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Design Anthropological Filmmaking for Automated Futures

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Abstract

In this article I introduce the theory and practice of Design Anthropological Filmmaking as a mode of actively proposing alternative possibilities to the technological solutionist narratives and imaginaries that dominate industry, government and policy narratives about automated futures. I argue for documentary practice that is theoretically and critically aligned with a vision of the world as ongoingly emergent, and unfinished, and contests conventional innovation paradigms. To demonstrate this theory-practice dialogue I draw on my collaborative documentaries *Laundry Lives* and *Smart Homes for Seniors* which explore everyday life in the home with digital, emerging and automated technologies.

Keywords

design anthropology, automation, futures, documentary filmmaking, emerging technologies

Introduction

Documentary filmmaking is a mode of storytelling, and with it comes the possibility to tell stories that contest dominant narratives. In this article I introduce design anthropological filmmaking as a reflexive, sensory and participatory methodology—all of which have been concerns for contributors to *Qualitative Inquiry* (Kuehner et al., 2016; Stoller, 2004; van der Riet, 2008). I outline its value for researching and contesting possible automated futures and the imaginaries that are associated with them. In doing so I draw on the examples of two documentaries, which develop this methodology: *Laundry Lives* (Directed by Pink & Astari, 2015), *Smart Homes for Seniors* (Directed by Pink, 2021), both of which explore everyday lives and futures with technologies in the home, respectively with middle class families in Indonesia and among older people in rural Australia. Predictive and short-termist narratives of automated futures, advanced by the increasingly dominant consultancies (Shore & Wright, 2018) and industry organizations, increasingly permeate the strategies, policies and future visions of industry and government (Mager & Katzenbatch, 2021), and research in engineering and computer science disciplines (Pink, 2022). There is an urgent need for novel responses and modes of engagement from the social sciences (e.g., de Freitas & Truman, 2021; Kuntz & St. Pierre, 2021). Design anthropological filmmaking is a methodology which responds to these circumstances.

Existing research has critically revealed that technologically solutionist (Morozov, 2013) "sociotechnical imaginaries" (Jasanoff & Kim, 2015) commonly envision futures in which monetised automated technologies—such as self-driving cars or digital voice assistants—will bring about economic, environmental and public benefits. Usually based on quantitative surveys, big data analytics and deep rooted assumptions that technological advancement drives positive change, their predictive claims leave little space for the experiential realities, contingencies and serendipity of the everyday (Dahlgren et al., 2021; Strengers et al., 2021). They moreover fuel research investment in engineering, computer sciences and technology design disciplines (Pink, 2022a), where if people are accounted for they are already framed into simplified faceless roles such as those of user, consumer or citizen (Pink, Fors, et al., 2022).

Many scholars across the social sciences and humanities are identifying, calling out and critically contesting dominant sociotechnical imaginaries. Of particularly relevance to my focus on automated home technologies, is Adam Richard Rottinghaus' (2021, p. 45) critique of what he calls "New white futurism," which he describes as "a discourse from companies that promotes emerging smart home

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technologies as tools for data-driven management of work/life balance in contemporary heteronormative, white, middle-class culture." Such visions project clean, uncomplicated futures where human behavior is shaped by technological advancement, which as critical theorists argue, is itself driven by corporate capitalism and neo-liberal modes of governance (Andrejevic, 2020; Sadowski, 2020).

Design anthropology advances this critique because it theorizes the everyday experience, imaginaries, contingencies and improvisation anthropologically as playing out in an ongoingly emergent world (Ingold & Hallam, 2007), and bringing this together with design's focus on futures (Smith & Otto, 2016). Thus enabling us to account for the fine-grained everyday realities through which sociotechnical futures actually come about. Research that brings together anthropology and design consistently shows: how the messiness (Dourish & Bell, 2011) and everyday uncertainties (Akama et al., 2018) of everyday life with technology complicate and unlodge such predicted futures as they unfold (Pink et al., 2017; Strengers et al., 2019); and how everyday ethics and trust which configure the ways in which emerging and automated technologies become part of life as it is really lived out (Pink, 2022). Parallel arguments highlight resistant activist maker and hacker movements in the technology design space. For instance, where "dirt," characterized as "non-formulaic ways to reach not 'solutions'" (Berglund & Kohtala, 2021, p. 161), comes into relief with the clean solution-based finished products of dominant innovation paradigms. In the pages of academic books and journals these works make crucial contributions.

