‘Thinking Problematically’ as a Resource for AI Design in Politicised Contexts

Anette C. M. Petersen
Department of Business IT, IT University of Copenhagen, Copenhagen, Denmark
anep@itu.dk

Marisa Leavitt Cohn
Department of Business IT, IT University of Copenhagen, Copenhagen, Denmark
mcoh@itu.dk

Thomas T. Hildebrandt
Department of Computer Science, University of Copenhagen, Copenhagen, Denmark
hilde@di.ku.dk

Naja Holten Møller
Department of Computer Science, University of Copenhagen, Copenhagen, Denmark

ABSTRACT
When designing artificial intelligence (AI) in politicised contexts, such as the public sector, optimistic promises of what AI can achieve often shape decisions around which problems AI should address. Different epistemological views carry different understandings of what is considered the problem at hand, and, as we show in this paper, ethnographic perspectives often fail to match the politicised promises of AI. This paper reflects on personal experiences from an interdisciplinary research project that aimed to take a responsible approach to research and design AI for public services in Denmark. Seeking alternatives to the inflexible algorithms [3, 38] often used to automate or augment specific decision-making tasks in these contexts [1, 2, 35], our research project took a flexible approach to research and design and included ethnographic workplace studies to explore whether AI could both leverage the increasing powers of computing and retain the discretion of the user [23]. Following Mesman [33], we present three empirical moments that were particularly challenging for us as ethnographic researchers and influenced our project in important ways regarding the problems for AI to solve. Problematising [6] them, enabled us to surface how ‘readiness’, emerging from the politicised context of AI in Denmark, had confounded our efforts at interdisciplinary collaboration. Problematisation, then, allowed us to come to a new understanding of the problem at hand and open up a space to collaboratively re-imagine the problems for AI to solve. This paper is in the spirit of the charismatic promise: “With AI technology, it becomes possible to automate or augment concrete decision-making tasks served as a bridge between our initial and revised understanding, pointing to the ongoing discussion in HCI about ‘bridging the gap’ between ethnography and design. Our contribution is a discussion of how researchers and designers might engage with problematisation at the frontiers of HCI to develop an open-ended approach to collaborative AI design in politicised contexts.

CCS CONCEPTS
• Human-centered computing → Human computer interaction (HCI); Empirical studies in HCI; Human computer interaction (HCI); HCI design and evaluation methods; Human computer interaction (HCI); HCI theory, concepts and models.

KEYWORDS
Problematisation, Interdisciplinary research, Ethnography, AI design, Politics, Public services, Public digitisation

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1 INTRODUCTION
AI solutions are increasingly applied in politicised contexts1, such as the public sector, where bureaucratic ideals like increased ‘efficiency’ and legal ‘compliance’ become strategically allied with AI’s promised capabilities to improve public service delivery [3, 38, 40] by automating or augmenting concrete decision-making tasks [1, 2, 35]. Examples of this include ‘Asta’, a so-called AI ‘assistant’ that was recently introduced in Danish job placement services with the charismatic promise: “With AI technology, it becomes possible to deliver a better match than the caseworkers will be able to” [50]. Although solutions like Asta have brought scandals [32], the Danish government continues to invest in them [13]. Concern has been growing regarding human-centred design issues, such as fairness, accountability, and transparency2, and some in the HCI community have asked, “Who should stop unethical AI?” [25]. In social work [19], cases are characterised by high complexity and uncertainty, and the outcome of decisions can have a significant impact on people’s lives [42]. The implementation of AI systems weaves efficiency into the fabric of social work organisational practices [49]. Yet, as the ‘Asta’ example shows, excitement around large data sets continues to drive public sector AI design [53]. In Ames’ [4] definition, promises of such ‘charismatic’ technology can

1 Here we adopt a broad understanding of politics, defined by Bacchi [6] as: ‘the complex strategic relationships that shape lives’.

2 https://facetchallenge.org/
outstrip its actual capabilities, such that whatever their limitations, they perform an alternate reality, like enabling supposedly better decisions with more data [22].

