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ATTEMPTING TO RESIST ONTOLOGICAL OCCUPATION WHEN DESIGNING FOR SCALE IN HEALTHCARE

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ABSTRACT

Scholars have recently called out how design is complicit in ontological occupation, where one reality makes other realities non-existent. The perpetuation of ontological occupation is a particular risk when designing for scale in healthcare, as Western healthcare is a recognized carrier of modern universalist practices that threaten local ways of caring. In this research, we draw from science and technology studies and anthropology to inform a research through design study positioned within a collective effort to scale-up decentralized care models in Norway. We analyse five attempts at resisting ontological occupation through design and, by doing so, contribute with lessons for design practice on the practical implications of ontological politics.

INTRODUCTION

There is a growing concern about the ways in which design perpetuates ontological occupation (Escobar, 2018; Ansari, forthcoming). Ontological occupation occurs when one reality makes non-existent or erases other local, relational realities (Escobar, 2016). When designing for scale, there is a significant risk of perpetuating a 'one-world world' (Law, 2015), "a world that has granted itself the right to assimilate all other worlds and, by presenting itself as exclusive, cancels possibilities for what lies beyond its limits" (de la Cadena & Blaser, 2017; p.3). In particular when design aligns itself with the goals of scaling modern development, which are inherently entangled with coloniality, design has been responsible for immeasurable loss and extinction (Fry, 2017).

Informed by insights from science and technology studies and anthropology scholars, we take a research through design approach aimed at exploring ways of resisting ontological occupation when designing for scale in healthcare. Healthcare has long been recognized as a carrier of modernity, whereby Western medicine systematically diffuses technologies and organizational structures that enact healthcare as a calculable resource and commodity, an effort which is rarely questioned and generally thought of as a 'good thing' (Gallagher,

1988). In particular, our work is positioned within a major transition that is taking place in Norway from centralized care models, in hospitals and clinics, toward scaling-up decentralized care models, such as remote follow-up consultations and home hospitals.

Opening up this process for critical questioning, we present five attempts at resisting ontological occupation amid the design of scalable, decentralized models of care. By the term "resisting", we refer to actions — whether verbal, written, physical or cognitive—that are in opposition to power, which may vary terms of their extent of intentionality and recognition by other actors (Hollander & Einwohner, 2004). By unpacking these hopeful yet imperfect attempts at resistance, we reveal some of the counter reactions that can come up, as well as the ways in which design remains ontologically insufficient for such a task, inadvertently perpetuating dominant ontologies and disciplining through its enactments, even amid attempts at resistance. Recognizing both the learning from the practical explorations of this study and its gross limitations, we call for more work on strengthening the resistance against ontological occupation when designing for scale and highlight the urgent need to design for the protection of endangered ontologies.

THE ONTOLOGICAL POLITICS OF DESIGN

Design is a world-making practice through which humans shape their environment and then their environment, in turn, shapes them (Willis, 2006; Fry, 2013). This understanding is grounded in the idea that "in designing tools we are designing ways of being" (Winograd & Flores 1987, p. xi as cited in Keim, 2017). As such, design is inherently ontological as it inscribes direction in all things (Keim, 2017) and, in doing so, reconstitutes ways of being in the world (Ansari, forthcoming). It is important to recognize that design involves power-laden practices that bring into being particular worlds or ontologies (Escobar, 2018).

Through this ontological process, Eurocentric modes of designing, situated within histories of coloniality and modernity (Fry, 2017), have been both "directed by and towards normalising (anti-)relations of domination and exploitation" (Keim, 2017; p.260). Eurocentric modes of designing have enacted a universalizing ontology that occupies other realities by rendering the world one, at the expense of other relational worlds (Escobar, 2018). In response to this ongoing ontological occupation, critical design scholars are calling out for ways of counteracting the ontological politics of the "one world world" (Law, 2015) through pluriversal approaches that support the respectful coexistence of multiple realities (Escobar, 2018).

It is here that the discourses of science and technology studies (STS) and anthropology which attend to ontological politics, offer alternative frames that can help to inform a more reflexive design practice that better acknowledges the ontological politics at play. In particular, within STS there is recognition that reality is always in process and multiple, or fractal, in nature, being enacted and shaped by different practices (Mol, 2002). There is also acknowledgement that methods construct realities through their representation of them, amplifying certain realities and "othering" realities which are inconsistent (Law, 2004). As such, certain methods or explanations can "explain away difference" by translating difference into their own logic using categories that make differences the same (Verran, 2018). Scholars highlight a need to acknowledge deep divergences that make differences between people incomparable, not just divisions of the same world (Strathern, 2018).

