decision-making and the ways in which DIS case officers curate, interpret, and utilize such data. We find that these new types of data are assembled and used in the following ways: 1) through distributed, collaborative, and resource-intensive efforts, 2) in every stage of the asylum procedure and even after being granted asylum, 3) as back-up data for credibility assessments, 4) within unequal power dynamics, and 5) in an opaque and unsystematic manner. Based on this empirical study, we argue that these new data infrastructures add complexity to an already complex asylum casework, making it even more challenging for asylum seekers to exercise authority and agency.

Theoretically, this study adds to CSCW research on datafication and data work [14,43,46,56], as well as on data infrastructures, to inform literacy initiatives [31]. Highlighting the significance of data work allows us within the field of CSCW to acknowledge the often-overlooked labor involved in "creating, collecting, managing, curating, analysing, interpreting, and communicating data" [14:466]. With this paper we aim to make visible this data work, and thus opening a space for future research to explore data literacy initiatives that can enhance the authority and agency of individuals applying for asylum.

The structure of the paper is as follows: first, we situate our analytical approach in relation to the CSCW and HCI literature. Second, we showcase our empirical data and methodology. We present the findings of this study and discuss how mobile phone "readings" are becoming an unavoidable, however opaque data infrastructure in asylum data work, highlighting the need for data literacy initiatives for *all* asylum stakeholders. Based on our findings, we discuss the need for a systematic approach to data literacy, as both authorities and NGOs have yet to clarify who bears the responsibility of supporting data infrastructure literacy.

2 RELATED WORK

2.1 Mobile phone data as infrastructure

Scholars from CSCW and related areas have conducted research focused within the field of asylum and migration studies [2–6,17,28,33–35,37,57,60–65,70]. Most of this research centers on technology use by asylum seekers, migrants, and refugees at their target destination [17,33,37] or during flight [60]. In this paper, we extend and enhance this area of CSCW research by examining the labor of asylum data workers as they transform data from mobile technologies and social media into insights for asylum decision-making.

The increasing availability of new types of data about displaced individuals seeking asylum, including from mobile technologies, creates new possibilities for asylum authorities to utilise and leverage such data for decision-making purposes. In Europe, mobile phone data analysis currently is predominantly implemented in the Netherlands, Germany, Norway, Denmark and in the UK [53]. With this study, we add to previous research [8,12,39,44,46,48] investigating how immigration authorities utilise and implement such new data infrastructures in asylum decision-making procedures.

To foster critical examination, intervention, and public experimentation concerning infrastructures that generate, utilise, and distribute data, Gray et al. [31] introduce and advance the concept of "data infrastructure literacy." They call for attention to digital data infrastructures to question how they function both in situations of breakdown [15], as well as create awareness and promote critical examination of their impact on public concerns.

Following Gray et al. [31], we show how data from mobile technologies and social media are becoming indispensable digital data infrastructures.

Previous research has demonstrated the significance of mobile technologies as crucial infrastructure for displaced individuals experiencing war or otherwise compelled to seek refuge [1,17,19,29,30,39,59,60,69]. Coles-Kemp et al.'s [17] findings illustrate that mobile technologies provide a sense of security for individuals, serving as "a safe space" (p. 1) for newcomers to establish a new life in their host country while maintaining old connections. They find that "the mobile phone is central to the lives of newcomers, and, for many, it feels like an extension to their limbs" (p.1). According to Ullrich [69], displaced individuals utilise digital technologies to network, thereby enhancing their collective agency. Alencar et al. [1] show how mobile phones play a vital role in connecting displaced individuals with friends, family, organizations, and communities in their homelands and in other countries, and aid them in managing the challenges they face throughout their journey. Their research also reveals the paradoxical role of mobile technologies as they uncover their potential dangers of surveillance and dissemination of false information (p. 840).

Shklovski and Wulf's [59] study of mobile technology and social media use in war zones shows their *persistence* as infrastructure under such circumstances; however, they also come with a control and surveillance potential. "Social media, mobile apps, online maps, instant messaging, translation websites, wire money transfers, cell phone charging stations, and Wi-Fi hotspots all constitute what we would define as a new digital infrastructure for global movement" [39:3]. They show how such digital infrastructures are of equal significance to the physical infrastructure of roads, railways, sea crossings, and border controls that support and/or regulate the movement of individuals.

Behind-the-scenes political agendas shape and characterize infrastructures [15]. Following Bowker and Star [ibid], studying infrastructures enables us to question how processes in society are organized and carried out, and about the emerging role of, in our case, mobile technologies, in these processes. Information infrastructures, which are often presented as advantageous for society as a whole, can harm the most vulnerable [27]; although, Eubanks notes that decisions based on data are not inherently fairer than decisions made by caseworkers.

Ames [7] show how we often have a tendency to rely on machines and technology, as they are perceived to possess a sense of impartiality and objectivity. She argues that many technologies are initially regarded as having a certain level of "charismatic authority". However, it is important to recognize that these "charismatic technologies" can sometimes inadvertently perpetuate the very inequalities they aim to address and alleviate.

In this paper, we extend and enhance this area of research by examining the data work employed by asylum case officers to transform data from mobile technologies and social media into insights to inform asylum decision-making. Next, we turn our attention to the power of data produced in and through asylum seekers' use of mobile technologies.

2.2 The power of data and proportionality

Investigations of power and subjugation are an enduring and crucial aspect of research in the field of CSCW [21]. Previous studies on datafication of public services [e.g., 30] show how technologies often either prioritize the perspective of the caseworkers and individuals, or the policy makers and regulatory bodies. Møller et al. [ibid] highlight how, in practice, case documentation is constructed through caseworker interviews: "In [caseworker's] framing data as a trace of an event or an action, certain motives, expectations, etc. are put to the fore to make sense of data as it moves across the technical and organizational realm" [ibid: 243-244].

Mobile technologies allow for (new) forms of data to enter the asylum decision-making process. The power of this data often disproportionately affects the stakeholders of decision-making processes [11,27] – in our case, the individuals applying for asylum. As suggested by Lupton [41], individuals' digitized information can be exploited by other parties (for instance authorities) to betray, discipline, marginalize, or even punish them, thereby restricting their rights and opportunities.

In high stake domains, such as asylum decision-making, the use of new types of technologies gives rise to numerous human rights concerns. Displaced individuals cannot opt out of the datafied asylum system [57], and experience data-based categorization, privacy concerns, and additional monitoring that the general public largely does not. Nalbandian [50] show how displaced individuals such as asylum seekers, who are already in a vulnerable position, lack reasonable access to challenge the data practices imposed on them. For one, they often have more immediate concerns than data literacy and protection.

According to EU and national data-protection legislation, a written consent is required from the individual applying for asylum before data from their phone can be "read out" and utilised for decision-making. However, in relation to the requirement of voluntariness, the data controller should be aware of whether there is an unequal power relation between the data controller and the data subject. According to The Danish Data Protection Agency, if there is a clear power imbalance between the 'data subject' and the data controller, the consent is generally not considered to be given voluntarily.[1] In this context, a study conducted across several EU member states (including Belgium, Germany, the Netherlands, Norway and Sweden) suggests how consent is considered "relative" in practice, implying that asylum seekers have limited bargaining power in this process [12:9]. An asylum seeker's refusal to cooperate with this use of their data cannot be given as the sole reason for denying them asylum; however, it can be taken into consideration by the case officer when evaluating the overall asylum application.

Previous studies have shown how the authenticity and accuracy of data cannot be guaranteed when it is utilised to analyze and measure a specific phenomenon. For example, people's online activities such as posts, tweets, uploaded photographs, comments, and other forms of online interactions are not a window onto their lived realities. Rather, these activities are often carefully curated and systematically managed [42:6]. For instance, social media posts may not accurately reflect individuals' beliefs and opinions, therefore raising doubts about the reliability of such data [36:155]. The UN refugee agency (UNCHR) reminds us that mobile phones can be shared and change hands when displaced individuals flee, undermining the validity of the findings in assessing an individual [67].

New types of data and data-driven technologies are often presented as the solution to difficult social, political, and economic dilemmas, with the potential to provide efficiency, impartiality, and equity – attributes that are usually deemed unattainable via the decision-making processes of individuals or organizations [24:74]. Legal human rights scholars [e.g., 47,54,66] highlight a gap in research concerning the lack of appropriate mechanisms for accountability and oversight in relation to the disproportionate impact of technological experimentation on migrants and refugees. Thus, it is crucial to address and problematize new data infrastructures when adapted to a practice, potentially without sufficient literacy-, accountability- and oversight mechanisms.

3 EMPIRICAL DATA AND METHODOLOGY

This study draws on empirical insights from a previous study [ANON] that ethnographically investigated the data work of asylum caseworkers across multiple organizations and localities, including their interactions with asylum

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[1] https://www.datatilsynet.dk/Media/0/C/Samtykke%20(3).pdf

seekers. This study relies on background information from two long-term observations over a period of 10 months (160h) by the first author, who followed the work of RC at a departure center and the legal department at the DRC. During this field study, we gained situated knowledge of the authorities' use of mobile data in the asylum procedure. This research also is informed by semi-structured interviews conducted within multiple organizations (DIS, RC, and DRC) between September 2021 and January 2023, as well as summaries of asylum cases from both a public and a non-public dataset (see table 1).

Table 1: Overview of organizations and empirical data

Organization	ID	Empirical data	No. / Hours
Red Cross/Danish Refugee Council	RC/DRC	Observations	160h
The Danish Immigration Service	DIS	Semi-structured interview	5 / 6h
Danish Refugee Council	DRC	Semi-structured interview	4 / 4h
Red Cross	RC	Semi-structured interview	1 / 1h
DIS/RAB	DIS/RAB	Summaries of asylum cases (public	7
The Refugee Appeals Board	RAB	dataset)	86

The semi-structured interviews lasted between one to two and a half hours. The interviewees decided the location and time of the interview, and whether the interview should be recorded or not. All interviewees consented, via a signed form, to have their interviews recorded.

Seven summaries of asylum cases extracted by the first author from the RAB's public dataset[2] also inform this study. In these cases, we searched for instances of the word "udlæs" [read out], the term used by the DIS to describe the extraction of the asylum seekers' phones, as we learned from the interviews, we conducted with DIS case officers. There are three evident limitations to the data obtained from these cases. Firstly, cases decided at the appeal level do not provide a comprehensive picture of Danish asylum practice, as they only cover decisions initially declined by the first instance (the DIS). Secondly, not all of the asylum summaries processed by the RAB are accessible to the public, which means that our sample does not represent the complete set of asylum cases. Lastly, the asylum decisions in the seven cases are only presented in the form of shorter summaries; however, these limited insights motivated us to further investigate our research focus.

The DRC granted the [ANON] project access to a non-public dataset consisting of data rich case files containing judicial decisions, procedural histories, relevant facts, and documents, as well as interview transcripts between DIS case officers and asylum seekers. The dataset of approximately 30,000 files, including Word documents and PDFs, has some limitations, as some of the documents are unreadable or lack case information, reducing the accessible files to 15,535. Additionally, most of the PDF files were scanned paper documents and were not machine-readable. To address this, the data scientists in the [ANON] project used optical character recognition (OCR) techniques to convert the documents into machine-readable text. With the assistance of a data scientist affiliated with the [ANON] project, we used text processing to identify 86 cases that mentioned the term "udlæs" ["read out"]. We have not yet been granted access to conduct observational studies at the DIS. Nevertheless, these 86 case files provide valuable insights into how data from asylum seekers' phones are acquired by the DIS and used by case officers. These files offer a glimpse into the asylum interview setting, shedding light on the contextual and social dynamics, such as interview techniques, between case officers and asylum seekers that shape the construction of asylum case data.

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[2] https://fln.dk/da/Praksis

All empirical data were anonymized, translated from Danish to English, and analyzed using qualitative thematic techniques [16]. As researchers in the field of CSCW who use ethnographic methods, we recognize the importance of perspective and voice in our approach, as well as how our own pre-understandings and assumptions shape the analysis and interpretation of our findings. We acknowledge that we as researchers also produce, craft, and curate empirical data—we make them and bring them into being. Thus, the findings presented in this paper are produced and analyzed based on the perspective of who and what we have chosen (and were able to gain access) to study [22,25]. We emphasize how "analysis is a creative and organized process of generating insights," which "entails careful and deliberate crafting" [9:3].