AI solutions in politicised contexts often precede finding open problems, such that by the time ethnographic studies are conducted (if they are), formulations may have already been settled, including assumptions about caseworkers’ roles in data-driven public services. The phrase ‘readiness’ has become widely used in public sector policy in Denmark to describe the preparedness of organisations to adopt, use, and benefit from new technologies, such as AI. The government has committed to a policy of ‘digital by default,’ and ‘digital readiness’ is considered a precursor to success. In 2018, it became mandatory to assess the possibility of making new laws ‘digital-ready’ so that when laws change or are newly introduced, relevant casework can be digitalised with ease [2, 34]. Since digitised laws require ‘objective’ criteria (that can be computerised and work equally across all cases), phrases that minimise the use of discretion (i.e. that allow for individual considerations to be taken into account) must be used by lawmakers. In our case, the idea of ‘readiness’ also stemmed from the agency funding our research project. As part of our project deliverables, the agency asked us to assess and measure the level of adaptation of technological integration according to ‘societal readiness levels’ and ‘technological readiness levels’ evaluated across our research settings [26, 27].

Despite growing concern with the politics of AI, less attention has been given to how ethnography can intervene in AI design by accepting, challenging, or diversifying the problems that AI is tasked to solve [33, 39, 44], which is the focus of this paper. This paper reflects on ethnographic moments from our interdisciplinary research project ‘EcoKnow,’ aiming to take a responsible approach to research into AI. We wanted to explore whether AI could support an open-ended approach to public services in Denmark, avoiding the inflexibility that has been characteristic of this area. The lack of early openness to problem definition, characteristic of current AI projects in this area, also means that caseworkers - who directly interact with both the systems and the citizens - are often left out of fundamental design decisions [47]. In taking an alternative approach, we (the authors of this paper) ask amongst each other: in what circumstances is AI seen as a solution and by whom, what problems does it solve, and who defines the problems that need solving, and on what grounds?

In this paper, we offer problematisation, the notion of ‘thinking problematically’ [6], as an analytical resource to make visible the implicit views around the design space of AI systems that underlie, for example, the politicised context in Denmark, and impacted our project in important ways. We do this by reflecting with each other on the personal experiences gained from our own research into AI design (2017-2020) in this context. The project we report on, ‘EcoKnow,’ is a large interdisciplinary research project. As opposed to Asta and other available AI solutions focusing on risk prediction and citizen profiling, EcoKnow did not begin with a defined problem for which AI was seen as a ‘charismatic’ solution. Instead, EcoKnow wanted to explore if AI (as a rule-based expert system and through process mining) could 1) allow the municipalities to digitise rules and provide a better overview of the available paths through casework (while still being legally compliant) and 2) support an overall aim of increasing the perceived quality of case management processes, from the perspective of both caseworkers and citizens, who were involved as co-designers in the project. These foci were to be empirically investigated across a large team of interdisciplinary researchers and industry partners as a starting point for design.

2 WHY PROBLEMATISING?

A long stream of research in HCI and related fields on ethnographically informed design, involves exploring how to relate the two disciplines [11, 14, 17, 48, 54]. Early studies point to clear disciplinary differences and their effects on collaboration, approaches to generalisability and abstraction [10, 21], and challenges in translational insights into action [18, 43]. However, though often narrowly represented in published work, ethnography can serve many purposes [45], including offering recommendations on what not to design [8]. Key to this debate is Dourish’s seminal paper on ‘implications for design,’ in which he calls for broader engagement with ethnography as a critical interpretive frame for the entire site of HCI and not merely as a method for extracting user requirements. Approaches have been explored to position ethnography as deeply integrated into the design process [10, 28] or as the analytical lens to understand design in use [51]. As noted by Randall et al. in ‘fieldwork for design’, alternative ways of thinking might in themselves be important to design [46] because they would draw attention to areas others might not have thought of [17]. Recent approaches emphasise cooperation between ethnographers and designers and greater participation of the intended users of the designed technologies, drawing inspiration from the principles of Participatory Design methods [11, 52]. It is often the ethnographer’s role to work out the best arrangements across settings (whatever that might be) [37] and act as ‘mediator’ to form a ‘bridge’ between the social (workplace) and technical (design).