A proposed alternative involves "doing our differences together" through a collective commitment to cultivating alertness to one's tendency to impose their own reality as a common frame and instead work towards respectful dissensus in dialogue (Verran, 2018). A key concept to support this enactment is the *uncommons.* The uncommons is a counterpoint to the assumed ontological continuity between people and use of the "common good" to cancel divergence in what is understood as one world (Blaser & de la Cadena, 2017). The term uncommons emerged as resistance to the commons being viewed as a shared ground, or pool of resources, that could be exploited for "shared benefit", further entrenching power asymmetries.

de la Cadena and Blaser propose the uncommons as "the heterogenous grounds where negotiations take place toward a commons that would be a continuous achievement, an event whose vocation is not to be final because it remembers that the uncommons is its constant starting point" (2018; p.19). The concept of the uncommons supports an alertness to divergencies and asymmetries in the commons and it encourages mutual transformation without sameness as the final destination (Blaser & de la Cadena, 2017). Refusing reduction into a shared category, the uncommons instead supports living divergently together in respectful relation. We believe designing with the concept of the uncommons can aid the resistance of ontological occupation through design and support the process of reflexive unsettling that is necessary within Eurocentric design practice.

DESIGNING FOR SCALE IN HEALTHCARE

The discipline of design has a long history of working on healthcare-related projects (Tsekleves & Cooper, 2017). In the last decades, design has been playing an increasingly influential role in healthcare services (Jones, 2013). Industry reports suggest that the practice of service design has been adapted and embedded within a variety of healthcare systems globally (Mager,

2017). Furthermore, there has been a proliferation of design labs popping up within hospitals around the world that utilize design knowledge to enhance innovation processes (Malloy, 2017). There are also a growing number of specialized educational programs that prepare people for a career at the intersection of design and healthcare (Romm & Vink, 2017). Within healthcare, design engages with a variety of complex issues including enhancing service delivery, supporting co-production, increasing efficiency, increasing service quality, and supporting the use of digital technologies (Tsekleves & Cooper, 2017; Jones, 2013).

Within science and technology studies, it is acknowledged that healthcare is a site of complex ontological politics. Through her studies inside a Dutch hospital, Mol (2002) finds that within healthcare realities are done through different practices. She notes that ontology in practice is multiple, as different enactments entail different ontologies that shape lives differently, and these differences are of the irreducible kind. Recognising that many Western, Eurocentric healthcare practices are carriers of modernity (Gallagher, 1988), there is growing acknowledgement of the ways in which Western medical practices render inconsistent realities as "barbaric cultural claims" (Bardwell-Jones, 2018). Particularly when public health is perceived as threatened, there are rich accounts of how healthcare practices assert dominant biomedical ontologies that threaten and attack Indigenous realities (ibid).

In this way, design practices that enact universal models of healthcare are complicit in the ontological occupation of what are perceived as peripheral realities. As COVID-19 regulations accelerate scalable digital and "remote" models of care in people's homes to protect public health, healthcare design practices situated within this systemic transition risk further amplifying dominant ontologies in healthcare and eroding the plurality of ontologies of care that are being enacted within diverse communities. While design efforts supporting digital and distributed models of care are mostly celebrated, gaining quick funding and remaining unquestioned at this critical time, Mol (2002) reminds us that what is "good" within particular healthcare situations is also multiple. As such, there is an urgent need for healthcare design to grapple with the ontological politics of designing for scale. While the literature in STS and anthropology offers helpful and nuanced concepts to think with, there is still little clarity on what this might practically entail for design practice.

TAKING A RESEARCH THROUGH DESIGN APPROACH

To support the exploration around how to resist ontological occupation when designing for scale in healthcare, we took a research through design approach, which leverages the embodied knowledge of designing in context (Frayling, 1993). In particular, we adopted Redstrom's (2017) tactic for research through design called "sequencing" that refers to a movement between design practice and theories from other domains. In this case, our design research was mainly informed by literature on ontological politics from STS as well as anthropology.