Yet to engage with, rather than simply critiquing, this contemporary context social scientists need new methodologies through which to be in and learn about people's encounters with automation and their everyday life future imaginaries. We need to be able to intervene in the processes of planning and designing for realistic and plausible *possible* futures, by ensuring that the uncertainty and creativity of the everyday are accounted for, and that the mess and dirt that anti-solutions focused design could generate. In this spirit in the Emerging Technologies Research Lab my colleagues and I have created reports that mimic the consultancy styles with alternative messages about technology futures, design cards and short "incisive clips" of video (Pink et al., 2022).

Design anthropological filmmaking likewise participates in making public otherwise mundane and unaccounted for lives and possibilities. It is a methodology for intervention which harnesses methods, theory and concepts from three fields. First, ethnographic and anthropological filmmaking have a long history and a range of approaches (Henley, 2020). Three of these inform design anthropological filmmaking: sensory ethnographic filmmaking, participatory observational documentary, and fictional approaches to shared filmic anthropology. These approaches correspond with my design anthropological interest in: the sensoriality, affect, contingency and human creativity and improvisation of the everyday; collaborative and experimental engagement with participants, as methods of encountering the everyday, and to surface its realities, contingencies and sensory and affective states and sentiments; and documentary as a media for the exploration of everyday futures (Henley, 2020; MacDougall, 1998, 2005; Pink, 2021b; Stoller, 1997). Second, the design anthropology of emerging technologies is underpinned by a processual theory of emergence and introduces and revises concepts of trust and anxiety as categories through which to analytically comprehend our relationships with automation (Pink et al., 2021). It brings together anthropology and design, encourages us to focus on futures as uncertain (Akama et al., 2018) and to engage with future possibility as a site for fieldwork and filming (Pink, 2021b). Third, anthropological approaches to ethics (Mattingly & Throop, 2018), refer us to the everyday (in the present and as imagined) as a site where ethics are ongoingly constituted as our encounters and relations with automated technologies unfold (Pink, 2022; Pink et al., 2022). Critiques of techno-solutionism (Morozov, 2013) have already demonstrated the pitfalls of assuming that emerging technologies will solve societal problems, and decolonizing approaches to technology, invite us to re-think the starting point of the design of automated technologies and systems. As Indigenous Australian scholar Angie Abdilla expresses it:

> Bipartisan support from the technology sector and nation states would enable worldwide Indigenous Elders and cultural technologists to conceive, initiate and unite new Dreamings for nurtured growth and respectful and responsible development of autonomous machines, and how they reside within our society and our environment. (Abdilla, 2018, p. 80)

There are many ways that we can follow such leads in revising the ways automated futures are visioned. Design anthropological filmmaking is one of these.

In what follows I outline and demonstrate the theoretical, methodological, ethical and practical underpinnings and engagement ambitions of design anthropological filmmaking. I reflect on my own practice, intentionally developed to surface alternative sensory and participatory future visions and possibilities to those sociotechnical future imaginaries posited in dominant innovation narratives. The work discussed here has been developed collaboratively and I acknowledge the contributions of colleagues throughout the discussion. However the ambition and agenda to

establish a methodology for design anthropological filmmaking is my own.

First Steps Toward Design Anthropological Filmmaking

Anthropological film is a reflexive and usually participatory practice (MacDougall, 1998), where authorship is interrogated (Henley, 2020) and which goes "beyond observation in the sense that the film-maker and subjects, far from being obscured or ignored, is central to the process of production, and is inscribed, in varying degrees, in the filmic text itself" (Henley, 2020, p. 453). I trained in ethnographic filmmaking at the Granada Center for Visual Anthropology (GCVA) at Manchester University in the United Kingdom in 1989 to 1990, but subsequently left filmmaking behind for 25 years to focus on developing interdisciplinary anthropology through visual, sensory, digital and design ethnography and academic writing. Video ethnography, building on the reflexive, observational and participatory tradition of the Granada Center was central to my practice, but conditioned by shorter timescales, and intensive immersive short term (Pink & Morgan, 2013) engagements with participants.

Through this more intensive practice, with colleagues across several projects, I developed the video tour and video reenactment methods (Pink, 2004: Pink & Mackley, 2012, 2014), which underpin much of my work with participants in their homes. In 2014 I had the opportunity to collaborate with the indonesian filmmaker Nadia Astari, the indonesianist anthropologist John Postill and in earlier stages of the project with the digital sociologist Yolande Strengers, in an industry partnered video ethnography project with Unilever. Our project explored future laundry and technology with middle-class Indonesians, in what was considered an emerging economy at the time. It seemed obvious that the video ethnography footage, created through interviews, video tours of the home, and laundry reenactments, should be shot with a film in mind since the participatory approach to video ethnography and the sensory attentiveness that our project applied to understanding everyday social, material, and technological routines and imaginaries already had the elements needed for a documentary. Elsewhere I discuss the evolution of our subsequent film as a "design ethnography" or as "design anthropological" documentary; once we had produced the film I began to ask myself what and whom it was for, how this was situated in relation to the circumstances of its production, and what my ambitions were for its dissemination and use (Pink et al., 2017).