In the following section, we showcase the findings of our qualitative thematic analysis [16], which served as the foundation for analyzing our empirical data. During the research team's discussion of the empirical data, a process of inductive coding and refinement resulted in the identification of five key themes. These themes illustrate how data from asylum seekers' mobile technologies and social media are put to work by case officers to inform asylum decision-making.

4 FINDINGS: DATA FROM MOBILE PHONES AND SOCIAL MEDIA

Our analysis provides insights into the growing significance of mobile phone data in shaping asylum decision-making and how such new data infrastructures transform asylum data work. Asylum authorities retrieve data from asylum seekers mobile phones, which contain far more information than traditional identification documents like passports. These data, including social media data, are integrated into caseworker systems and thus influence the construction of asylum cases. We find that these new types of data are assembled and utilised in the following ways: 1) through distributed, collaborative, and resource-intensive efforts, 2) in every stage of the asylum procedure and even beyond (after being granted asylum), 3) as back-up data for credibility assessment, 4) within unequal power dynamics, and 5) in an opaque and unsystematic manner.
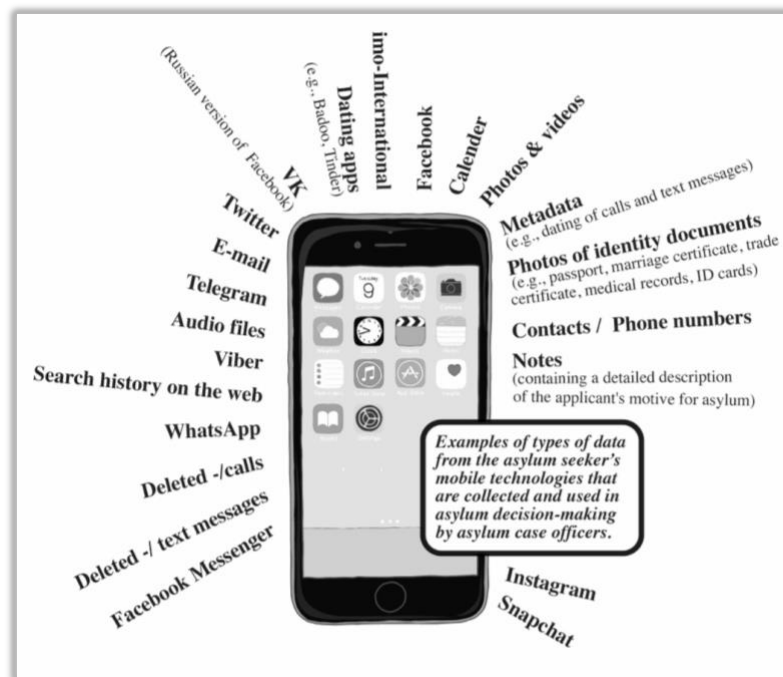
Figure 1: Examples of types of data from asylum seekers' mobile technologies that are extracted by the Centre for Documentation and Counter Extremism and used in decision-making in Denmark.

4.1 Distributed, collaborative, and resource-intensive work of data

Based on our empirical data, we gain insights into the DIS's process of extracting data from asylum seekers' phones and social media, as well as the types of data extracted, and the departments involved. We learn that the Centre for Documentation and Counter Extremism (CDE)[3] is a key player. An employee from this department elaborates on their work:

> DIS8: "These are people in desperate situations who are seeking a better life. I think it is quite important to be completely open about that. And some of them must be granted a permit. And then it is our job to check as thoroughly as possible whether they meet the criteria that have been defined. […] We continuously employ new methods to illuminate cases as effectively as possible, and today, mobile phones are, in certain cases, essential in determining identity".

CDE is located within DIS but is separate from casework. "In relation to asylum cases, the task is to provide factual information to support the case processing upon specific request" and "facilitate the actual reading of the mobile phone and generation of report slash data" (DIS8). According to the CDE, this department is responsible for generating data that can be used as a basis for decision-making in the overall asylum case. This data is then used as part of the caseworkers' overall decision-making basis and is therefore not evidences with a specific purpose other

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than to inform a case in the best possible way. So, their job is not to build a case but to inform a case, and mobile data analysis is an element of this (DIS8). The employee from CDE further elaborates on this matter:

> DIS8: At the specific request of caseworkers, we carry out searches related to specific conditions on individuals using ordinary OSINT (Open-Source Intelligence work). In other words, we find information on the internet that is publicly available. In addition, upon specific request and with consent, we can read out data from mobile phones. It is resource-intensive, so not something we undertake unless there is a concrete reason".

Furthermore, "because raw data is impossible to work with" (DIS8), the DIS utilises external software to sort data from asylum seekers' phones into various categories according to specific criteria, with the purpose of enabling case officers to obtain an overall view of the "read out." One such category is called "Country Overview" and includes classifications of calls, text messages, contacts, browser data, and location data. In an interview, a DIS employee showed us an example of such a report, elaborating on the format and content of the data in the "Country Overview" category, which seeks data about: "Who have you called? Who did you text? What kind of contacts are there? And so on" (DIS9).

Another category is "Communication Analysis," which extracts data from the phone based on a temporal perspective, such as the longest calls, first and last texts, and frequently visited websites. The resulting report, called the "LIEB report", also includes a "Media Analysis," in which visual data, such as photos and videos, are identified and sorted into categories like "Identity Cards," "License plates," "Terrorism," and "Child Sexual Abuse." The LIEB report can be thousands of pages long, and once it is generated the case officer "has a duty to let it be included as part of the basis for the case" (DIS5). DIS case officers and a staff member from the CDE elaborate on this matter:

> DIS8: "What we set it up to do is to look for someone who has particular videos. Someone's head is being cut off. This is a sign of radicalization. It will be included. Or if they are standing with a weapon in their hands... It could be that they have just served in the defense. It's all right. It could also be that they were in Syria, when it was forbidden to be in Syria. ... And so, it also gives rise to a conversation.... And geography, for example. Where have you been? Who did you call? And what kind of national ID numbers does it follow?"

> DIS9: "Then you can see what kind of countries are called to and from. How long did the conversations take? How many calls have been made?"

Overall, we find that the process of extracting, categorizing, analyzing, and interpreting data from asylum seekers' mobile phones is a resource-intensive endeavor. It is distributed and involves collaboration, specialized expertise, and technological resources across departments.

4.2 Data work integrated in all phases of

According to the DIS, the asylum applicant may be asked to have their mobile phone – and social media data extracted (once or several times) from the moment they register as an asylum seeker, throughout the entire asylum procedure, and even after being granted asylum. This is not a systemized practice, however we learned from the DIS employees that it is a common occurrence that is fully integrated as an aspect of asylum data work:

> DIS8: "We must not do it systematically, but in case of doubt. ... we do it often, but not always."

DIS6: "It's also usually a standard that the case worker must consider whether there is a basis for reading out the person's telephone, if it has not already been read out. It's not really related to a particular point in the conversation. It's just such an overall assessment that one just must make."

DIS13 informed us about an interview template that includes a specific section dedicated to inquiring about the asylum seeker's mobile phone and social media accounts. DIS9 provided us with further insight on this matter by explaining how the asylum interview usually begins by requesting permission to examine the asylum seekers' mobile phone. It is not (necessarily) an extraction of the phone data at this stage, but requires that the asylum seeker hand over their phone to the case officer, who then scrolls through the content. Extracting the data from the phone does not occur in every case, however, "approximately 20% of the applicant pool is selected in some way, in round numbers" (DIS8) to have their phone data "read out" and analyzed by the DIS. From our empirical data we learn that this is a discretionary decision that is not tied to any particular step of the asylum process, but rather constitutes an overall assessment that case officers are required to undertake throughout the process. This suggests that extracting, analyzing, and interpreting mobile phone data is an integrated, however discretionary part of the asylum decision-making process. For instance, DIS9 explains how the caseworkers may examine a mobile phone again during the second asylum interview. Thus, if judged necessary, the case officer may choose to have a phone read out more than once, for example, to identify any updates or changes since the previous assessment. This implies that the data extracted from mobile phones is considered crucial and can influence the evaluation of asylum applications.

If being granted a Danish residence permit as a refugee it can be revoked or denied extension, resulting in loss of right to reside in Denmark. In recent years, there has been a growing emphasis on the revocation of cases in the asylum process, which also have implications for which kind of data and the way in which new types of data from individuals' mobile phones that enter asylum cases are extracted, utilised, and interpreted in asylum casework. An interview with a DRC legal counsellor sheds light on this matter:

DRC2: "The political situation has changed. There is now a greater focus on revocation ...because there has been such a political focus on the fact that the residence permits, which you get when you are granted refugee status, are temporary ... So, significant funds have been allocated to establish special offices to go through all residence permits and cases to see: Well, is there a basis for withdrawing [residence permits] because conditions in the home country have changed or because the person has committed fraud or all of these things...the reasons that may be why a residence permit can be revoked."

Our empirical data reveals that individuals remain in a vulnerable position even after legally being categorized as a refugee. They may still be summoned by the DIS for questioning, requested to surrender their mobile phones for "read out," or risk having their publicly available data examined despite being granted asylum. Both a DRC legal counsellor and a representative from the DIS provide elaboration and examples:

DRC10: "There was a whole wave of revocations that happened. And even in those cases where people have been taken in... that is, where a revocation procedure is initiated in relation to someone who has a residence permit here ... Then you look at pictures, because then it might be important that you haven't been to your home country. And then they look in your social media and see where you have been tagged. Which cities... if you say you've never been to Afghanistan, but you've been tagged in a photo in

Afghanistan. There are many things. These are the kinds of things they look for. We have seen many examples of that."

DIS8: "You may also have received [suspicious] information [about someone] who has been here for 4 years ... and then you build up a case. And then we may ask to read out a mobile phone there as well."

A former DIS case officer provided further insight into how individuals, even after obtaining legal refugee status, are still in a precarious position where their "digital lives" can be investigated by the DIS without their knowledge before being summoned for an interview:

DIS13 (former case officer at the DIS): "They scroll through the person's Facebook profile ... And then they take screenshots, because in some situations, when people are called in for an interview, all of a sudden, there is none of this on their Facebook profile anymore... they deleted their whole photo album."
First author: "So, it will be done before the summons?"
DIS13 (former case officer at the DIS): "It is done before the summons, yes."

Overall, our empirical data highlight the evolving role of mobile phone and social media data as an emerging data infrastructure increasingly implemented in the asylum process. It is integrated into standardized interview templates, considered as part of the overall assessment by case officers, and can be revisited if deemed necessary by the case officer. Essentially, our findings indicate that once registered in the asylum system individuals are at risk of having their mobile phone and social media data extracted and analyzed by the DIS throughout all stages of the asylum procedure and even after they receive residency status.

4.3 Mobile phone data used as back-up data for assessing credibility

Our findings show that extracting mobile phone and social media data is a common practice when there is doubt about the asylum claim. All (also former) DIS employees we engaged with explained to us how this type of data work "is completely linked to credibility assessments" (DIS13). DIS8 explains how data from mobile technologies and social media can be used "in a conversation ... as a piece [of the puzzle]," for example when assessing the credibility of asylum motives related to persecution by non-state actors, such as conflicts of honor, sexuality, or conversion to another religion (DIS6). According to the DIS, such cases are difficult to assess and, unlike asylum motives relating to, for example, fear of military service.

DIS6: "[Use of mobile phone and social media data] will often [occur] in cases that are about something related to persecution by non-state actors. That is, if they have a conflict of honor, for example, with their parents. If they say their parents want to kill them because they have started a relationship with the neighbor ... It could be sexuality or something like conversion to another religion. [These types of cases are] harder to assess... [By contrast,] if a Syrian man fears military service, then it is easier for us to find background information about military service in Syria. It is really difficult for us to get any factual or any evidence of a conflict of honor in Northern Iraq, right? And it goes on in secret within the family, right? And the same with a conversion to another religion. It's things like this where it can be more difficult for us. It's often in these cases that we decide to read out a phone. ... And then there is a text message yesterday from mother and father, who write: Good luck tomorrow for the interview and we love you and we hope it goes well. Then we will emphasize that it [the asylum motive] is not convincing."