This research focuses on the context of Norwegian care settings, both in medical institutions and communities. To situate this work, it is important to acknowledge that the Norwegian healthcare system generally has a high-quality of care, but serving its sparse population area comes at high-cost, which is mostly public funded (Sperre Saunes, 2020). While already a semi-distributed model, Norway is currently shifting more care into community, included facilitated by increasing investment in e-health and communication technologies (ibid). Norway's mainstream healthcare system reflects the Western medical model. However, nearly one fifth of Norway's population is an immigrant or has been born to immigrant parents (Statistics Norway, 2021) and many of the healthcare professionals practicing in Norway are trained in other countries, including 40% of physicians (Sperre Saunes, 2020).

Our research through design work takes place within the Center for Connected Care (C3), a long-term research and innovation initiative supporting a systemic transition within healthcare systems in Norway, moving from centralized care in hospitals and clinics toward distributed care in homes and communities. Within C3, this study is situated amid the Perspectives in Transition project that brings together system stakeholders from two hospitals, a municipality, three health technology companies, two research universities as well as patients and family members. The aim of this three-year project is to take a critical look at the transition from centralized to distributed care, acknowledging the multiplicity of realities of diverse system stakeholders.

This research project and the current study has been led by four design researchers with unique perspectives and positions, partially informed by growing up and practicing design on four different continents. All four of us were partially educated in design in the Scandinavian context, informing our approach to and understanding of design. Furthermore, our engagement in this work was made possible through funding from the Center for Connected Care and, thus, through the very set-up of this research project work, we are implicated in the dominant ontologies within the Norwegian healthcare system.

The research through design work in this study took place over the course of nine months at the beginning of the Perspectives in Transition project. This research includes in-depth semi-structured interviews with 12 system stakeholders including doctors, nurses, personal

support workers, technologists, strategists, and healthcare administrators. The interviews lasted between one to two hours each and generally took place in the interviewee's workplace or home, or through an online video conference (Zoom) in the few cases where it was not possible to conduct the interview in-person. The knowledge gained from these interviews were supplemented by six interviews done with patients and family members during a pre-project phase.

This research included a series of four workshops, three conducted digitally and one hybrid workshop with both digital and physical participation. These workshops were attended generally by the same 12-16 people from various participating organizations (project partners) to promote in-depth exploration and deepen the dialogue across difference over time. These workshops mainly involved design approaches adapted from service design and systemic design. In-between these workshops, informal discussions were also held with the participants to understand their reflections on the sessions and inform further developments. In addition, the design researchers involved also developed a series of materializations to critically reflect, through visual and tangible means, on the ontological dynamics that they were exploring within the project.

The analysis from interviews, discussions, workshops and materializations took place iteratively throughout the course of the project informed by related readings, with shorter summaries being shared back with participants after workshops. The in-depth analysis taking place among the design researchers was captured in Miro, an online whiteboard collaboration tool. In addition, individual researchers also prepared their own written reflections throughout the process on both related literature and the design work conducted.

It is through this collective and individual reflection and analysis that five main attempts at resisting ontological occupation through design were identified and the learnings from each synthesized. We intentionally use the word "attempts" rather than design approaches or methods here to stress that these are early explorations and remain incomplete and non-ideal ways of resisting ontological occupation. Despite their preliminary nature, we believe that the learnings from the enactment of these attempts can help to inform the development of ongoing research on design and ontological politics.

ATTEMPTS AT RESISTING ONTOLOGICAL OCCUPATION THROUGH DESIGN

In what follows, we briefly describe five attempts at resisting ontological occupation that were enacted within the Perspectives in Transition project and highlight key issues that emerged through these attempts.

ATTEMPT 1: EXPLORING DIFFERENCES

What different realities are created through things and the practices they are entangled in?

Amid restrictions to connecting in-person, the research team arranged our first workshop together with the partners digitally. Each participant was asked to "bring-a-thing" that they used in their practice and that they felt played an important role in the transition from hospital to home. Our goal was to explore what different realities are made through these things and the practices they are entangled in.

Many of the things participants brought (shown in Figure 1) related to digital technology, like a computer, smartphone, webcam, conference call speaker and other online tools like a calendar. If we take the example of, the conference call speaker, it is cased in plastic and designed to remain at distance from the body, capturing the wavelengths of anyone's voice and translating it to someone on the other end. The hospital innovation strategist that brought it emphasized its importance, suggesting that it allows hospital staff to connect with patients anywhere to create a sense of safety for them. The conference call speaker supports the enactment of a practice that is remote. It positions the patient in one place and the health care staff in another. The place of the patient is not specific here, but rather the speaker renders their place unimportant.