With its intention to advocate for design for sustainable futures my voiceover to *Laundry Lives* directly addresses designers, organizations, policy makers, and students. It was a starting point for a practice tailored to contest automated futures from the perspective of everyday realities, ethics, and futures—to return to Abdilla (2018) through an understanding of how technologies "reside within our society and our environment." *Laundry Lives* was made between 2014 and 2015, when smart home hype was growing, and was already being contested (see for example, Strengers, 2013). Indeed *Laundry Lives*, set in Indonesia, where at the time most of our participants accessed the internet through their smartphones rather than having home wifi connections, also highlighted the global inequalities that smart technology hype usually ignores. The final section of *Laundry Lives* (Directed by Pink & Astari, 2015) focuses on participants' visions for their own everyday futures. While the film is made up predominantly of participants' performative reenactments and discussions of their laundry and laundry technologies, in this section our five participating households reflect verbally on family-focused, environmentally sustainable and technology futures, as for example in Figures 1 and 2.

Aka (Figure 1), the son of Nur (a key participant), was involved in the technology field and spoke of how he and his friends saw the future of domestic life. The techo-optimistic future that Aka playfully presented was an everyday and generational imaginary connected to his professional interests. Documentary presents opportunities to set such accounts of possible futures, alongside other anticipatory sentiments. Nur, Aka's mother as well as three other participating families with young children spoke of their own future hopes and aspirations differently, through affective relations of care and nurture for their children. Another participant, Adi (Figure 2), was the father of a young daughter, who had instigated change by contesting everyday gender roles and taking on the family's laundry while his wife worked and he studied. He looked directly to the camera to describe how his future hopes were pinned on his daughter being educated and successful beyond what would be possible for him. Indeed, while our film, research and many of our questions were about digital and laundry technologies, sustainability and futures, when we discussed futures with these participants, automated technologies fell into the background; they shifted registers to tell us how they invested their hopes in the future wellbeing of their children.

The narrative of *Laundry Lives* focuses on: the contingent circumstances that prevent participants in the film from living and doing their laundry in ways that are as environmentally sustainable as they would like to; how they improvise with technologies to do their laundry in ways that work for them; and the gendered relations of laundry. This is the messiness and mundanity of everyday life that clean and spectacular visions of technologically driven futures do not account for. In the culmination of a research process, and a documentary which focused on gender, technology and futures in everyday life in the home, we are able to clearly see that what matters to people might have little to

Figure 1. Aka and his parents discuss their visions for the future in *Laundry Lives* (Directed by Pink & Astari, 2015).

In the next 10 years perhaps I will be further on with my career …

… and hopefully my wife's career will also be better than now.

My daughter will be in school.

But my clear projection is aimed at the next 20 years.

I hope for my daughter to be more educated than me.

I may only get a masters' degree, but I want my daughter to get more.

Maybe she will get a doctorate. That's my hope.

Figure 2. Adi discusses his visions for the future in *Laundry Lives* (Directed by Pink & Astari, 2015).

do with the future smart home visions of industry and policy makers, and instead be guided by deeper sets of relationships, priorities and affective and sensory modes of sensing and feeling possible futures. Bringing these everyday present and future narratives to the fore in *Laundry Lives*, through a video ethnography and documentary making process underpinned how with Nadia I came to know, learn and understand what mattered to participants. In the next section I unfold a theoretical and methodological framework for design anthropological filmmaking.

Foundations for Design Anthropological Filmmaking

The sensoriality and nonrepresentational elements of the everyday in the present and in imagined futures underpin design anthropology in a number of ways. First, sensory ethnography (Pink, 2015) defined as a participatory and collaborative mode of working with participants to surface the otherwise unspoken and unseen brings forward everyday sensory feeling, knowing and imaginaries. Second, the phenomenological anthropology of Tim Ingold, which advocates attention to sensoriality and creativity of human activity underpins the wave of design anthropology (e.g., Gunn et al., 2013) that design anthropological filmmaking is aligned with. The sensoriality of film is integral to the scholarship and practice of film studies (e.g., in the work of Laura Marks, 2000) and to much visual anthropology. The Sensory Ethnography Lab (SEL) at Harvard University (https://sel.fas.harvard.edu/) emphasizes the sensoriality of film, by prioritizing human corporeal experience and engagement with the world and developing experiments in invoking the nonrepresentational filmically. As anthropology, SEL practice is controversial in its focus on the aesthetics of film. It has often come closer to media arts than anthropology, to produce a body of work which the anthropologist and filmmaker Paul Henley lauds for its "ambitious cinematic quality" and "bold experimentalism" while himself calling for a more participatory mode of filmmaking which he sees as closer to ethnographic practice (Marks, 2020, p. 451). This indeed resonates with wider currents in qualitative research toward participatory research as "known for its inclusivity, democratic ethos, and political and moral imperative" and as epistemologically appropriate for studying "human action" (van der Riet, 2008, p. 546). SEL techniques can be relevant to design anthropological research, as demonstrated for instance by ethnologist and artist Robert Willim's speculative video probes (Pink, 2021b) which invoke new questions about self-driving cars and their socio-technical futures. Yet the collaborative and participatory impulse of design anthropology also requires the reflexive ethnographic attention to the everyday, which anthropologists encounter through immersion in the lives of others.