DIS case officers use data extracted from the mobile technologies and social media as a supplementary source to evaluate the credibility of asylum motives. This suggests that for the data to be useful for decision-making, they must be interpreted, contextualized, and cross-examined with other data, for example, the asylum seekers' self-reported data.

From our empirical data, we also learn that such data are not only used in cases related to persecution by non-state actors, as another case officer explains:

> DIS5: "There are, for example, pictures of, let's say, a Spanish residence permit. But there is no hit on the person, meaning the person does not have any registration in EURODAC or in the Visa Information System. But in relation to the Dublin Regulation, you can submit transfer requests for people - asylum seekers. … If we had not seen that residence permit on this person's phone and that he or she even told at the interview that they had never received a residence permit in another country, then you would be able to use this data [as basis for the case].
> First author: "So, this person can then be submitted to a Dublin procedure [and thus deported to Spain]?
> DIS5: "Yes."
> First author: "Even if this person is not registered in EURODAC?
> DIS5: "Exactly."

According to both the DIS and the DRC, data extracted from the mobile phones and social media of asylum seekers can also be beneficial for supporting asylum seekers' claim for asylum, for example in cases where the applicant might struggle to verbalize their situation. In other words, these new types of data "can be used both positively and negatively for the applicant" (DIS9). In an example given by a case officer:

> DIS6: "I just want to point out that it can also really benefit their claim for asylum. Because there can also be an insane amount of guilt and shame about having to explain about, for example, homosexuality. An African man who must sit and tell me about his homosexuality. For example, you have an interview with a man who can scarcely state his case. And it is terribly shameful for him to tell anything. In his asylum application... I can hardly assume that it is true and right because it was so unclear, and he answers so poorly to my questions. And then we read out his phone and then there is just so many indications of him secretly living a gay life. And then it [the data form the phone] is just the strongest evidence. Then we grant him asylum."
> First author: "So, these data from the applicant's mobile phone are what grants this person asylum?"
> DIS6: "In this example it is quite crucial because he just had such a hard time putting [his asylum motive] into words and talking about it. Because it relates to such a completely unmanageable degree of shame and guilt from where he comes from. So, in this example... for him it is the best proof of evidence. So yes, it's intrusive, but it can also be [beneficial for the applicant]".

These empirical findings suggest that data extracted from asylum seekers' mobile technologies and social media are used to inform the credibility of the asylum motive, however, they cannot convey their significance alone. For such data to be valuable for decision-making, they need to be cross-examined and analyzed *in relation to* other types of data as well as the data infrastructure from which they originate. These data require context and interpretation by the asylum case officer to be turned into situated knowledge useful for decision-making, and to be incorporated

into narratives that shape and give them meaning. In essence, for these data to hold power, they must be utilised and employed case officers as part of the larger process of interpretation and sense-making.

4.4 Data work enacted within unequal power dynamics

In this section, we investigate the social dynamics between the DIS case officer and the asylum seeker in the asylum interview, which can last up to eight hours - and sometimes longer (DIS6). Our empirical data highlight the unequal power dynamics, including the demand on individuals in a vulnerable situation to hand over their mobile phone and/or social media account password. DIS case officers face a dilemma in this regard, as the practice of requesting mobile phones and passwords for social media can raise ethical concerns for all parties involved. According to both DIS case officers and DRC legal counselors, the practice feels highly invasive and transgressive, and some interviewees even explained experiencing discomfort and shame:

> DIS8: "Most of us have a very, very personal relationship with our mobile. So, handing it over is not a pleasant experience" (DIS8).

> DIS6: "It is really, really invasive. I would think it would be hugely intrusive if someone were to scan my entire phone and look at my entire Facebook".

> DIS13 (former case officer at the DIS): It was such a transgressive practice. ... I would have sometimes wished that there were better arguments for it apart from just referring to section 40 of the Aliens Act: that the person is obliged to disclose their case. I sometimes think that a little more is needed before you do something that is so invasive..."

Before the DIS can work with data from asylum seekers' mobile technologies and social media, they must obtain a signed consent form from the individual applying for asylum. Our empirical data offers grounded insights into the social context and dynamics in this context, specifically concerning how the DIS reminds the asylum seekers about the Aliens Act [45] and their duty to inform their case in this regard:

> DIS13 (former case officer at the DIS): "There is that introduction that you must read aloud, and which sets the legal framework for the interview. You then read it aloud and refer to the paragraphs. This is to draw attention to the fact that, according to the Aliens Act, then you have to state your case."

> Citation from the non-public dataset: "Asked applicant if she will consent to us looking at her mobile phone together and going through her contacts, phone lists, messages, WhatsApp, Facebook profile and anything else she may have on her mobile phone. The applicant does not want this. She is reminded that she has a duty to inform her case and provide us with the necessary information to be able to assess her asylum application. She is also informed that her wish not to undergo it voluntarily is noted."

Our empirical data shed light on the power dynamics and the blurred boundary between voluntary participation and coercion, especially when considering the vulnerable position of asylum seekers, which can be characterized by feelings of distress, uncertainty, and dependence. In such circumstances, it may be impossible to decline the DIS's request to examine their social media profiles and data stored on their mobile technologies if they want their case

to move forward. This is exemplified in other case summaries extracted from the non-public data set, which highlight both ethical and practical challenges faced by asylum seekers:

> Citation from the non-public dataset: "Restated for applicants that he has a duty to provide correct information and provide the information that is necessary for the assessment of the extension case, cf. Section 40, subsection of the Aliens Act. 1. To this, the applicant replies that he provides correct information. Oriented applicant that failure to cooperate in the disclosure of the case may result in procedural damage. To this, the applicant replies that the DIS is permitted to read out the phone."

> Citation from the non-public dataset: "Repeated to the applicant that she is very welcome to leave the phone on the DIS representative's table. The applicant answers no because she does not want the phone to be taken away from her again. She has no other phones than this one, and if the DIS representative takes the phone, the applicant does not have another phone. Informed applicant that the DIS representative will only look at her phone. If there is anything relevant on the phone, the DIS will have the phone read out immediately. If there is nothing relevant on the phone, the applicant will get her phone back. Applicant asks what happens if she doesn't [consent]. Guided applicant about section 40 of the Aliens Act that she is obliged to disclose her own asylum case. She also has a duty to cooperate with the authorities in Denmark when she applies for asylum in Denmark. The applicant puts her phone on the DIS representative's table and emphasizes that she would like the phone back today."

Other DIS case officers confirm these insights about the process of obtaining consent to access the asylum seeker's mobile phone and social media; if the asylum seeker does not consent, they can be forced to give over their phone by the police:

> DIS5: "When you sit down for the interview ... the first thing you go through is a guidance [which explains] that the person has a duty to provide information as an asylum seeker. That is, the person must contribute to disclose their case".
> First author: "Is there also something [in the guidance] about reading out phones?"
> DIS5: "Yes, there is. That there is. Here we always have to obtain consent. And if they say no, then the police will be involved..." (DIS5)
> First author: "Okay".
> DIS5: "And takes it compulsively".
> First author: "Yes, okay".
> DIS5: "If we consider it necessary".
> First author: "Yes. Can you give an example of where this might be necessary?"
> DIS5: "It may be necessary if, for example, we believe that it may be relevant in relation to the asylum motive, or it may be relevant in relation to identity. If you have a suspicion ... not a suspicion, but if you have a reasoned doubt about the person's identity or if you have a reasoned doubt about the person's credibility in relation to the claimed asylum motive. So, then you can take it forcibly with the help of the police".

Despite the requirement for written consent, our empirical data illustrate how consent is relative in practice, leaving asylum seekers with little to no bargaining power. A DRC legal counselor elaborates in an interview with the first author: "I have not heard of any asylum seekers who say no … it's really not a choice" (DRC10).

This section highlights the dilemmas and power dynamics surrounding these new emerging data infrastructures. Our findings suggest that the boundary between voluntary participation and coercion becomes blurred, as asylum seekers may feel pressured by the case officer to provide consent. The consequences of refusing consent are unclear, which adds further complexity to the asylum procedure. When authorities introduce new data infrastructures in casework, initiatives should be made to ensure transparency, accountability, and informed consent, as well as to provide clearer guidelines on the implications of granting or withholding consent for accessing personal data.

4.5 Opaque and unsystematic nature of data work

Our empirical data offers insights into how asylum authorities adapt their practice to an increasingly datafied reality. Our findings suggest that rather than being a separate and systematized process, this new type of data work is integrated into the overall asylum casework and beyond. However, it occurs in a rather unsystematic manner, which makes the asylum process increasingly opaque and difficult to comprehend for DIS case officers as well as NGOs.

One DIS case officer illuminated the challenge of both grasping and explaining to an outsider (the first author) how the DIS assembles these new types of data and applies them into their work:

DIS6: "They [CDE] have like some plugs and some cables and some programs where everything is like put into and read out from the phone. And that program can do some different things, right. Recover some deleted files and … I don't give any information. I just say: Read out this phone."
First author: "How do you work with these data?"
DIS6: "Uh… How do I work with these data…"
First author: "Well, I would guess there would be an awful lot of data…"
DIS6: "Well, absolutely it's insane. It can be thousands of pages."
First author: "Yes. So, how do you work with these data?"
DIS6: "Well, uh … [laughs] It is really difficult…"
First author: "And is this report put into the system? Here are pictures, here are deleted ones…?"
DIS6: "It's very confusing…"
First author: "Because I think, as I hear it, it seems so completely unmanageable…"
DIS6: "Yes. well, it is…"

Large data sets require knowing what you are looking for. Our empirical data suggests that the case officers are in a way "trapped" in this new type of data work, which fundamentally transforms practice toward findings in these large data sets (the LEAP reports). These findings may appear random or lacking substantiation, highlighting the challenges and complexities of working with extensive data sets in the asylum decision-making process.

We also find that the RC and DRC encounter challenges to understand and adapt their work to this progressively datafied asylum procedure. Both NGOs are officially recognized as important players of the Danish asylum system, tasked with providing support to displaced individuals as they navigate the asylum process. Financial assistance is

provided by the Danish state to both organizations.[4] In this regard, DRC provides individual legal counseling throughout the various stages of the Danish asylum procedure through phone consultations, email, video calls, as well as in-person meetings at their main office in Copenhagen or during their visits to asylum centers, prisons, detention centers, and municipalities. Furthermore, they give weekly two hours classes at the main asylum reception center. The DIS has entered into agreements with the RC to take the responsible for the accommodation, operation, and care of some of the asylum centers. However, we find that the two NGOs may not have the necessary resources and expertise to raise awareness to the individuals applying for asylum about this new and emerging data infrastructure and thus in supporting them in understanding the changes being applied to data work in asylum casework.

Both organizations are aware that the use of new types of data from asylum seekers' mobile phones are integrated into asylum casework. A DRC legal counsellor elaborates: "It should not be taken for granted that it will not be used. It is being used in all possible contexts" (DRC10). Nevertheless, our empirical data show that both NGOs are unaware of, for example, exactly what data are searched for, by whom, how, and when they are extracted, interpreted, and used in asylum decisions:

RC1: "They [individuals applying for asylum] can't get away, God dammit… They [asylum seekers] are checked all over. So, this is just another part of it … I think it's a standard. I don't know, but I assume so. … not every resident comes up to me and says they're missing their phone. And we don't get that many phones…. I don't know if they're selective about it or what they are. I can't answer that … But I'm actually fine not knowing too much about it. To be completely honest. Well, imagine if I had to justify it? Then I'd rather say it like this: Well, that's how it is. After all, you can put 2 and 2 together. What are they (the DIS) taking? Of course, they take your phone. They want to find out where you've been. That's how it is, right? … They [asylum seekers] ask me: What are they going to use it for? … I don't know either. I haven't talked to anyone about it. I haven't asked anyone."

First author: "Isn't this something you are talking about in RC? Wouldn't you be able to get an explanation…that is, if you contacted the DIS?"

RC1: "Well, what are we going to use it for?"

First author: "Well, so you can somehow give a better explanation to those who now come to you and ask for an explanation."

RC1: "That's right, yes. I just don't think it helps anything… So… [quietly] But then, it's a topic, you could say, that we could take up and talk about: How are we handling this? … We [RC] have a job conveying this system and sort of translate it for them and say…[silence]"

First author: "But it's also…I guess, an easier task if you understand what's happening?"