One thing that stood out from the rest of the digital technology was a pillow that a community nurse brought from her bed, saying "it's best to sleep in your own bed". According to her, technology is an enabler, but the end goal is to be able to sleep in your own bed at home. Home is a place where they feel safe and a send of belonging. With its "unhygienic" textile surface that adjusts to the body it meets, the pillow supports an enactment of a very personal reality. It is part of a practice of sleeping that is place-specific and irreplaceable as it is tied to a local history. For the participant who brought the pillow, the ways in which sleeping in one's own bed is enabled is not in focus, but the end goal is clear.

Exploring these things opened up differences in the way practices are creating realities like the different ways of being in relation to place, related to responsibility and ownership of patients, or creating safety. There were also distinctions between practices where technology was a means to something or an end in and of itself. While the digital format of this workshop limited the ways in which these practices and the realities they made could be shared, this conversation started to point towards some fundamental divergences in the enactments of this transition toward distributed care.

Figure 1. “Bring-a-thing” workshop

ATTEMPT 2: MIRRORING MULTIPLES

How can designers raise awareness of the multiple realities coexisting within a system?

In order to build a richer understanding of the complex interacting realities of the different project partners within the healthcare landscape, the research team conducted a series of semi-structured interviews with staff from each partner institution. These interviews were documented in the form of gigamaps, an approach for large-scale mapping that attempts to “grasp, embrace and mirror the complexity and wickedness of real life problems” (Sevaldson, 2015; p. 4). The individual maps served as material for the development of an integrated relational gigamap that aimed to give a glimpse into each partner’s realities as well as the relationships between them. We hoped to create a visualization that would mirror the multiple realities of distributed care and allow the participants to see themselves and their complex realities interacting inside the healthcare system.

The research team started to build the overall map from analysing what was shared in the interviews, looking for patterns, commonalities and particularities. Participants frequently described the isolation between different parts of the system and used a metaphor of bridges to talk about what happens in between these different parts. One participant expressed frustration about constantly having to renegotiate the conditions of precarious collaboration between the municipality and hospital exclaiming: “no more bridge-building!”.

Attempting to amplify participants’ interpretations, we represented the different realities of the stakeholders in the system on islands and the relationships between them as bridges. On the surface of each island depictions of physical enactments were drawn as described by participants during the interview. Below the surface of the water were the invisible norms, beliefs, rules and roles that participants highlighted as guiding their realities. Based on the connections described, the bridges were generally depicted as frail, fractured, long, winding, and hard to traverse. For example, the general hospital is depicted as ‘Fix-it Island’, a place where hard decisions about bodies happen under a looming clock. From Fix-it island there is a long, broken ladder coming up from ‘Make-do Island’, where municipalities fight amid a scarcity of resources while trying to think of creative solutions to patients’ problems. We called the collection of islands the ‘Healthcare Archipelago’ (shown in Figure 2). Our aesthetic choice of representation was cartoonesque, inspired by classics of the genre, such as the New Yorker magazine one-image cartoons. This choice was meant to intentionally provoke a reaction in relation to the politics of the different realities and their relations

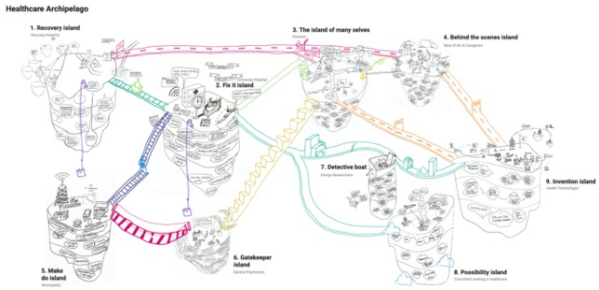

Figure 2. The ‘Healthcare Archipelago’ map

When presenting the resulting map to a panel of C3 partners, one of the leaders expressed concern because they felt the map “only focused on the bad things”. For the research team, that seemed as an appropriate response. In the interviews, we had heard about friction, conflict, miscommunication, incompatible expectations and ways of working. However, perhaps it also reflected our own realities as designers and the interpretive lenses of our own ontologies. In addition, partners expressed difficulties in making sense of the map. It seemed that the complexity mirror was overwhelming, leaving participants intimidated and not able to fully grasp its meaning. Participants expressed that a lot more time was needed to decode and comprehend the map.