From an HCI design perspective, early engagement is motivated by the aim to posit tensions and misunderstandings as opportunities for 1) clarification [28], and 2) mutual learning across epistemological divides [10] that can be incorporated into problem formulations [7]. Previous HCI research aiming to ‘bridge the gap’ between ethnography and design suggests the need for better integration and cooperation through early and direct involvement. If working relationships are strong, the technological solution will be grounded in shared meanings, and stakeholders will have a voice in the process. With the right methods, we can discover the problems we want to solve, and these problems will originate solutions. However, concerns have been raised over the relevance of current learnings on working relationships for future design problems [45]. As technologies evolve, ethnography is being interwoven with design in more complex and varied ways, raising new questions about the relationship between ethnography and design [10]. Recent findings from Neff’s seminal paper show that emergent technologies, in this case, data-driven AI, are shifting ethnographers’ role toward more active engagement in design. With this new landscape comes new challenges and new opportunities. It changes the problems to be solved and the perceived role of technologies in solving them. As researchers increasingly work together in broader consortia, including academic and commercial practitioners, it becomes more apparent that multiple epistemologies exist, which entail different understandings of the problems at hand [36]. Reflexivity is at the
core of ethnographic inquiry, and research shows that more reflections are needed on the integration of ethnographic methods into the design of AI-type systems [45] and how problem formulation proceeds certain interests or integrates the interest of various stakeholders [39, 44]. Although these experiences are crucial for shaping research and addressing and negotiating challenges during fieldwork, they rarely find their way into research outputs [24, 29].

This paper is in the spirit of moving towards insights that can create a space for genuine AI collaboration in a politicised context at the frontiers of HCI, taking a modest step towards addressing some of these concerns. Aiming to avoid a gap between ethnography and design with an early focus on collaboration and integration, we found encounters in the collaborative work that challenged our understanding of our role as ethnographers. Findings from our ethnographic studies served as inputs on problem formulation in EcoKnow. We found that the empirical material often failed to match the charisma of AI’s hype and hope found outside the project. Even as we made an effort to distance the ‘EcoKnow’ research agenda from dominant ideals and uses of AI, such as for profiling individuals [38], challenging encounters arose within the interdisciplinary work, which we will present in the analysis. Mesman suggests that reflecting on such moments can draw our attention to the tensions that arise in collaborative work [33]. We discovered in our project that, despite our attempts to intervene, our problem formulations continued to be imposed with the charismatic promises of AI, in the sense described by Ames [4], where promises had a life of their own. ‘Asta’, which was mentioned in the introduction as an example of a charismatic promise of AI to make ‘better’ decisions than case-workers, serves in our case as an example of the context in which our research was continuously placed. We show in our empirical moments how charismatic claims that AI produces ‘better’ or more ‘objective’ decisions challenged the ethnographic insights on our project. We show how, between some of the stakeholders on the project, the charismatic promises became an epistemological perspective, that tended to confound empirical and design distinctions, such as between ‘readiness’ and ‘AI’, or what is meant by ‘compliance’ and ‘discretion’ in a public service context. By thinking of these moments ‘problematically’ across the duration of EcoKnow, we found that the problems belong to the politicised context within which our particular research project takes place.

2.1 Thinking problematically from the inside-out

HCI research on algorithmic fairness finds that critical issues of technological implementation are rooted in the work of problem formulation [39]. In contrast to identifying problems through shared meanings, ‘problematisation’ focuses on the emergent dynamic relationship between problems and solutions. Anderson [5] describe problematisation as: ‘An iterative process whereby obstacles are translated into problems to which emergent solutions respond (rather than the representation of a pre-existent object or creation of an object that did not exist)’ [citing Foucault 1997b].’ Building on the Foucauldian-inspired notion of ‘thinking problematically’, Bacchi [6] describes this process as one that seeks to question how and why certain ‘things’ become a ‘problem’. It involves analysing how something has come to be as such. Thinking ‘problematically’ thus helps to identify specific ways in which problems and issues are dealt with by those involved. By locating ‘problematising moments’, in which a shift in social reality takes place, we can see that what appears self-evident is, in fact, the result of ‘politics’ [31]. Seeing these politics opens up the possibility to ask how it could be otherwise.