RC1 is not sure if this new type of data work is selective or standard and does not know how the DIS will use the information. RC1 prefers not to know too much about it; however, acknowledges that it might be helpful to have a better understanding of the process to explain it and thus support to the ones affected.

In a conversation with the first author, a DRC legal counsellor elaborates on their own lack of data literacy in the DRC:

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[4] https://fm.dk/media/25456/fl22a14.pdf

First author: "For your early counselling, what you mention there, is it just about the fact that this practice takes place?"

DRC10: "Yes. To prepare them for the fact that they will be asked to hand out their mobile phone and provide access to their social media."

First author: "Yes, so in that way, what you are offering is a completely overall counselling?"

DRC10: "Yes. But it can also be the outcome of that we [DRC legal counselors] do not have a very good understanding of what exactly it is used for. The fact that there is some sort of unit that sits and works with this. If we don't really understand to what extent, then we can't explain about it either."

Our research reveals that case officers sometimes struggle to manage and make sense of the vast amounts of data extracted from asylum seekers' mobile phones and social media. For example, the scale and complexity of the LIEB report make it difficult for them to establish clear procedures and guidelines for their work. This lack of systematization contributes to the overall opacity of the asylum process, possibly making it harder for asylum seekers to discern the rationale behind decisions based on data produced though new data infrastructures.

The NGOs' lack of understanding and awareness raises concerns about their ability to effectively assist displaced individuals in navigating the changing data infrastructures in the asylum process. Without a clear understanding of when, how, and why data work is carried out, NGOs may struggle to advocate for the rights of asylum seekers and provide them with accurate information, care, and legal guidance.

Based on these findings, we question the extent to which authorities and NGOs can fulfill their role in supporting asylum seekers in comprehending this rather invisible and undefined nature of data work. There seem to be a pressing need for increased transparency, communication, and collaboration between asylum authorities and NGOs to ensure that displaced individuals applying for asylum receive the necessary support when new data infrastructures are implemented.

5   DISCUSSION: SUPPORTING DATA INFRASTRUCTURE LITERACY

Our analysis shows that mobile phone readings have become a significant data infrastructure in asylum decision-making. An amendment to the law enables the DIS to request or compel asylum seekers and refugees to hand in their phones and passwords for their social media throughout *all* phases of the asylum procedure and *beyond*. Caseworker practices are still adjusting to this new reality, as often the data extraction is experienced as intrusive from both the caseworkers and the asylum seekers perspective.

The European Union (EU) recently announced a regulation requiring common asylum procedures across member states, which "streamlines the procedural arrangements (e.g. the duration of the procedure) and sets standards for the rights of the asylum seeker (e.g. being provided with the service of an interpreter or having the right to legal assistance and representation)" [18]. From a caseworker's perspective, the integration of mobile phone readings as a practice highlights an urgent need for what Gray et al. [31] call data infrastructure literacy. The need for *all* stakeholders to understand and engage with complex data infrastructures is evident from the case of mobile phone readings. Data infrastructure literacy is considered as a means to understand the complexities of the ever-growing data infrastructures, as evident in an asylum context as well. It is a means to effectively navigate and participate in a data-driven society, as argued by Gray et al. [Ibid].

Others before us have pointed to the importance of NGOs as advocates of asylum seekers [38,52]. Both RC and DRC are officially recognized as important players of the Danish asylum system, tasked with providing support to

displaced individuals as they navigate all stages of the asylum process. DRC is responsible for offering legal advice, while RC is responsible for accommodation, operations, and care at some of the asylum centers. [52].

So, whose responsibility it is to ensure data infrastructure literacy? The DIS has a team of specialists (the before-mentioned CDE) working with mobile phone readings and through our empirical data, we learned how the DIS have articulated a practice of how to engage with data. Similar to other contexts, new professions specializing in data work shift the competencies required [13]. In some cases, professions such as clerical workers managed to handle their changing work situation when they were rendered as partially obsolete by new data-driven technologies [47]. Our case suggests that NGOs officially taking on the role of supporting asylum seekers have not adjusted to a data-driven asylum decision-making process. For the individuals seeking asylum, the consequences can be severe if the emergence of mobile phone readings as a data infrastructure is not addressed. This transition to an increasingly data-driven practice affects all stakeholders, our analysis suggests.

Our findings give insights into how the DIS utilizes these new types of data as supplementary evidence to assess the credibility of asylum claims. It raises the question of whether variations in data quality are tolerated as long as the data are deemed "good enough" or suitable for their intended purpose [58], such as evaluating the credibility of asylum motives. Previous research have shown how novel data infrastructures are adopted as tools and standards to govern [11,27,58]. In this context, it is critical to remember that "standards are made to disappear from view, to sink to the level of infrastructure, to go unnoticed, and to become second nature" [49:46]. This study contributes to the understanding of how data within the asylum casework are influenced and applied based on societal norms, values, and political agendas. It highlights the need to critically examine the underlying assumptions and biases embedded in the data infrastructure and the potential impact on the asylum decision-making process.

As argued by Beer [10] and others, a new faith in data appears to have emerged, which also appears within the asylum decision-making context, as we document in this paper. In essence, Gray et al. [31] emphasize the need for improved skills and technical competencies to comprehend data practices. This poses a familiar paradox in asylum decision-making: ensuring that asylum seekers truly grasp how data about them are generated and utilised can appear to be an unattainable goal [52].

Our analysis indicates that these new types of data from mobile phone readings (and social media) are being utilised across different departments and offices in the DIS in a distributed, collaborative, and resource-intensive manner to inform the process of assessing claims for asylum. The primary use of these data is to serve as supplementary information for assessing the credibility of asylum seekers. In this context, our analysis suggests that there is not an easy way to provide what EU addresses as "legal assistance and representation" [18] when it comes to the usage of mobile phone readings.

5.2   A legal perspective on equating mobile phones to identity documents

Legally, the prerogative for Danish authorities to collect applicants' mobile phone data is enabled by an amendment to the Danish Aliens Act adopted in 2017:

> "An alien must provide the information necessary for assessing whether a permit under this Act may be granted or revoked or cancelled or whether the alien stays or works lawfully in Denmark…. Documents and objects that may be assumed to be of importance for the establishment of an alien's identity or ties with other countries or for the documentation of the case may be taken into custody if estimated to be necessary" [45].

Broadly, this part of the Aliens Act reflects general principles in international refugee law that asylum applicants may be required to support their claim by supplying any available evidence. More specifically, the provision legally equates mobile phones to identity documents, such as passports, educational certificates, or travel documents. An employee from the DIS elaborated on this:

> DIS8: "Today, [the phone] is a document after all. In other words, we regard it as a document that tells you just as much as, if in the old days, we brought all our travel papers and everything else. So, today it is a document that can tell something about motive. It can tell you something about your travel route. It can inform about your identity. It can inform about your relationships. And all that, seen positively, can help to confirm: Who are you? Where have you been?"

From a data perspective, however, this comparison is much less intuitive. Whereas international law provides standards for exactly what type of information should appear on a passport or international driver's license, the scope of personal information both about the user and others contained on a mobile phone is inherently open-ended. In that light, simply extending the general competence to request documents as part of the asylum procedure is arguably problematic. The legal and ethical issues that this raises, both in terms of privacy infringements and temporarily depriving asylum seekers from an essential "lifeline," were addressed by several civil rights organisations when the law was adopted [71]. Both European human rights law and EU law place requirements on authorities' processing of personal data, including a clearly defined legal basis and an individualized assessment of necessity and proportionality. Yet, the Danish legislation does not require authorities to have a concrete presumption that extracting and analysing mobile phone data will be relevant to the case; a general assumption is enough.

These concerns are mirrored in our findings, e.g., through the expressions of unease by practitioners when implementing this policy. They also emerge in the legal discourse in other countries. In 2022, the United Kingdom High Court ruled that the Home Office had acted unlawfully and violated both human rights and data protection law by operating a blanket policy of seizing mobile phones from asylum seekers [26]. A follow-up inquiry was opened by the Investigatory Powers Commissioner's Office in 2023, notifying asylum seekers about their right to bring a case, and possibly receive compensation, before a specialist surveillance tribunal [66]. Another case was decided by the German Federal Administrative Court in 2023. In what has been called a "landmark ruling," the court decided that the order to unlock the phone was disproportionate and, therefore, unlawful. Unpacking the concrete practices of how, when, and under what conditions authorities extract mobile phone data was arguably decisive to the outcome in both cases. In the UK case, the court found that authorities were acting on an insufficient legal basis and heard evidence that asylum seekers were "bullied" into handing over passwords to unlock mobile phones and social media accounts so such data could be downloaded to a database called Project Sunshine. In the German case, the court found that legal safeguards were not respected as authorities failed to consider less intrusive means, did not properly inform asylum seekers about what data was extracted from their phone, and assessments of necessity only took place after data had been extracted and analysed [54].

Our findings provide further insights into how mobile phone data and data from social media are increasingly being used to supplement individual testimony in the Danish asylum process, and how this practice has progressively evolved and become standardised without much public attention. However, there is a political stake in categorizing the phone as proxy for personal information in legal decision-making. Mulvin [49] reminds us how "[p]roxies function as necessary forms of make-believe and surrogacy that enable the production of knowledge" (p.

4). As a result, we need to critically interrogate the use of such proxies by asking, "to whom or to what do we delegate the power to represent the world?" [ibid] Based on our findings, we argue that this new data infrastructure not only adds further complexity to asylum casework, but also, and more fundamentally, reconfigures the mobile phone from being a crucial infrastructure for displaced individuals to becoming a far-reaching resource for asylum authorities in a way that raises a range of both ethical and legal considerations.

7   CONCLUSION

Mobile technologies are now indispensable for displaced individuals, such as asylum seekers. However, the very features that empower and enable self-empowerment can also pose risks. As bureaucracies adapt to a data-driven reality, some countries have introduced legislation allowing authorities to access the mobile phones and social media accounts of asylum seekers during the asylum process.

In this paper, we qualitatively investigate the dilemma of the dis-/empowering role of mobile technologies and social media for individuals applying for asylum. This study focuses on how national asylum authorities, specifically the Danish Immigration Service (DIS), extract and utilise data from mobile technologies and social media. In up to 20% of cases, DIS now requests asylum seekers to submit their mobile devices and/or provide access to their social media accounts.

From the perspective of CSCW and digital infrastructure theory, we examine how mobile phones are used as proxies for personal information and how this proxy is now becoming a standardized data infrastructure in the asylum decision-making procedure. We contribute empirically grounded insights on the role that data from mobile technologies and social media play in asylum decision-making, specifically how the DIS create, collect, manage, curate, analyze, interpret, and communicate these data.

Our findings suggest that these new types of data are acquired and utilised in the following ways: 1) through distributed, collaborative, and resource-intensive efforts, 2) in every stage of the asylum procedure and even beyond, 3) as back-up data for credibility assessment, 4) within unequal power dynamics, and 5) in an opaque and unsystematic manner.

The transformation of mobile phones into tools for decision-making highlights the increasing reliance on technology and data-driven practices in the assessment of asylum claims. This emerging data infrastructure in the asylum casework not only adds complexity but also fundamentally transforms the role of mobile phones for individuals seeking asylum. We argue that this has significant implications for the individuals' experiences, rights, and agency within the asylum process. The findings presented in this paper, underscores the need to critically examine the ethical, legal, and human rights dimensions of this transformation and consider how it might impact the lives of refugees.

Overall, the study adds to CSCW research on datafication and data work, as well as data infrastructures, by making this new data infrastructure visible and problematizing it. In this context, our study opens a space for future research to explore data literacy initiatives to enhance the authority and agency of individuals applying for asylum.

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Probing Democratic Dialogue with and through Asylum Case Data

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The proliferation of open datasets has enabled civic organizations and researchers to engage with government in new ways, as part of securing democratic values such as access to information and accountability. In this paper we report on an inquiry into a public database of the Danish Refugees Appeals Board. The database categorizes appeal cases according to, for example, country of origin. We used text mining and Natural Language Processing (NLP) to extract topics across the case files. Using these findings as a probe and discussion points within semi-structured interviews with asylum officers, we show how the category "Unknown Homeland" in this database, can reveal practices of data work. Our empirical findings contribute to emerging debates in HCI and CSCW on approaches to open spaces for democratic dialogue about asylum data practices with and through data.

CCS Concepts: • **Human-Centered Computing** → **Collaborative and Social computing**.