By making a choice to highlight certain aspects of the realities we heard, we invariably pushed other things to the background. By simply lifting up this “skewed circus mirror”, we seem to have further alienated some of our partners, leaving us feeling uneasy. Our cartoonesque representation of the islands might have pushed the partners away, making it harder for them to see themselves and their co-existing realities. Finally, even though the map was built out of a collage of insights from their different interviews, what remained were not the particulars, but an impression of the healthcare system. We recognized through this process the ways in which our choices of representation can alienate, obfuscate, blur, and even contribute to “othering” certain aspects of others realities. In this particular case, we traded richness of detail for a

generalized perception of the system that might have perpetuated pre-existing ontological configurations and our own ontology as designers.

ATTEMPT 3: UNRAVELLING REALITIES

How can we collectively understand the nuances of what is at stake when multiple realities collide?

After mapping the archipelago and getting partners early reactions, the research team felt the need for a more nuanced understanding of particular moments where these realties intersect. We identified specific intersections, or meeting points, within the healthcare archipelago, which we called "hotspots". These hotspots ranged from a meeting to create an individual care plan to a hospital nurse visiting a patient's home. They were richly illustrated, attempting to capture details from the interactions (setting, expressions on peoples' faces, dialogue, etc). The design team carried out a few more interviews with specific stakeholders to better understand the particular dynamics between intersecting realities in each hotspot.

These hotspots were brought forward to the partners in a workshop, where we invited them to unpack different interacting realities within each situation by thinking about different logics at play and how they interact (for an example see Figure 3). Based on research that highlights the interactions of these logics in healthcare, we introduced institutional logics, which are frames of action informed by different spheres of Western society that condition people's choices and actions, and are enacted by different practices and symbols (Thornton et al., 2012). According to institutional theory, there are six main institutional logics: market, profession, state, community, family and religion. These logics became the language of the workshop to support the discussion around the hotspots.

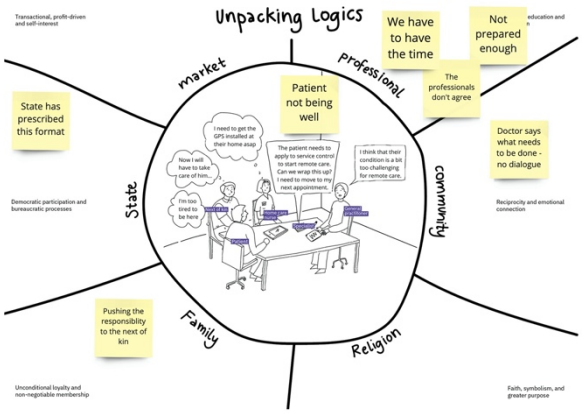

Figure 3. Example of unpacking the logics of a "hot spot"

When unpacking the logics of a hotspot, participants discussed the different factors guiding peoples' actions. For example, in a hotspot related to a nurse visiting a patient at home, there was discussion about how, if invited to sit down and have tea by a family member, the nurse's professional need for efficient action might trump the community-oriented invitation. The workshop participants focused on the working standards that might prevent a homecare nurse from taking time for a patient's family member (e.g. tight schedule, a rigid set of procedures and professional attitude).

The workshop ended with a collective reflection on which logics participants found to be central and which were perceived as peripheral from the unpacked hotspots (shown in Figure 4). This led to a collective acknowledgement that the market, profession and state logics seemed to take priority over the other logics in most situations. This contributed to a strengthened awareness among participants of the risk of imposing these dominant logics over others when shifting healthcare services into the home.

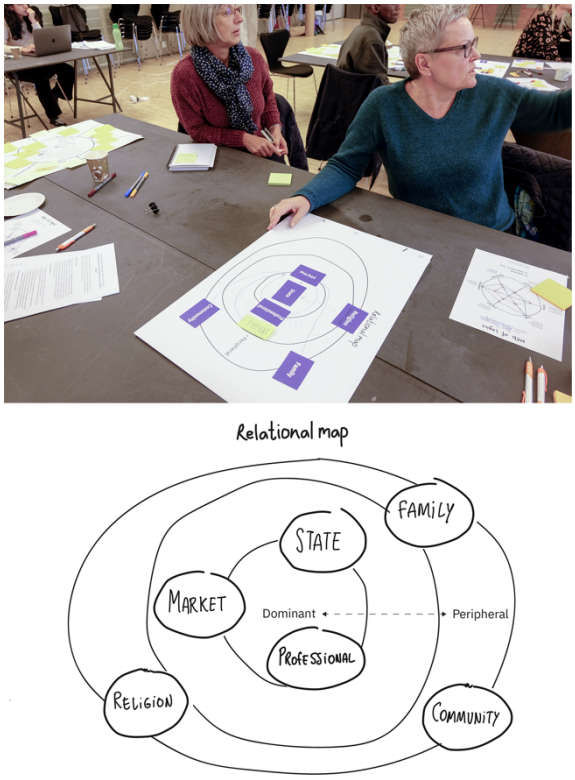

Figure 4. Activity to reflect on the relationship between logics across the "hotspots"