Problematisation is a resource not only to critique current practice but also to intervene in it and contribute to renewed understandings of what the problem is and how it may be solved.

In this paper, we use the notion of ‘thinking problematically’ [6] to understand the complexity of AI design in public services. Unlike Bacchi [6] and others [53] who study problematisation from the outside-in by engaging with predefined problems in practice, we arrive at our problematisations from the inside-out. That is, we use the concept of problematisation as a resource to retrospectively navigate through three moments that were particularly challenging for us as ethnographic researchers and which required careful de-tangling during the project, together with the Principal Investigator of the EcoKnow project. We initially parsed these moments together to support each other in navigating interdisciplinary challenges.

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3 METHODS

This paper builds on ethnographic fieldwork conducted between 2017 and 2020 across multiple settings, as described below. We participated in the EcoKnow project to different degrees and with different roles. Author one, two, and four took an ethnographic approach to the multiple field sites of the study. Some focused more on the methods and shaping of the project and others on the municipal setting, including social services (a family department handling child welfare cases) and unemployment services (a job centre handling welfare benefits and job placements). Author three is the Principal Investigator, overseeing the project and the municipalities for whom the project is intended. During the project’s lifetime, we (author one and four) performed several hours of observations and conducted multiple interviews with caseworkers and other project stakeholders. We ran participatory design workshops with citizens and caseworkers and attended internal meetings with both municipalities and our project collaborators. We published and presented our insights on an ongoing basis, along with making design recommendations and evaluating the technological developments with caseworkers towards the end of the project. In total, we performed more than 100 hours of observations and close to 50 interviews across both municipalities. We also collected and analysed multiple documents describing the policies and practices of both municipalities. For this paper, we (all authors) drew on our first-hand experiences from three years in the field (internally and externally). We used data from field notes, documents and emails to write about three individual moments in the form of vignettes. As part of an iterative process, we shared our vignettes with each other and contextualised our experiences to further develop the
final vignettes for analysis. Lastly, we used Bacchi’s [6] notion of problematisation to analyse our three moments. It is worth mentioning that research activities in this area bring practical challenges, such as issues of power dynamics between managers and caseworkers and designers and users. We are also aware of the impact of our research on caseworkers’ future work practices and the lives of citizens (grounded, in many ways, in the questions we choose to ask and the places we choose to look). We can easily find ourselves in some kind of jeopardy, with all groups involved being sensitive to the implications of our work [9], albeit in different ways. For example, managers and caseworkers might not have the same views about what are the best practices for helping citizens as part of cases [12] – which further adds to the complexity of navigating AI research and design and in these contexts. Last but not least, we want to emphasise that the reflections presented in this paper are based on personal experiences.

4 ANALYSIS: PROBLEMATISING POLITICS IN AI DESIGN

In three different but related moments, we use ‘problematisation’ [6] to show how 1) the work practices of caseworkers turned out to be problematic during our encounters with industry and municipal partners, as it does not align with the promises of ‘charismatic’ promises of AI, 2) how reliance on legal processes challenged the inclusion of caseworkers’ perspectives in the design process, and 3) how the charismatic promises of AI became visible through the multiple forms of ‘readiness’ defined outside the project, which came to work against the ethnographic approach of recognising a breadth of factors that influence work beyond rules and standards. We conclude with a discussion on how we, as ethnographic researchers, can prepare for a new role in AI studies, taking responsibility as part of the design teams we work with.

4.1 Caseworker discretion vis-a-vis compliance

Four months into our fieldwork, we are asked by the job centre management to provide a report stating the initial findings of our ethnographic fieldwork in unemployment cases. We see this as a great opportunity to make the field available to key decision-makers. Upon circulating the report, we are invited by the job centre management to present our observations. The presentation includes ‘thick’ descriptions of casework practice, such as the discretionary judgements used by caseworkers when interpreting the law for specific purposes and workarounds in the systems to overcome barriers in their workflow. The management (to the surprise of the research team) reacts poorly to the presentation. They ask the presenter (one of the authors of this paper), if her observations suggested a lack of compliance or the caseworkers’ part. Some caseworkers, the report suggested, were not using the systems in the way they were intended. The management also asks her to account for the generalisability and thus the validity of her findings. They express a need to know: “Does this mean all of our caseworkers have to attend a training course [in how to use the caseworker system]?” They ask who were the caseworkers and what were their names?