Additional Key Words and Phrases: Datasets, NLP, Data mining, Ethnography, Refugees, Asylum, Data work, Public sector

1 INTRODUCTION

Civil administrative processes are increasingly areas of data-driven decision-making. In these cases, the conditions for decision-making are embedded in processes of discretion, recognition, categorization, and registration and documentation, such as the construction of data [3], labeling and categorization of cases [33], and the setting of value metrics and other kinds of targets [17]. In the spirit of "studying up" [26], these democratic institutions themselves demand investigation. The shift to a datafied society is, at least notionally, a democratizing initiative [14]. In Denmark, the context in which we write, the government increasingly provides open datasets and public databases for organizations and researchers to examine bureaucratic decision-making as part of securing democratic access to information and furthering accountability. However, important information can be hidden in plain sight: It might require special skills

and data analysis methods to identify problematic areas, while making sense of the available data might require information on the context of data production (field expertise), access to which might be restricted or impossible.

The particular case we take up here to examine these concerns is the asylum process. Data about asylum seekers in Denmark are constructed by several governmental authorities, particularly at the primary site of our work: the Sandholm Reception Center, the main Danish reception center for asylum seekers. Here data are constructed by asylum officers (legal caseworkers) from the Danish Immigration Services (DIS) about the applicants' asylum motive (first instance in the asylum decision-making process). In this paper, we investigate a database of final decision outcomes (called RAB[1]), which categorizes cases according to the country of origin of the applicant and the year of the decision. We complement our examination of the data with interviews with asylum officers who generate and work with it. Past research on the database has pointed to the evidence-based tests that asylum officers employ to establish asylum seekers' credibility [ANON]. For the purpose of this paper, we focused on the cases of applicants categorized as "Unknown Homeland." We were interested in empirically investigating what this category of asylum seekers contained, building on work in data sciences and computing that has highlighted the importance of outliers in understanding data work [ANON].

In Denmark, open datasets like this one are already shaping asylum decision-making [ANON]. At the outset of our work, we intended to work primarily with domain experts (asylum officers) and asylum seekers, but the negotiating access to relevant documentation proved challenging. Even though we followed the appropriate democratic channels to gain access to what should be public documents, the Danish Foreign Ministry denied our access. We turned to the open dataset to better understand the asylum decision-making process. Despite the politicized nature of this area of work, our topic analysis and deployment of NLP paved the way for a more open dialogue with DIS.

The importance of data work is particularly evident in prior research on how socio-technical infrastructures are the materialization of the categorization practices of, for example, local government [9, 35]. Exploring why people end up being categorized as of "Unknown Homeland", and (more importantly for a CSCW and HCI audience) what data and articulation work is involved in reaching such a decision, we show how asylum seekers and domain experts are put in the position to construct data and data categories. In addition to such empirical contributions, our work also points to how a mixed-methods approach, including text mining, NLP, and qualitative data collection with domain experts can contribute to opening up democratic dialogue in politicized contexts (such as in asylum) where participants are reluctant of disclosing information about their work or practices. Methodologically, we seek to explore how Participatory Design processes can take up AI tools as part of their toolkit of mechanisms for building infrastructures (not as sites of participation themselves but alongside such traditional entities as compilers, servers, network protocols, etc.).

2   RELATED WORK: DEMOCRATIC INQUIRY WITH AND THROUGH DATA

As (open) data play an increasingly important role in shaping the ways that we engage with civic institutions, data work has the capacity to expose hidden meanings in data, and offer opportunities for civic participation and democratic inquiry. As such in this section we engage with literature within HCI and CSCW on data work and categorisation practices [9, 30], as well as civic HCI work exploring the use of technology to open a space of dialogue between civic institutions and citizens [13, 29, 38].

Asylum decision-making case files consist of free-text summaries, structured according to a work practice [7]. It is the result of the data work of asylum caseworkers, similar to other forms of clerical work [2], [22], [30], summarizing

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[1]For more information on the database please visit https://fln.dk/praksis

the reasoning that has led to a decision. The asylum process maintains traces of relevant reasoning across cases as part of developing practice. Recent work discusses the challenges that arise when "Everyone wants to do the model work, not the data work" [32]; thus, we learn from the strong tradition of research into data work about the detailed decisions that workers make actionable as they work with individual predictive variables and individuals case records. This data work is important when it is later turned into "ground truth" in the form of case records. As such, there is a significant gap between data science with an overall interest in modeling and the data workers making the everyday decisions on what information is entered and what is left out of such case records. This gap can be an opening for participation, we argue, following [12] and [4].

The intersection of HCI, CSCW and data science from this perspective is focused on the importance of taking a human centered perspective. What this means in practical terms is that we need to investigate and recast data work as human work [4], rather than as the common meta-narrative of "objectivity" and "inevitability" of models made with allegedly complete, accurate data. A similar line of argumentation [25] calls for the use of relationships to strengthen our ability to describe our phenomena and develop stronger hybrid theories, asking "What if we could enjoy the virtues of both ways of inquiring?" [25]. Along these lines, recent work within HCI and data science have explored ways through which we can bridge the gap between data science and human-centered design.

In application areas and contexts such as ours (i.e. data in asylum decision-making), the use of computationally assisted data analysis methods, such as NLP, offers the potential to open up new forms of dialogue between researchers and civic institutions. For example, in parallel to calls for designing NLP in a participatory way [12], existing NLP tools can be used as part of participatory sense-making processes. As such, already existing NLP algorithms and systems can be used to probe existing datasets and raise questions about the work practice that produced these datasets in the first place. This is arguably particularly important for data workers, including legal caseworkers that are increasingly expected to engage with data entry and processing practices that slowly experience the data transformation of their work, the implications of which remain obscure even to them [22, 23]. As such, AI and NLP tools are brought into the process of design in much the same way as other technical foundations for system creation like programming language implementations, user interface toolkits or software architectures – not themselves direct sites of participatory shaping although elements for critique and revision.

As such, in this paper we report on a mixed-methods approach (including data mining, NLP, and qualitative data collection) that aims to expand our action repertoire for opening up dialogue with domain experts (asylum officers) about their data work. Departing from data and categorisation work, our approach builds on civically engaged HCI and CSCW that explore how digital technology might enable the configuration of information infrastructures in relational ways [13, 29, 38]. This includes research into "data as relation," how data relates to place [37], and the design of alternative data relations [16].

3 CONTEXT: DANISH ASYLUM AND THE RAB DATABASE

Like all UN member states, Denmark is committed to international refugee protection. The country maintains a well-established asylum and reception system, engages in comprehensive integration efforts, and participates in the United Nations (UN) resettlement program since the 1951 Convention as well as the 1954 and 1961 Statelessness Conventions. In practice, this means that people applying for asylum in Denmark must begin by contacting the Danish police, where the first formal registration takes place. After being registered as an asylum seeker, the next step is to determine whether the application will be processed in Denmark or another European country. Since 2003, the Dublin Regulation lays down rules as to which country should process an asylum claim to ensure that only one European country processes the claim

of any asylum seeker. If it is determined that the application will be processed in Denmark, the Danish Immigration Service (DIS) will evaluate the case, taking into account the initial application form, one or more interviews, and other available data. If the DIS rejects a case, it is automatically referred for a second review by the RAB, which is a court-like independent administrative body. The RAB can then either affirm or overturn the decision of the DIS or send the case back to the DIS for re-evaluation [27].

3.1   The Refugees Appeals Board (RAB) Database

The RAB database provides public access to case summaries of a subset of the appeals cases. The dataset consists of asylum decisions by the RAB made between 2004 and 2021. Each case consists of a free text summary, which follows a rough pattern and allows for extracting further attributes from the text. The first sentence contains the decision of the RAB, the year of the decision, and when the applicant entered Denmark. This is followed by an explanation of the case and the asylum motive, which varies in length, depending on the case. The last part lays out the justification for the decision and its legal basis. The entire text is anonymized by substituting names and places with letters or a broad descriptive noun (e.g. "boyfriend", "town") to protect the identity of the applicant.

Summaries comprise on average 5009 characters, ranging between extremes of 1104 and 13105 characters; half of the summaries fall between 3532 and 6057 characters. Summaries are supplemented by quantitative metadata consisting of three attributes: decision year, country of origin, and asylum motive. This metadata allows users of the public database to filter the cases.
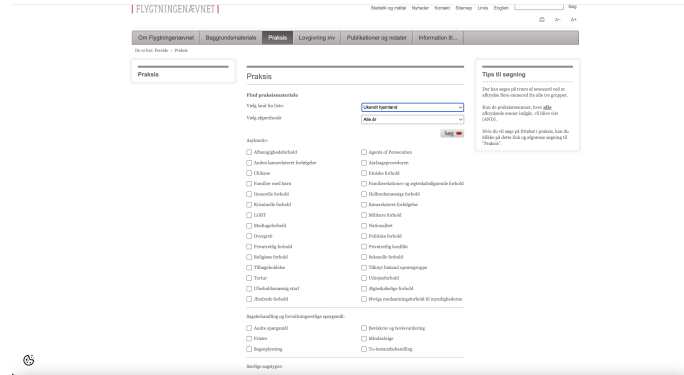
Fig. 1. The database of Danish Refugees Appeals Board website.

The publication of cases follows an *Executive order on rules of procedure of the Refugee Appeals Board* [20], which states that the secretariat of the RAB "regularly updates the board's website https://www.fln.dk with, among other things, summaries of the board's decisions, the board's background material and other relevant information about the work of the Refugee Appeals Board." Not all cases handled by the RAB are published. Publication criteria are not clear and are something to be further investigated, which is beyond the scope of this paper. Further, the database does not contain cases in which asylum is granted by DIS in the first instance.

4   METHODOLOGY

The research team employed a mixed-methods approach, employing both qualitative (ethnographic) and quantitative (computer assisted research). The ethnographic practices of contemporary data studies were used in order to guide the

empirical work for this interdisciplinary research project and paper [5, 6]. Over the course of several field visits to the Sandholm Reception Center, the authors toured the facility and took notes from conversations with asylum officers. In addition to our field notes and past studies in this area [ANON], we used statistical analysis and Natural Language Processing (NLP) as a method to probe the case file summaries in the database (for more details see below). We then presented the results of our analysis (exploratory analysis and topic modeling) to asylum officers from the DIS during three semi-structured interviews on May 2nd 2022 with Caseworker1, on May 18th 2022 with Caseworker2, and on May 20th 2022 with the Head of the Asylum Office1 and their Deputy. On January 26 2023, we conducted a semi-structured follow-up interview at the Sandholm Reception Center with the Head of the Center for Documentation and the Head of Asylum Office2. Finally, we interviewed a Senior Legal Advisor at the RAB on October 14th 2022. For more details on our data collection see Table 1 and the subsection below.

4.1 "Unknown Homeland"

The interface of the RAB database allows users to select the country of origin of the cases they wish to retrieve through a drop-down menu. In addition to a list of countries of potential origin of asylum seekers, the list also includes categories such as "Stateless Palestinians," "Stateless in General," and "Unknown Homeland." We were particularly interested by this last category, particularly in relation to the other two stateless categories – i.e. why is an asylum seeker categorized as being from an unknown homeland as opposed to being stateless? What data work practices lead to people being categorized as such?

In addition to these curiosities in relation to asylum data practices, focusing our research on the category of "unknown homeland" is also methodologically important. Some of the preliminary statistics that we derived from the database indicated that less than 2% of the case files were categorized as such, making the category of "Unknown Homeland" an outlier case within the available asylum dataset. The importance of outliers is well understood in data science and more recently in research about potential unintended consequences and ethics of data-driven and autonomous systems (e.g. see [10, 11] for a recent exploration of using outliers for AI ethics). As such, for us, the "Unknown Homeland" category has the potential to reveal the work involved in "sorting people out" [10] – referring to the socio-technical practices and systems that lead to people being categorized as coming from a particular state, being stateless, or having an unknown homeland.

4.2 Data Extraction, Text Pre-Processing and NLP

In order to extract potentially meaningful information across case summaries, we undertook several steps to prepare the data for analysis[2]:

- Scraping and importing case files from the open and public database of the Danish RAB[3]. The data were scraped by using the Python libraries *Beautifulsoup4* and *Selenium* on the 06th of June 2022. The scraping process produced 9635 total cases.
- Wrangling and manipulating the data using the Python library *Pandas*. A dataset was created consisting of columns which denoted the country of origin, Asylum Motive and the summary of each case.
- Selecting from the resultant dataset the cases which were marked as "Unknown Homeland" (*In Danish* Ukendt hjemland). The resulting dataset consisted of 192 cases.