Through the framework of institutional logics, we offered our partners a language to assist in discussing the dynamics between the different realities in the hotspots. Since the participants themselves were enshrined in their own institutional logics this language seemed to reinforce current patterns of ontological domination. In situations where peripheralized logics could have become focal points, a flurry of arguments around the more dominant logics would displace them again to the margins. In addition, when the research team reflected on the activity, we started to recognize the limits of the logics framework and the ways in

which it reinforced particular Western, capitalistic ontologies and hid diverse practices of caring. These reflections motivated the research team to continue to try other strategies to continue resisting ontological occupation.

ATTEMPT 4: MATERIALIZING TENSIONS

How can tensions between conflicting realities be embodied to support critical reflection?

When working with the logics in relation to the transformation toward distributed care, many tensions emerged. For example, when the profession and state logic move further into the home, how will these be negotiated within family dynamics? In order to grapple with and reflect on the potential tensions between the dominant and peripheral logics, the research team decided to materialize one thought or question, around these tensions per day for a month. The goal was to quickly create visual materials and tangible artefacts to provoke discussions around these dynamics and how they felt, as well as and bring forward our lingering questions.

In this process, one group of materializations explored the tensions that arise when medical objects and practices move into the residents' homes (for an example see Figure 5). One materialization involved making a mock-up of a Norwegian advertisement website, called Finn.no, with a sale of a home with medical elements embedded in the interior. Medical equipment was mixed with everyday objects and interiors to provoke reflections on the consequences of moving health care and its related practices into people's homes and family spaces.

Another tension explored in the materializations was around bodily knowledge and measurements. Researchers reflected on how design has a long tradition of transferring knowledge from people's bodies into devices to make life simpler. Moving the responsibility of keeping track of bodily measurements from the health care professionals to the residents raises a couple of questions. Does it give the users more agency or more anxiety to keep track of yourself in numbers and diagrams? If focus is put on the things that we measure, what should be in focus? These questions materialized in alternative measuring devices that track things like loneliness, fear of movement, and feelings, as well as methods of knowing your body without devices.

In addition, these material explorations provoked reflections around the design process itself. How can we embody these practices of resistance? Is it possible to unmake the systems that have got us here? How do design methods discipline us? These processes were explored through a photo documentation of "unmaking" kimchi (fermented cabbage) where one researcher tasted first hand the lack of ability to fully undo the stewing between ingredients. Other materializations included the creation of a line of design methods soaps and a stamp created to clearly mark the ontologically insufficient design methods as a humour reminder.

Figure 5. Photomontage "in a strange habitat" (adapted from photograph by Tu Tu)

The materializations were not more than sketches or quick prototypes, but they created objects to think with to support the team in critically reflecting together. In particular, this process of materializing tensions highlighted the need for space in such design processes to explore the "illogical" and give time to follow the dilemmas that arose amid the tensions between realities.

ATTEMPT 5: CENTERING PERIPHERIES

What happens when traditionally peripheral realities are brought into the focus of designing?

The institutional logics helped us unpack care situations with our partners but there was a recognized need to contextualize these logics in relation to the practices of care. Through insights generated from the previous workshop, the research team adapted the institutional logics into six logics of care (depicted in Figure 6): care as choice (market), care as expertise (profession), care as control (state), care as social connection (community), care as unconditional involvement (family) and care as a way of life (religion). We wanted to explore if working actively to integrate a multiplicity

of ways of caring could aid in bringing into focus the ways of caring that were perceived as peripheral by partners within the formal health system (highlighted with dashed lines in the figure below).