We, the ethnographic researchers on the project, had not predicted the kind of legitimacy trouble that would arise from the ethnographic insights shared during the meeting. Before the meeting took place, we had considered the sharing of insights a minor point in the relative long agenda of doing fieldwork. The above experiences kept us wondering what went wrong and what we might learn moving forward. We retrospectively saw how it was not necessarily just the observations shared by the ethnographers that caused tensions and conflicts. Instead, it could be the misalignment in the setting of the meeting. We are told that our report will contribute to a baseline study from which one of the project’s industrial partners, a consultancy firm, will build metrics to establish the level of the job centre maturity to digitise processes (which relates to the level of ‘societal readiness’ as laid out by the funding agency). However, despite our efforts to detach ourselves from studying ‘readiness’, our ethnographic insights became coupled with the third-party metrics to establish such metrics loosely coupled to ‘societal readiness’. Whether the job centre management may have believed that the metrics had to take outset in an empirical understanding of caseworkers’ practices remains an open question. Our role in the project was to have this empirical understanding, and we were therefore seen as the only ones positioned to deliver it. The problem was that our insights were recorded by us for one purpose but as they were shared in the meeting, they were believed to be used for different purposes. In this meeting, we experienced being engaged based on someone else’s agenda (metrics on societal readiness) while simultaneously fighting to protect our own (the caseworkers’ perspective of their work practices).

Time passed before we received a report from the consultancy firm, including the later developed measurements of ‘societal readiness’ for both municipalities. The report stated how these measurements were to be evaluated against: “the organisation’s maturity to digitalise processes and benefit from EcoKnow technology and methods”. It seemed apparent at this time that ‘readiness’ had become a measure that our ethnographic insights risked to be upheld against. Knowing this, we were able to reflect on the meeting differently. If the job centre was to evaluate their involvement in the EcoKnow project against their own organisation’s maturity, or ‘readiness’, to digitise processes, their frustration with our observations and their interpretation of our findings made new sense. The municipality might simply have perceived it as reflecting a low ‘readiness’ that must be ‘increased’ by having caseworkers attend training courses. Still, the competing ideas (between us, the job centre management, and the consultancy firm) of casework practice, its problems, and solutions ran the risk of causing conflict with the management, potentially jeopardising our collaboration and the usefulness of ethnography in the design process. Similar to the experiences of Mesman [33], the shifting positions also made us feel uneasy. On the one hand, we needed to attend to the interest of the job centre management to make a purposeful contribution. On the other hand, we wanted to stay loyal to the caseworkers we had established a trusting relationship with and whose interest we were determined to represent in our ethnographic work.

By thinking about our experiences problematically, we identified epistemological conflicts that became visible through the ‘link’ created between discretion and non-compliance in casework. In these contexts, AI often represents an attempt to base caseworker decisions on ‘objective’ standards rather than ‘subjective opinion’ [22, 42], and in many ways, AI systems are represented as discretion’s ‘other’. As we will show next, this distinction can lead to
significant consequences later on in the design process, where influences on casework practice (such as caseworker discretion) may be rendered invisible through an emphasis on ‘order’.