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[2]All code for data extraction and text pre-processing along with Exploratory Data Analysis and Topic Modeling is hosted in the GitHub repository, https://github.com/ANON.LINK
[3]https://fln.dk/da/Praksis

- Inspecting the dataset for duplicate entries. If summaries were found identical then we assumed that the cases were probably inserted in the database twice and deleted the duplicate ones. The final dataset included of 189 cases.

A box-plot was then created in order to produce a first visualization of the length of summaries for each case file. This way potential outliers or other quantitative aspects of the summaries could be initially detected.

Following rudimentary visualizations, the research team pre-processed the texts and extracted information, and modeled potential topics from the corpus at hand, also applying functions that performed tasks that are commonly used in text mining and NLP applications.[4] Specifically the tasks undertaken were: *Lower-casing* of all characters; *Number removal*; *Punctuation removal*; *Stop-words removal*; *Single letter words removal*; *Tokenization of text*; and *Lemmatization of words*.

After preparing and cleaning the available data, the database was explored in more depth through the extraction of information concerning the following aspects:

- **Decision outcome**. The percentages of decision outcomes that RAB made that either affirmed the decision of the DIS or overturned it. For example,. for the category of "Unknown Homeland" during the period of 2015-2021, 97% denial decisions were affirmed and 3% overturned and returned to DIS (which we qualitatively confirmed from our field visits and interviews)
- **Decision outcome per year**. The year RAB worked and decided on the cases of "Unknown Homeland"and the distribution of outcomes for these years.
- **Country of origin**. The distribution of countries that applicants designated as their homeland (origin). [5]
- **Decision outcomes per country of origin**. The distribution of outcomes regarding each country.

The process of extraction was carried out by using pattern matching techniques for certain keywords. For example, in order to find whether an appeal has been affirmed or overturned, we searched for specific variations of keywords in the summaries which denoted the result of RAB. A similar process was implemented for all other extracted information.

4.3 Topic Modeling

Topic modeling techniques were implemented in order to reveal latent information in the case summaries. Topic modeling is a NLP technique that aims to find groupings of words (terms) in a corpus that allow us to identify documents that appear to concern the same topic revealing, possible common themes. In order to identify a rich set of potential themes, from which the most meaningful ones could then be identified through the participation of asylum officers, three different types of topic modeling techniques were implemented. They were:

- Topic modeling using the algorithm **Latent Dirichlet Allocation** (LDA) which is a probabilistic, generative model which uncovers the topics latent to a data set by assigning weights to words in a corpus, where each topic will assign different probability weights to each word.
- **Non-Negative Matrix Factorization** (NMF) which is a statistical method used in topic modeling in order to reduce the dimensions of the examined corpus.

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[4]For instance numbers were kept for the exploratory analysis of the case summaries while they were dropped for the topic modeling case since they did not add semantic value to that specific procedure.

[5]While the cases were categorized as"Unknown Homeland" by RAB, investigation of the summaries showed that the applicants had in fact reported their country of origin as part of the application process.

- **Latent Semantic Indexing** (LSI) which is an indexing and retrieval method, similar to NMF, that uses a mathematical technique called Singular Value Decomposition (SVD) to identify patterns in the relationships between the terms and concepts contained in an unstructured collection of text.

The topics produced from the above techniques were evaluated through a metric variable called coherence score. Coherence score is a measure of how similar the words assigned to each topic are in terms of semantic value. We decided on the appropriate number of topics using this score. Thus, LDA produced 10 topics with a relatively high score of 0.75. Four topics with a coherence score of 0.74 were produced when implementing NMF. Finally, LSI gave 8 topics with a coherence score of 0.76.

4.3.1 Why Topic Modeling. It is important to highlight that the size of the data corpus that we ended up with (i.e. 192 case files relation to the unknown homeland category) could have been analyzed manually [6]. For example, in previous work [ANON] a smaller corpus of data from the same public dataset was used to undertake a thematic analysis that brought to the surface how gender is being used within asylum decision-making practices. In this case, we decided not to systematically analyze the data qualitatively as i) 192 case files times a few pages per case posed a significant challenge to the research team to go through and code iteratively manually; ii) we did not want to select and qualitatively analyze only a subset of these cases as our motivation from the beginning was to focus our attention on outliers or what we also call "edge cases" (even within the "Unknown Homeland" category); and, more importantly, iii) case summaries were written in a technical language requiring casework and migration expertise that we did not have. As such, topic modeling (and by extension NLP) was used as a way of revealing latent information from patterns that can emerge across these 192 cases, with the aim of using these topics as a way of starting conversations with experts. Even though part of these conversations could have been done without our topic modeling work, the most interesting insights that we draw from in our discussion stem from the presentation of NLP insights with caseworkers and experts. Finally, we believe that in contexts such as Europe, where asylum requests are processed by any EU member country, computer assisted mixed methods (such as developments in NLP) can help us better understand biases and issues that are systemic within asylum decision-making, and as such reveal ways that we can reform our policies and practice.

4.4 Expert Interviews

The topic modeling produced topics that were unintelligible to us from the combination of words only, in that we could not understand how words such as "protest," "husband," etc. can be systematically grouped within similar topics. As such, we used the topics produced as part of our semi-structured interviews with domain experts. We discussed our findings with caseworkers from three different asylum offices and one from the Center for Documentation across the period of 2022-2023: Caseworker1 is an expert on the procedure before it is decided whether an asylum case should be processed in Denmark. The team handles both cases where the applicant is in Denmark and must be transferred to another member country and cases where another EU country wishes to transfer an asylum seeker to Denmark. Caseworker2 is an expert on cases that follows the so-called "Normal Procedure", which is the procedure where most cases are decided. Here, asylum seekers are asked to elaborate on their asylum motives and on statements they made during their first interview (conducted by case officers in the second asylum office) and in their asylum application form. Some examples of tasks handled by the caseworkers are the registration and creation of cases in "Public 360" (the electronic case processing system) and handling of e-mail from DubliNet (the communication system between member countries), handling of the asylum "on-call" (currently 9-16) in Danish "asyl vagten," case processing, including requests

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[6]See also the limitations section

to other EU member states, as well as briefing other countries, and sending deeds of deportation to the Danish Travel Agency after the case has been processed.

Type	Date	Participants	Purpose	Duration
Semi-structured interview	May 2022	Caseworker 1	Mutual sense-making of visualizations and findings from NLP	90'
Semi-structured interview	May 2022	Caseworker 2	Background knowledge on the asylum decision-making process and data	110'
Semi-structured interview	May 2022	Head of asylum office1 and deputy	Mutual sensemaking of visualizations and findings from NLP	40'
Semi-structured interview	Jan 2023	Head of asylum office2 and Head of Center for Documentation	New types of data used for decision-making	87'
Semi-structured interview	Oct 2022	Senior Legal Advisor at RAB	Background knowledge on the asylum decision-making process and data	90'
Field visit	May 2022	Reception Center Sandholm	Background knowledge on the asylum decision-making process and data	30'
Field visit	May 2022	Reception Center Sandholm	Background knowledge on "Unknown Homeland" category and practice	60'
NGO interactions	Ongoing	Danish Refugee Council (DRC) in Greece	Background knowledge on information infrastructures and data	
NGO interactions	Ongoing	Danish Refugee Council (DRC), The Asylum Department in Denmark	Sense-making of initial findings from NLP analysis	
RAB interactions	Ongoing	Former judge	Background knowledge on the database	

Table 1. Data Collection 2022-2023

Searching for connections and patterns in the data, topics pointed towards specific words standing out of the topic modeling analysis, e.g. the words "demonstrations"[7] and "Bidoon"[8]. The data informed us that the denied decision outcomes for "Unknown Homeland" contained specific topics that stood out. We brought our insights from investigating the open dataset from RAB's website into our discussions by asking four semi-structured questions as a guide: 1) How is this database a tool for your work and how are the country categories meaningful to you [as a legal caseworker]? 2) Documentation of "Homeland": What is homeland for your practice and for this database? How is it used for decisions and for the archiving of cases? 3) "Unknown Homeland" 2015-2021 (Cases overturned on appeal 3%, Denied 97%): How do you understand this result? Is this something that you have expected? 4) Assuming the identity [of an applicant] - *in Danish* "lægge identiteten til grund"[9]; When is it relevant? What does it practically mean when it is reported in case files? During the interviews, we also presented (by using a set of slides that we prepared depicting the graphs and topics of the analysis) the results of our case analysis and NLP including the salient terms that NLP brought to the surface and the multiple collections of topics that resulted from the topic analysis. We asked domain experts how they understand these results and topics because they were unintelligible to the researchers. The resulting field notes and interview transcripts formed the basis of the data that we report in our findings section below.

5 REVEALING DATA WORK PRACTICES WITH AND THROUGH DATA

Around the time of spring 2022, our research started to progress at the Sandholm Reception Center. As part of this, we began raising questions about the role of the Refugees Appeals Board (RAB) database, while investigating in parallel if data science tools such as NLP [ANON] could enable us to extend data constructed in the fieldwork into a democratic dialogue. We worked on negotiating access to asylum cases for one year. Taking the open dataset and public database from the outset, we wanted to see if we could open up politicized areas of work to identify outliers, what we refer to as the Bidoon case.

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[7]Terms have been translated to English for this paper. In US English, this might be rendered as "protests".
[8]To be elaborated upon shortly
[9]This was a phrase commonly found in the case files.

Bidoon are people descending from nomadic Bedouin clans who lived on the Arabian Peninsula before the formation of the Kuwaiti nation and who did not apply for citizenship or lacked documentation when the country became independent in 1961. They count children of Kuwaiti mothers and stateless fathers among them. Unregistered Bidoons have no rights in terms of socio-economic benefits and in general, have difficulties in obtaining their rights. "The Kuwaiti authorities have become more restrictive in issuing these documents over the years" [21, p.4]. From the age of five, a Bidoon is entitled to a personal card, a so-called review card, commonly referred to as a "security card". The security card is issued by the Central System and it contains personal info such as date of birth. There are two categories, respectively one with a duration of two years and issued to people that registered in the "1965 census or those who have proof of long-term residence in the country from that year or prior to it." The second card has a duration of one year and it is issued to the remaining groups. That is those who do not "have proof of long-term residency from that year or prior to it" [28, p.26]. Our analysis of the open RAB data set reaffirmed the trend for predominantly negative results on the Bidooner appeals cases.

5.1 The Reception Center

The Sandholm Reception Center is a rather large facility in the countryside north of Copenhagen, Denmark. A field visit on 9 May 2022 allowed us to ask questions about our initial understanding of the data work and workflows around data construction by DIS. We were welcomed by a DIS caseworker, the head of the asylum office in the study, who showed us Office Building no. 100, a central place for the construction of the asylum motive of applicants.

The architecture of the Center Sandholm mirrors the workflows of the asylum process. On the **ground floor**, the initial registration of the applicant takes place, the DIS officer explained. Despite the politicized nature of this area of work, we are welcomed in on this day with an openness that seemed in contrast to the asylum process. She explained "[the applicants] can disclose any country they want" when they submit their application for asylum. The applicants start by watching a video explaining Danish asylum procedures, we were told, as we passed the room with 3-4 screens. They can select the choice of language themselves. Then they have their fingerprints taken in another room across the corridor. The police also check the fingerprints in the database. Passing an empty waiting room where the applicants can sit in between these processes of recording the data for their asylum app.

We learned from the field visit that all applicants, according to the DIS, register a "Homeland" as part of their application for asylum and they may disclose any country they like in the initial registration of data. It is only in the next part of the workflow, which we will hear about in the following, that applicants' information about their "Homeland" is considered in relation to credibility. This part of the data workflow takes place on the **1st floor** of Building 100 where the 1st – and in some cases 2nd – interviews between applicants and caseworkers take place with a translator present.