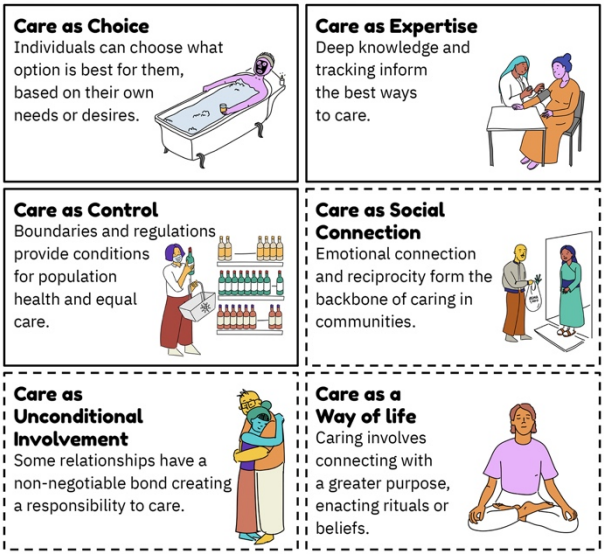

Figure 6. The logics of care

Having gained an understanding of the traditional ways of doing care planning within the current medical model from previous interviews and workshops, we held a workshop with our partners to explore alternative ways of doing care planning with all of these logics of care in mind. We warmed up playfully by having participants make a care plan using each of these six logics of care for a potted plant they brought to the workshop. After the plant care warm-up, we asked each participant to think of four key things they did yesterday and make a storyboard from it. The next step was for them to think about their network of care and draw or write down the people involved in their own daily care network. The last part of this exercise was to use the logics of care and reflect around what they would add, adjust, remove or tweak in their day to support their own care.

After sharing these care plans, most of the discussion still orbited around the traditionally dominant logics, despite our attempt to bring forth alternative ones. Many of the strategies brought up focused on the highly publicized health norms suggested by the state that we should all follow to maintain health such as, exercising regularly and drinking water. There as additional realization among participants was that it is not a common practice to nurture our networks of care. These networks are depended on in acute situations but typically not preventatively nurtured and strengthened.

This activity gave the research team a glimpse into the difficulty of centering what are perceived as peripheries and the importance of putting extra attention to these ways of caring. Through this process it was recognized that there is a need to put exclusive focus on some of the ways of caring that were perceived as more peripheral, rather than try and integrate all at once. In the continuation of the project, the next focus will be on designing with a focus on the ontologies that are perceived as more peripheral in relation to the transition from hospital to home. To mention a few, the next design attempts will focus on designing explicitly for next of kin, informal networks of care, and developing appropriate approaches to care at home.

DISCUSSION

In our research through design process, we enacted five attempts at resisting ontological occupation in the context of designing for scale in healthcare: exploring differences, mirroring multiples, unraveling realities, materializing tensions, and centering perpheries. The enactment of each of these five attempts is shown in Figure 6 as counter forces to the occupation of ontologies perceived as peripheral. By studying these processes, we contribute to emerging discussions about ontological politics in design literature, helping to illuminate the practical implications for designers. While preliminary in nature, our attempts offer some valuable insights into the reactions and ontological dynamics of designing for scale.

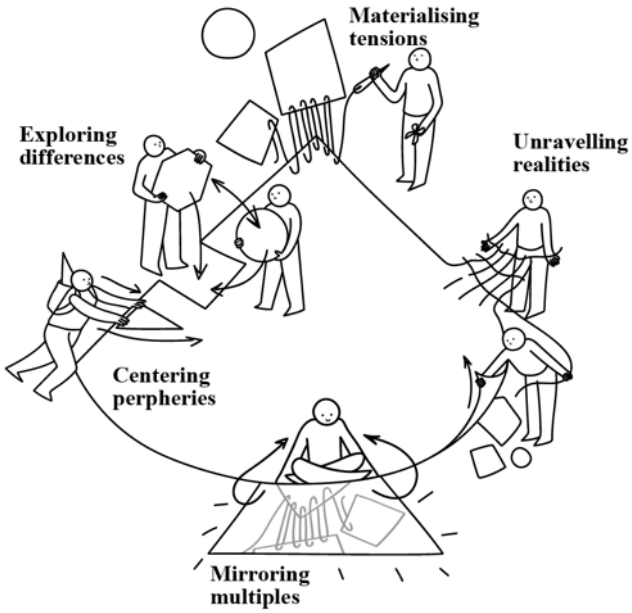

Figure 7. Illustration of attempts at resisting ontological occupation.