4.2 Process description and regulation

Halfway through the fieldwork with the other municipality’s social services, the field researcher (an author of this paper) enters a smaller co-design project as a participant-observer. The project is organised by the municipality and seeks to merge traditional tools and methods3 for designing as-is and to-be processes with EcoKnow’s approach to mapping rules and scenarios. The process is based on §42 in the Danish Act on Social Services and concerns the decision of whether to financially compensate parents for ‘loss of earnings’ when caring at home for their child with impaired physical or mental function. The co-design project is initiated to optimise the process for ‘loss of earnings’ cases, the first of many to follow in an internal development project. The initial idea is that the process leading to a decision includes steps beyond the law and that these can be ‘mapped’ from workshops with citizens and caseworkers who have been part of these cases. At a workshop with caseworkers, although providing crucial inputs to ways of optimising the existing process, we also realise a critical issue. To the caseworkers, while they recognise the past experiences of citizens that were brought forward in previous workshops with citizens and caseworkers who have been part of these cases. At a workshop with caseworkers, although providing crucial inputs to ways of optimising the existing process, we also realise a critical issue. To the caseworkers, while they recognise the past experiences of citizens that were brought forward in previous workshops with citizens and caseworkers who have been part of these cases, there is a world of difference between describing a process in the past and applying it to any future scenario. For the same reason, it is difficult for the caseworkers to optimise the process of ‘loss of earnings’. That is when one of the caseworkers turns to the field researcher and says that it does not make sense for her to describe this process or know in what way optimisation of process outcomes is helpful because, to them, the process does not exist. It is only really categorised as a process based on its outcome, and once you begin a case, you never know what the outcome will be.

From the workshop with the caseworkers, we learned that when parents apply for ‘loss of earnings’, the caseworkers do not think in processual terms (the order of tasks) as much as they think about relations (between themselves and citizens and between the child and their close relatives). We learned that when a caseworker receives an application for ‘loss of earnings’, it may never lead to the legal process of ‘loss of earnings’ and result in a formal decision about financial compensation to the parents. Instead, it might help them recognise a need for support that is differently placed and embedded in a relational network. These learnings also led to a change in communication by the municipal design team, who went from previously describing the co-design process as leading to ‘optimal’ processes - to turning their focus back to the starting point of what might happen in a case that begins with a caseworker receiving an application for ‘loss of earnings’. At this point, the design team realised the challenges entailed in studying ‘loss of earnings’ as a process based on its outcome – and the awareness of having done so. The citizens and caseworkers had been involved based on their experiences of historical cases, and, as the workshop made clear, there was a different kind of thinking involved when starting a new case. Until now, the design activities had been moving backwards, whereas the caseworkers’ are working forwards. These


findings raised several questions for design, such as: How do we design a process to be executed by caseworkers if the caseworkers believe that the process does not exist?

Before the workshop mentioned above, we (the field researchers) had published and presented our ethnographic insights on casework [42] pointing to a contingent and relational nature of casework in the municipality where the co-design project took place. Key to our findings was that casework is always informed by the individual case and situation at hand. Rules are often broad and vaguely defined, requiring interpretation and demanding judgments by the social workers. While defining what the social workers must do, they do not explain how to go about it in practical terms. The criteria for decisions, the weight they should be given, and how they should be interpreted are all left in the hands of the caseworkers. Caseworkers need discretion in their work which, as previously mentioned, conflicts with the political idea of digital-ready law, as it requires objective criteria to be used equally across all cases [42]. The nature of discretion emerges for us ethnographic researchers as quite different from what emerges from a legal or political perspective, where it is often seen as something that can be restricted and controlled through law enforcement [20].

Taking the politicised context into account, this further challenges the opportunity for alternative views to enter the design process in concrete settings since the law quickly can become the basis of comparison for the caseworkers’ practices and the perspective from which a ‘process’ is defined. By thinking problematically about our experiences in this context, it becomes clearer how political interests are at play in the design of AI systems and how they come to challenge – and be challenged by - concrete design efforts.