As it turned out, the openness with which we were met by the DIS was important for this field visit and the NLP analysis. It allowed us to begin a dialogue focused on contesting and correcting our understanding of the category "Unknown Homeland." This confirmed to us that the inherently disordered and unfinished process of applying participatory methods is also a characteristic of NLP. The importance of democratic dialogue in this case is the possibility for asylum officers to engage with us and shape our interpretation of data and its relevance to their daily work. The asylum process is complicated and the workflow is not easily described. Thus, we turned to the interview process and the role of the RAB database, as it was explained to us by DIS caseworker2.

5.2 A Database of Traces of Practice in Asylum Decision-Making

In the workflow where interviews with asylum seekers are used for establishing the credibility of an applicant's asylum motive, including the "Homeland" of the applicant, the RAB database can be a tool for asylum officers to establish what is practice, we learn. Here the RAB database can support caseworkers in ensuring that decisions are registered and aligned both internally within DIS and across the two instances of asylum decision-making (the RAB). However, we also learned that practice is shaped around rejections simply because the cases granted asylum are not searchable in the same way for caseworkers and other stakeholders.

Applying NLP to probe edge cases critically relies on enabling different voices. DIS caseworkers each have their way of explaining the role of the RAB database and it underlined how community involvement as a component of how we take a participatory approach is not only scraping data or seeking more consensus than what is actually the case. Being professionals, legal caseworkers develop their understanding of the legal practice to establish the reasoning behind the decisions they make. In an interview with the caseworker responsible for the "Normal Procedure" applicants, we learned that in this step of the workflow (the interview process) the RAB database is used to establish the ruling in prior cases. It is here in the interviews that applicants are asked to elaborate on their asylum motives and on statements that they made during the 1st interview and in their asylum application form. Caseworker2 explained to us:

> Caseworker2: We use RAB's decisions a lot. So, for example, I have the RAB's report [caseworker2 reaches out for a report lying on the desk which contains the same decision summaries as appear in the RAB online database]. [...] I use it to gain knowledge of where the practice is. What does it take to get a rejection or a permit? Then I review a decision here: They [RAB] upheld one of our decisions - with a female citizen from Syria. These were the circumstances of her case. They [RAB] agreed that it cannot lead to asylum. And if I am then sitting with a female citizen from Syria who seems to have the same... well, some similar conditions, then I know: Well, RAB will reject such a case. Then I cannot grant a permit, because in similar cases, practice has already been presented: That these and these and these conditions cannot lead to [a residence permit].

For the DIS caseworkers to learn how previous similar cases have been decided and with what outcome, one way to do this is through searching for cases in the RAB public database. The example also illustrates that the DIS caseworkers are aware of the complicated and informal practices (what we consider data work), which shape the role of the database around rejections. This is important because this practice where rejections are given priority can turn into a bias in caseworkers' practice. It also confirms the importance of taking a participatory approach when applying NLP to understand how outlier cases emerge in the first place and become part of the socio-technical infrastructure.

> Caseworker2: If there is no practice in this area, then *we cannot* establish a practice. Then we must give a rejection because it *must* be up to the RAB.

> Caseworker2: If there is a new asylum motive [from a person] from a country where we have never dealt with such a case - we have never before granted a permit or a rejection [on the basis of such an asylum motive and from a person from such a country]. [...]All circumstances indicate that the person would be at risk of persecution, [...] it would be problematic if we just grant permission. Because then it will not be registered anywhere. Then it may be that the 4th asylum[office] half a year later is having a similar case and then they do not know what the practice is. Because we cannot look up such a decision, because we do not save our permits.

Caseworker2: [...] the RAB needs to be able to pass on that practice.

5.3   Outliers as an Opening for Democratic Dialogue

We learned from the next step of this analysis that we could indeed probe characteristics of the "Unknown Homeland" category and, as we shall see, it turned out to be important for our dialogue with the DIS caseworkers that followed. As a pilot for the NLP-informed interviews, we tested our visualizations (i.e. Fig. 2 and Fig. 3) with Caseworker1 who informally listened to and offered comments on our probing of the category and slides, which then formed the interview guide. It was obvious to him with the combination of the spike around 2018 and the mention of Kuwait that this could be the "Bidoon case," referring in particular to those who seemed to be "stateless" from Kuwait. The caseworker recognized the category as the Bidoon case when we combined this visualization with pointing to themes in the appeals cases, for example, "protest," "children," and "Bidoon." He recognized this pattern which was present and the same for all these cases, in his experience.

Following the field visit to the Sandholm Reception Center, we were allowed to set up an interview with the head of one asylum office and her deputy to ask questions about the data visualizations generated through NLP and statistical measures. Although the interviews with the caseworker2 (conducted prior to the NLP analysis) did indeed reveal more to us about the role of the RAB database and the associated work practices, the context of the category "Unknown Homeland" remained unclear to us. We returned to the NLP analysis to see if we could probe the "ground truth" as preparation for our next interviews with asylum caseworkers. As a first step, we applied NLP to understand if the appeals cases placed in this category were in fact all denied asylum. Except for a few cases that were returned to the DIS, our analysis confirmed that "Unknown Homeland" cases were largely denied asylum. We remained intrigued by the fact that almost all of these cases were not granted asylum (97%) or were returned to DIS.

Another characteristic that appeared from our application of NLP and statistical analysis was the year of the RAB's decisions in relation to the "Unknown Homeland" category. As it turned out, this information became very important for our dialogue with the asylum officers in the interviews. Analysis revealed that all cases denoted as "Unknown Homeland" spanned from 2015 to 2021 with an interesting spike in 2018. It was an indication of a particular trend pointing towards certain groups of people and events. This led us to formulate the first question for the interviews that would follow on what was the categorization practice, which seemed to be associated with the period of time around 2018. The distribution of decision outcomes per year is shown in Fig. 2. Further, it seemed to be cases of applicants from Kuwait that were categorized as "Unknown Homeland," which at first seemed counter-intuitive since countries normally are their own category in the RAB database.

The opportunity to visit the Sandholm Reception Center prompted another important question for our data analysis. The head of the asylum office explained that everyone says they come from somewhere, irrespective of whether or not they can prove their country of origin. Her response contested our initial understanding that perhaps the applicants of these cases had not disclosed any country or homeland. Her response led us to revisit the corpus of case summaries and tried to extract countries in which the applicants always indicated their country of origin. Although the cases at hand were all denoted as "Unknown Homeland" the analysis confirmed that indeed all summaries included such information. The distribution of these countries is presented in Fig. 3, showing that the vast majority of applicants presented themselves as Kuwait descendants.
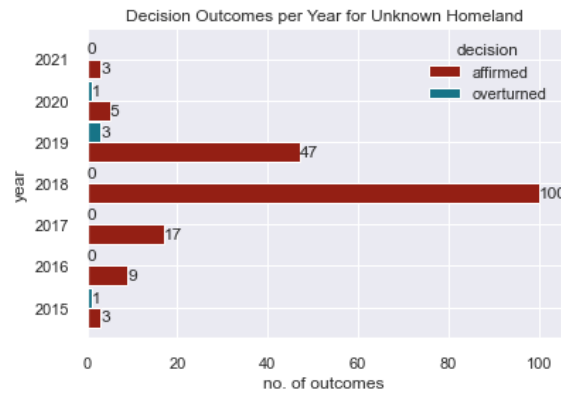
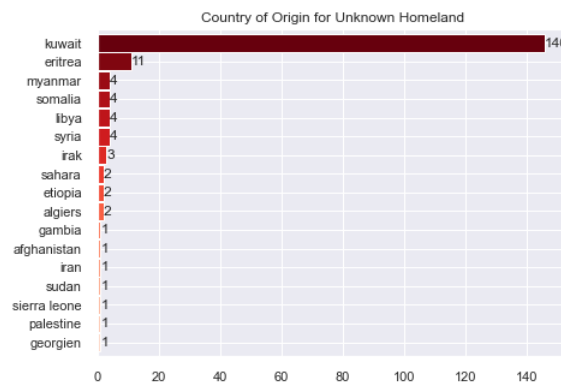Fig. 2. Frequencies of decision outcomes per year for Unknown Homeland cases.

Fig. 3. Countries of origin as designated by the applicants.

5.4 What is Homeland?

We decided to only ask questions to the Bidoon case at the end of our interview with the Head of the Asylum Office and her deputy. The set-up was slightly more formal this time compared with the field visit to the Sandholm Reception Center, since we could only have the interview online. Talking through the visualizations makes the participatory moments of these interviews more obvious. As we described the visualizations (i.e. Fig. 2 and Fig. 3) the deputy, who is also very knowing of the data work and registration practices of DIS, pointed to the complexity of simply agreeing on what "Homeland" is in the first place. She argued:

> Asylum Office Deputy: Well, I can tell you that we don't register homeland, we register the citizenship, so the nationality. So when a person applies for asylum, they start with the police. They apply for asylum at the police and they say, I'm from Sudan. And the police will register, what the applicant will tell the police. If the person has documents, they will register the nationality or citizenship, they will register the nationality as the document states. After the police, you are registered in our system, the Danish Immigration Service system. And we have also the same

registration as the police, but during our examination of the asylum application, we can change that nationality, if some new information comes up. Erm, we have the first interview with the applicant, where we focus on identity. Usually, if they have documents, we don't doubt that they have the nationality as they state they are. If they have no documents, we will ask them some questions about their country, that they say they're from. And if there is nothing that seems wrong or seems strange, we will usually just register the nationality they say they are. And then we will examine the asylum application, where we will assess if they can return to the country they state they are from. However, there can be some issues, if they are not credible. If they cannot tell us anything about their country, they have no documents, they might not even speak the language of the country, they say they are from.

This overall picture, that credibility influences the categorization of cases, when the homeland is considered as "Unknown" is further supported by Fig. 4 showing the results of appeals cases per country of origin. Most of the appeals were declined irrespective of country of origin in cases categorized as "Unknown Homeland". The same picture may not be true for other categories by country. However, for this particular group of cases, that we were increasingly believing to be "Bidoon cases" this variable did not seem to have played a significant role in the final outcome of an appeal.
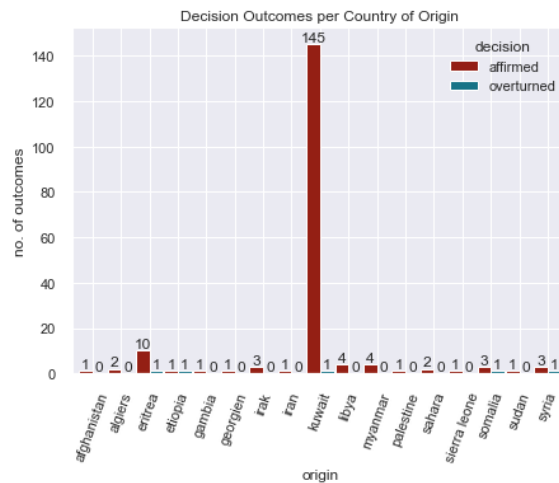

Fig. 4. Decision outcomes per country of origin.

Meanwhile, our caseworkers in the interviews pushed back on this interpretation of the data and questioned if the "Unknown Homeland" category could in fact be reflecting that there was no practice at the time in terms of how such cases could be registered by the RAB. The Head of the Asylum Office argued:

Head of Asylum Office: I know you put a lot of validity into the numbers, but if for example you talk to the RAB, and they said that they had no practice before 2018. Then you cannot use the numbers actually. Because, what says that? So you have to start with, if you want to make a valid point, with how the practice is with registration. Because if one does one thing and one does another thing, then you cannot use the numbers for anything.

Researcher: [..] it seems that they are mostly from Iraq and Kuwait?

> Head of Asylum Office: And I don't know the numbers here. But I can tell you... when was the Kuwait project [asking question to the Deputy]?

> Asylum Office Deputy: Yes, I believe it was in 2017 ... that may be correct

> Head of Asylum Office: So in the years of 2017 - 2018, we had a very large project. About 900 people came [to Denmark] and said that they were stateless from Kuwait. And it was a very very large setup. And it took also some years but in the end, I think almost everybody got the decision, or a lot of them got the decision, that they were not considered as stateless from Kuwait, but they were from Iraq. And also some of them got that we don't know where they are from, but they are not considered as stateless from Kuwait. So how the RAB, registered different aspects of that, I don't know. But it was a very very large group. And not something that we would see normally. Because normally there is not many cases where we don't know where the people are from [..].