REACTIONS TO DESIGN AS RESISTANCE

In particular, our attempts at resisting ontological occupation sparked feelings of discomfort both among our partners and ourselves. There were times when this discomfort arose in relation to overwhelming complexity, such as when working with and making sense of the map of the healthcare archipelago. Other times unease arose from feelings that our practice was inefficient, or even illogical, in relation to achieving the goal of distributed connected care, such as in the process of developing a care plan for one's plant. In

many ways, we sensed some skepticism, among our partners and ourselves, when our mode of designing diverged from typical commercial models of practicing design that have gained legitimacy within Norway.

ONTOLOGICAL INSUFFICIENCY

Despite our intellectual awareness of *ontological insufficiency* and our desire to be humble in our approaches to make sense of things and intervene, we were regularly confronted with the ways in which our attempts still extended beyond the limits of our own ontological foundations. Ansari (forthcoming, p.6) describes ontological insufficiency in design by stating "that the ontological foundations on which we rely on to interpret reality might be contingent, specific, and situated, to the particular world to which we belong, and so therefore, are insufficient as explanatory or descriptive tools for describing other worlds". We attempted to give authority to the claims of others through our process; however, in many cases we ended up imposing our own interpretive lens, or framework for enactment, such as when unraveling realities by unpacking the logics of a particular situation. Here the framework of six logics ended up reproducing the dominant worldviews of a Western capitalist system. Furthermore, by comparing logics as a way of unraveling distinct realities, we inadvertently "explained away difference" (Verran, 2018) by applying one overarching logic – the logic of logics. In addition, the static nature of the relational map of logics failed to account for the evolving dynamics between logics and the ways in which one logic might be enacted through another, such as the religious logic becoming embedded within the state logic in healthcare.

HOW DESIGN DISCIPLINES

Tlostanova (2017, p.53) calls out how even participatory design processes often enact the coloniality of design, "a control and disciplining of our perception and interpretation of the world". Through our attempts, we saw ways in which our design approaches and methods, combined with our tools for communication, restricted certain ways of being. For example, during the online "bring-a-thing" workshop, participants were asked to bring one object and describe how its use was important in their work. While this activity was attempting to illuminate the diversity of their embodied practices, it also controlled perceptions of their world, for example by eliminating more relational perspectives between multiple objects and collectives, or by asking them to emphasize their "professional" self in what was shared. Furthermore, the workshop took place over video-conference limiting how participants could express themselves and share their embodied practice with others. This relates to the ways in which methods "make clean" the mess of reality and, in doing so, remove some of the richness, as highlighted by Law (2004).

It is also important to note our awareness of our own positionality as design researchers and the loaded content of some of our choices of methods and tools. One of the designers expressed concern upon looking back on his choice of object to bring forward in the "bring-a-thing" workshop. The designer brought a camera to show, as a representation of his position as an observer and documentarian of the partners' practices and ways of being in the world. According to him, with the knowledge gathered through this research project, the camera now represents a false neutrality, hiding the position of power and interpretation that he as a designer has in this process. This understanding also raised questions for him about some of the practices that have become commonplace in the design, such as ethnography, which, in his practice experience, has been adopted without critical reflection on the ontological limitations. While we as designers have reflected how we were implicated in perpetuating ontological occupation through our actions, it is also important to note that the very structure of the project, the nature of our partnerships within C3, and the design systems that we have been socialized into also promote such occupation.

STRENGTHENING THE RESISTANCE

While many of our attempts at resisting ontological occupation were wholly inadequate, our research team certainly built vigilance and reflexivity through the process, increasingly recognizing how ontological occupation can "sneak in through the back door" when designing. In the later parts of our practice, we began to focus our efforts on protecting endangered ontologies by centering and amplifying ontologies that are perceived as peripheral within the larger systemic transition. Part of our continued attempts will, for example, include working explicitly to design for diverse family-driven and community-driven ways of caring at home that might otherwise be undermined by a transference of the biomedical model into the home through the transition toward distributed care. We see a need to move away from narratives of such systemic transitions being for the "common good", and instead acknowledge and design for the heterogeneity of ways of being within communities. We call for a strengthening of the resistance through further attention to issues of ontological politics in design education and practice, particularly within the context of healthcare which is recognized as a carrier for the modernity project. We must again caution the reader that we share our attempts here not as inspiration for how designing with ontological politics in mind should be done, but rather so that others might deepen their own reflexivity from our lessons learned in the process. Recognizing the ongoing threat and attack on the rich plurality of

ontologies, it is critical that Eurocentric design practice recognizes that it is complicit, and takes an active stance to counter homogenization and conserve the divergent ways of being that are fundamental to the continued existence of our species.

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