4.3 ‘Readiness’ as a driver for AI design

As we near the end of the EcoKnow project, we are asked by the press how our AI systems perform and when they will be ready to be released for testing. Despite our attempts to promote an open space for AI design, we continue to see an interest in the ‘charismatic’ AI approach often taken by commercial solutions. However, since the project’s beginning in 2017, we also note an increasing line of critical questioning of using AI systems for decision-making in public services, both academic and public arenas. The EcoKnow project worked around some of the risks, mainly through using rule-based AI, which is not subject to some of the apparent risks of AI systems, such as the machine learning algorithms used to profile and predict people’s future. During our research, we consistently developed the idea that, in our case, AI should be researched and designed differently. Our ongoing ethnographic research (from 2017-2020) showed important nuances in the relationship between discretion and public digitisation, among others, the irregularities of data recorded in and through the caseworkers’ daily practices and things “they would never write down” [41] as part of their documentation of a case. Co-design workshops in both municipalities also made visible the values of caseworkers, such as their interest in using AI for optimising internal waiting times as part of cases – shifting the focus from the individual citizens to the municipal organisation as a whole [36]. The question for our research project was manifested as how we can further develop and think along the lines of AI, which is not immediately problematic in terms of the biases inherent to all data.
‘Readiness’, it starts to be clear, is an epistemological object in which engagements and collaborations are confounded in a project on AI design for public services. This became particularly evident in how it continued to be necessary to work through and clarify our different epistemologies, which were reflected in how we considered ‘readiness’, ‘compliance’, ‘legality’ and other concepts that come to shape research and design in the politicised context of AI for public services. In our case, one notion of ‘readiness’ stemmed directly from the funding agency who provided schemes for applicants to analyse ‘societal readiness levels’ and ‘technological readiness levels’ as part of project deliverables [26, 27], and as a way of assessing and measuring the level of adaptation of technological integration. In this paper, we aimed to show how ‘readiness’, to us, is not merely an object of study but a temporal relation that shapes the possible epistemic positions for ethnographic inquiry. ‘Readiness’, with its rationalistic evidentiary regime [30] seems to further reify the upstream-to-downstream temporal flow of design by requiring baselines and comparisons to determine success and orients knowledge production towards readiness of the technology for society. In the political context, the society is expected to be ready for the technology, and data and digitalisation are narrated as necessary to secure welfare. Like the experiences of Mesman [33], our experiences taught us to leave behind the idea that the world we enter possesses a stable order. It became clear that, despite these assumptions sometimes being built into ethnographically informed and human-centred design research [7, 10, 28], early engagement and collaboration alone would not help us find a way out of our problem.

We learned how different epistemologies carry different understandings of what is considered the problem that AI can solve. We also learned that if we had taken this debate in isolation, we might not have arrived at those same empirical insights (in fact, the reflections in this paper required substantial collaborative work across the authors as we started to make sense of our personal experiences). Instead, we might have simply considered these bumps on the road for messy interdisciplinary collaboration, which is understandably rife with misunderstandings. We also realised that we might only catch a problematisation after multiple people experience similar moments on a project over time.

By reflecting on the moments put forward in the analysis, we could see three ethnographers’ experiences, but not the experiences of others or the EcoKnow project as a whole. It is to be expected in a large-scale interdisciplinary design project that there can be an epistemological gap between what ethnographers understand to be their object of study and the needs of those collaborating partners requesting technological solutions. As Khovanskaya et al. [28] point out, the dominant discourse assumes that field research is in service of design. Christin [15] argues that we can explicitly enrol algorithms in ethnographic research, which can shed light on unexpected aspects of algorithmic systems, such as their opacity. Against this backdrop, the authors call for approaches to AI studies that - in situ - set out to epistemologically entangle ethnographic work and design to avoid creating an unbreachable epistemological gap and leave space for alternative understandings of the problem at hand for AI to solve (if any). However, the concept of readiness was persistent across these moments precisely because it created such a gap, which raises the question: on what premises does the notion of ‘readiness’ emerge in the project, and what is it a solution to?

5 CLOSING REMARKS: HUMAN-READY AI OR AI-READY HUMANS?

Throughout this paper, we use problematisation as a resource and theoretical lens to analyse ethnographic moments that we came together to re-discover as part of our involvement in an interdisciplinary AI design project. As Mesman [33] points out, roles, research, and power structures on a project can be quite fluid. These ethnographic moments, rather than being representative of a great epistemological divide between ethnographers and computer scientists or designers and industry and municipal partners on the project, were mere moments of debate or tension that were initially set aside. By sharing these experiences and considering them retrospectively, we saw with surprise that we carried certain epistemological viewpoints about AI into the project despite rejecting them in the project’s initial problem formulation. Through our analysis, we discover the role that readiness plays as a broader problematisation within the political context of digitalisation in Denmark.