> Head of Asylum Office: In the 900 cases there was a lot of children. And they all had the same asylum motive that they were stateless from Kuwait and they had been in the same protest. And I don't think anyone got asylum. I don't know [Deputy] if you remember. But most of them got a rejection and the RAB said that you're not what you say you are. But that was a big, big case load in these years.

So the interviews with the head of the asylum office and their deputy confirmed to us that NLP and statistical analysis could indeed be applied in a participatory setup, which importantly started out with an unexpected field visit to the Sandholm Reception Center. The possibility of this interaction with asylum officers was immensely important for establishing this kind of democratic dialogue around the open dataset and public database, and its limitations. It confirmed to us the point that text is a means rather than an end but also that it is not straightforward to establish access to this kind of politicized work domain. Many times during the interviews the asylum officers pointed to the important and real limitations of this study: that RAB is indeed the one that categorizes cases even if the data work and practices are constructed through both the first and second instance of decision-making. The asylum officers, for good reasons, questioned the data quality underlying the RAB database and registrations.

The classification of "Homeland," then, combines what might otherwise be "point of origin," "citizenship," and "ethnicity" in ways that are convenient for the immigration authorities although necessarily either legible to or in the interests of the asylum-seekers [35]. Such repurposings do not travel well between contexts. The Bidoon case, once we identified it, is indeed searchable in the Danish media around 2017-2018 where DIS proclaimed that this was one of the biggest cases of identity fraud in asylum cases [19]. DIS explained to the media at the time that a special team in DIS investigated the case for months, concluding that a majority of the applicants (more than 300 people) claimed to have family relations. It was also communicated that social media data, data from mobile phones, and data from international collaborators were important for the investigation of the applicants' homeland. This was confirmed to us in the second round of semi-structured interviews in 2023 with asylum officers at DIS.

> Head of Asylum Office2: And we had a lot of Bidoons... you could say the opportunity to check the credibility of people who had dual citizenship, it turned out or we found out exactly where they came from. They were not nomads. They were actually from Kuwait, etc., etc. And it was by targeted use of searches, at the time, on Facebook - in addition to skillful interviewing techniques. [..] There were a few [cases] where the RAB said that they could not rely on it [Facebook data],

> Because you can't... using another term that I like... with the necessary certainty, you can't deny
> that it wasn't the case.

6 DISCUSSION

The relational nature of data in organizational practice – the mutual contextualization of data and organizatioanl needs, the relational definitions of different data elements, etc. – is well known [15]. Here, though, we argue that NLP contributed significantly to making this relationality visible and showing how data were constructed in the case of asylum processing. This character of how data were being constructued and used had remained hidden from asylum officers through years of practice and socio-technical infrastructures that are set up around rejections (appeals cases) as a tool for identifying the rulings of the RAB.

6.1 Data Work and Asylum Data as Relationally Constructed

The curiosity to understand the category of "Unknown Homeland" led to conversations with asylum officers that pointed to the relational ways that data are constructed through the stages of data construction in the first instance of the asylum decision-making process as evidence for establishing asylum motives, decisions from the Danish Immigration Services, and appeals processes from the RAB. Our work, building on related work in this space [ANON] and in HCI and CSCW more generally [36], began to unravel such relationality in data by raising questions about the difference between nationality, citizenship, and homeland; terms that our previous experience in this context and NLP work has revealed as being used interchangeably, but also having a different weight in the decisions being made. More specifically, our findings revealed the ways that asylum data are constructed to shape a practice of rejection of applicants; and the way that categories, such as the category of "country of origin," are created through building on other categories that are also relationally constructed; while raising questions in relation to the value of open data when categories are overlapping and can be used primarily to support asylum officers' practice.

One of the nuances within our data that we believe has significant implications for asylum data work, is how the RAB database was constructed and used by the appeals board primarily to justify rejections.

Although we cannot draw firm conclusions about asylum cases that are *not* categorized this way, the "Unknown Homeland" case reports that we investigated were used as supporting evidence to reject new cases within the appeals process. As we later approached the RAB, it was confirmed to us that the category "Unknown Homeland" is applied when the RAB believes that the country of origin is unidentified, for example, if the applicant is not believed to have given their real identity and/or have no documents to make themselves identifiable within the limits of the process. As such, our findings point to how the existing socio-technical infrastructure (including the social practice of work and the physical and material systems and databases of work) is configured around rejections. Having said that, we acknowledge that our work cannot make claims on whether the technical apparatus in place (e.g. the database and the data 'construction' technologies) or the social practice of work have more influence towards such socio-technical configuration towards asylum rejections due to lack of access to information and resources deemed confidential. Nonetheless, as also identified in seminal HCI and CSCW work in the past [9], our work surfaces how the practice of casework influences the technical systems in place and vice versa.

The categories that applied in asylum decision-making are being constructed through other categories as a result of how the risk of persecution can be claimed by an asylum seeker. From this perspective, the categorization practices of asylum decision-making are complicated. Constructing the asylum motive requires a clear line of argumentation from the DIS in order to establish a practice across cases. Accordingly, DIS reasoning (the first instance of decision-making)

is embedded in the case summaries of RAB (the second instance of decision-making), in the sense that both these decisions are related to the asylum motive. As the Head of the Asylum Office stated "Everyone comes from somewhere." In the case where "Homeland" is part of the asylum claim, the associated categorization practices structured around the applicant's country require an adjustment of practice. The resulting category "Unknown Homeland" however means that the value of data goes lost when categories are overlapping. Instead, categories of the RAB database mainly come to reflect asylum officers practice to deal with this type of outlier cases or what DIS consider as "an unusual case" due to a large number of applicants with a similar asylum motive.

It complicates the matter that it is only after the ruling of the RAB (second instance) that data registrations in DIS (first instance) are changed accordingly if they are changed. The data work practices from this perspective are important to disclose in order to support the core values of democratic society, as well as developing institutional practices that take seriously and recast data work as human work, following arguments of [25]. The asylum domain has a long tradition of tracing the reasoning across cases as part of developing practice. Thus, as researchers, we are well positioned to discuss with the "data workers" (asylum officers) their practices of what information is entered and what is left out, for example, through probing outlier cases like the Bidoon case in this paper.

Further, our work raises broader questions around the value of open data and public databases as a means for democratic access and accountability. The open dataset that we investigated is made public and, one could argue, is representative of a trend where governments of datafied societies pursue this as a strategy for securing democratic values. It speaks to the global call for open data as a democratizing strategy. Superficially, the public dataset does that, as anyone can go to a public website and download case files that describe the reasons why an (anonymized) applicant is rejected for asylum, however, not all cases are published. Also, the criteria for the publication of cases are rather unclear. When we asked whether there is a process for deciding which cases are made public, we did not get a clear answer as the asylum officers did not really know who or how these cases are made available. This raises obvious questions about whether open datasets and public databases are "for the public" in this case and how things can become hidden in plain sight. The public dataset allows for some basic statistics to be calculated, for example, the total number of cases that were categorized as of "Unknown Homeland" within a period of time, or through more advanced analyses like ours, to reveal collection of words that represent topics of interest within the dataset (topic analysis). These insights, however, were unintelligible to us in terms of the combination of words (even though we have been working in such a context for years). It was only after semi-structured discussions with asylum officers, informed by NLP and our topic analysis, that we were able to extract meaning from the dataset and make sense of data practice in the asylum process. This has implications for the ways that open datasets are constructed, as well as the ways interfaces for data export are designed – for example, metadata (data that provides information about other data) and/or para-data (data about the process by which the data were collected and created) [31] would have significantly contributed to the transparency of the asylum process. In sum, echoing [37], we argue that data technologies must be designed to make visible the ecosystem of practices that can lead to their sense making.

6.2 Expanding the Action Repertoire for Democratic Dialogue through NLP

Prior work within HCI and CSCW have pointed to the potential of using data science techniques [25], including natural language processing [12], in participatory ways. For example, Caselli et al. (Ibid) present guiding principles for using NLP in participatory design processes. Similarly, others have explored the unique challenges presented in human centered data science [1, 4], building on issues such as legibility and agency [24]; however, few have demonstrated what such "democratic experiments" with data could look like.

In this regard, in addition to our empirical contributions that we discussed above (i.e. probing outlier cases), in this paper, we contribute a practical case study of using NLP as a tool in a participatory engagement between ourselves (as researchers) and asylum officers, a complicated work domain due to its politicized nature. Our aim is to apply participatory methods to engage and shape (new) democratic institutions and forms of engagement. Acknowledging that design is an inherently unfinished process, while also being reflective about NLP as a means rather than an end [12], we used NLP as a probe, to reveal latent information within the dataset and start a conversation with asylum officers about its potential meaning. As such, the interviews conducted in this project were both to better understand the asylum process in Denmark and as a form of collective sense-making of the NLP and topic analysis findings, relevant across countries and to stakeholders such as NGO's.

In addition to a practical application of NLP within a participatory frame, however, our work further suggests that, as in any participatory design project that involves public institutions and stakeholders, the work and design efforts will be constrained by institutional frames. Our project was constrained by factors such as access to people and resources, the confidentiality of information around the asylum-seeking process, the trust relations that we build with asylum officers, and potentially their jobs being on the line if they expose information or practice that is confidential. Of course, the use of NLP as a means of opening up dialogue also shaped the way the conversations took place between ourselves and asylum officers, for example, by introducing latent understandings that were not "up for discussion" until then. As such, we consider this project a form of "institutioning" ([14][18]) that contributes "towards the creation of new institutions" expands our action repertoire for democratic dialogue through design [14]), adding a new tool to the PD toolbox.

We propose that AI technologies such as NLP can expand the action repertoire for democratic dialogue contributing to digital civics work [13, 29, 38].

6.3 Limitations

A primary limitation on the NLP aspects of our investigation is that there may be unknown biases in the dataset. The appeal case data are summaries and it was beyond the scope of this paper to investigate the informal data practices of the RAB and so we had to rely on the formal (sparse) description on the RAB web page and a single semi-structured interview with an RAB senior advisor. In particular the dataset also contains only a subset of the cases treated by RAB and the selection criteria for these cases are unknown, but almost certainly not random. Given that the set of "Unknown Homeland" cases is relatively small, it is particularly sensitive to selection biases. For example, the fact that nearly all cases concern a similar group of asylum seekers could be a side-effect of other "Unknown Homeland" cases being relatively unique, hard to anonymize and therefore not found to be suited for publication. To counter this limitation we took an explorative approach, applying a wide array of NLP techniques to the data and identifying those that provided (the most) valuable insights through the participation of asylum officers.

7 CONCLUSION

Data-driven decision-making has been a feature of western societies for centuries[34], beginning far before the proliferation of digital data technologies and systems in the public sector; the "stat" in "statistics" means "state", after all. Nonetheless, advances in data technologies and sense-making algorithms have accelerated their use in all aspects of our daily lives. Applying such systems in sensitive contexts such as in asylum decision-making comes with the promise of efficiency. The case of "Unknown Homeland" demonstrates that "efficient categorization" can come with real challenges (even harm) to the people whose life depends on it.

In this paper we have reported on our attempt to raise questions in relation to asylum decision-making practices in Denmark, as an attempt to open up a democratic dialogue with and through data. We have combined qualitative data collection such as interviews, and field visits, with computer-assisted quantitative work such as text mining, statistical analysis, and NLP in order partly to assess their efficacy for such work and particilarly within a PD approach. We found that the insights from the NLP analysis provided important context for our further conversations as a part of the larger project. In relation to HCI and CSCW, this work contributes: i) empirical insights into data work practices of asylum in Denmark, revealing the use of categories rather than a representation of applicants' country of origin, an effective tool to support casework (and as such, building on work that explores the impact of classification and categorization work in HCI and CSCW [8]; and ii) responding to calls for thinking about and practicing "democratic experiments" with digital technology [14]), as a participatory method to facilitate the slow but necessary dialogue between civic institutions (which others have described as "Participatory NLP" [12]). Methodologically, we have sought to engage with ongoing dialogues concerning the role of AI tools within Participatory Design processes. While recognizing concerns with the unpredictability and inscrutability of adaptive AI technologies, we recognize the increasingly central role that these technologies are coming to play in software development in general and want to ask what role they can have alongside other tools that make up the infrastructures on which PD development rests such as compilers, UI toolkits, and networking stacks. Our work presents a case of how NLP, within a process of participatory, qualitative democratic inquiry, can contribute to examining already existing datasets and public databases.

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