The writing of this paper raised new questions about the opportunities and constraints linked to collaborative AI research in politicised contexts. While we were trying to move between positions and sought ways for caseworkers and citizens to have their voices heard, we realised that we were missing a broader problem. We learned that we should not aim to ground design in ‘shared meanings’ but to acknowledge that we are not in complete control. Mesman [33] noted that we allow our observations to be disturbed in analytically productive ways through an ambition of not being in full control. Furthermore, as our analysis shows, this is the case for all actors in the field. Problematisation helped us understand how a lack of control of the design process originated outside casework practice and outside the EcoKnow project – caused by political forces.

By thinking problematically [6], we were able to see how AI quickly became a solution to a political problem. We found that the problem is not casework practice or caseworkers’ use of discretion as they carry out their activities. Instead, the problem is that casework is constrained by political ideals of increasing efficiency and legality, and in this context, AI often become the tool to deliver on these promises. As such, our ethnographic research was positioned in an interplay between the research project and the political context it entered. In the context of AI design for public services, the EcoKnow project, with all its participants, is given the mediator’s role to weave ideals of readiness (for example, digital readiness and societal readiness) in its activities, regardless of epistemological views. By focusing on relatively static factors, digital-ready legislation ignores case-specific factors and what it means to describe practice. ‘Readiness’ is also crucial for understanding what is said and what is done about AI. From national strategies to requirements from funding institutions, we see AI imposed through the lens of ‘readiness’. The specific reason for introducing AI in casework are institutionalising AI as the natural extension of reasonable and legally just public services.
Our findings also affirm what Ames [4] has found; that the promises of AI, framed outside the project, continued to have effects well into the life of the project. This is perhaps notably how these promises shape the translation between methods (from ethnography to design) and what forms of epistemological contributions are considered appropriate. Therefore, our analysis is also an example of the difference it makes of who gets a say in AI design and how we, as ethnographers, must remain attentive to the power relations between different knowledges. Our role as ethnographers is not merely about grounding design in an understanding of casework practice; it is also a matter of how we navigate a highly politicised context. In line with Ames [4], we find that the ideological framework in which we operate is what allows us to evaluate the purposes they serve—and only by way of this ‘cognisance’ can we shift them. While this is often considered the ethnographers’ responsibility, it is also an invitation to designers to identify their ideological commitments. Using problematisation to understand the different epistemologies involved in AI design also helps us understand their effects and, through this understanding, counter them. By allowing the design space to stay open, we leave room open to thinking about alternatives. However, in our case, we needed to think problematically to understand what those alternatives might be. As such, we hope that our empirical moments and reflective practice can become an inspiration for future design projects. If we do not problematise the politics inherent in the technological solutions we build, we may prevent them from having their full effect in practice.

Counting our gains (and some losses), EcoKnow enabled an alternative to the dominant ideals of AI as mainly useful for profiling individual citizens. The project reframed from designing a ‘human-like’ AI component, which we find confusing in a context where it is more important than ever to recognise human agency and accountability. Instead, EcoKnow documented the nature of discretion and interpretation of the law in casework - and designed and developed a system applying rule-based AI, allowing municipalities themselves to mine processes and digitise the law and other rules while leaving room for discretion and interpretation of the law by caseworkers. Hereto comes initial methods for engaging with caseworkers to identify problems to be solved with technology and the tracing of data from case management systems to activities practice. Choosing this alternative trajectory of an AI project needed to be continuously explained and justified to external observers. Still, our ways of approaching AI design in the EcoKnow project did not meet one of the municipalities’ goals, and they eventually decided to switch to the tools offered by the company behind Asta (for reasons that remain to be elucidated).

As made clear from our analysis, ethnographically informed design is not straightforward. However, it helps avoid leaving out essential aspects of work in initiatives to support it, as it resonates with actual circumstances and not some ‘idealised’ version of events [16]. Ames [4] noted that one way to fight charisma is to deflate or be ‘anti-charismatic’. With this paper, we call on AI researchers and designers to enable problematisation as a strategy for concretising alternatives to the dominant ideals, such as those we found in our project. We learned from our analysis and ongoing work on this paper that we need to be ready to have these discussions across epistemologies. Thus, problematisation is not just a valuable resource for ethnographers to navigate the design process – it is also a meaningful process for everyone involved in the design of technologies.

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