Design anthropological filmmaking involves a mode of sensory ethnographic practice, which is articulated filmically quite differently to the work of the SEL. Participatory observational filmmaking, frequently associated with the writing and filmmaking of David MacDougall, involves the researcher becoming immersed in the lives and experiences of the film subjects, often collaborating with them to film life and events as they unfold or inviting participants to show aspects of their lives. Such films are reflexive, making the presence of the filmmaker explicit, reveal and include dialogues between filmmaker and participants, as well as between participants in the film, and involve these relationships in storytelling. This emphasis on the experience of the filmmakers as well as participants/subjects, and their co-creative work in making and performing ways of knowing, entails a sensory mode of storytelling, what Stoller (1984, p. 109) has long since argued for in the form of an "indirect language" in anthropology, akin to phenomenological philosopher Maurice Merleau-Ponty's (1969, p. 20) desire to bring readers into "the world of brute and wild being." MacDougall (1998, 2005); has also drawn from the phenomenology of Merleau Ponty to emphasize the positionality and subjectivity of the filmmaker and situates the viewer as sharing in this position. He proposes that by occupying a viewpoint derived from the corporeal and sensory experience of the camera person when filming, viewers might sensorially empathize with the experience of the filmmakers and of the participants/subjects in the film.

However, differently from the long term approach to participatory observational film advocated by MacDougall, and indeed to the long term fieldwork tradition of anthropology, design anthropological filmmaking is derived from the idea of the short term, intense research encounter (Pink & Morgan, 2013). In this method the immersed solo ethnographer/filmmaker is exchanged for ethnographic teamwork (bringing new dialogue and insight into fieldwork and analysis), living with participants in their worlds is reduced to one or two short visits and subsequent consultation (making those encounters strongly focused and deliberate), and the observational stance of waiting for things to unfold over time is exchanged for direct, performative, interventional and experimental techniques (surfacing new layers of creativity and inspiring new modes of self-knowledge) often designed to attend specifically and more intensely to the sensoriality of the everyday and to surface its meaning verbally (discussed below).

In this sense, anthropological filmmaking, through its collaborative stance, seeks to create situations with participants/subjects, which can be filmed, rather than waiting for them to happen. This makes it somewhat akin to what the anthropological filmmaker Jean Rouch (1973/2003) called a "shared anthropology," whereby the filmic situation is intended to invoke mundane realities and imaginaries which

are not usually talked about, shown or surfaced. It seeks to engage participants in viewing and approving edits of films, over which they always have the mandate to remove themselves or ask for changes (see also, Martinez & Camas, 2007). Thus the field of engagement between participants and researchers/filmmakers or the "ethnographic place" as I have called it elsewhere (Pink, 2015) is extended, out of the moment of the research itself, to the production of the documentary, to the extent that participants wish to be involved (Flores, 2007). It is indeed in part this "reach[ing] back" to dimensions of Rouch's (1973/2003) shared anthropology, that Paul Henley suggests as a reference point for moving forward with "new 'ways of doing" ethnographic film in the 21st century" (Henley, 2020, p. 481).

Finally, design anthropological filmmaking seeks a new approach to ethnographic film in its specific futures focus, through its connection with design—an inevitably future-focused discipline—and to recent innovations in futures ethnographic filmmaking. This is its most significant methodological shift since ethnographic film—along with ethnographic writing—has conventionally been situated temporally and ethically in the past, as a record of what happened, rather than as an invocation of possibility. There have been moves toward speculative fictions in ethnographic writing, for instance most recently, where de Freitas and Truman (2021, p. 522) propose them as "a way to open up scientific imaginaries, rethinking the relationship between nature, technics, and human 'sense' making." Launching ethnographic film into alterities or futures, has been achieved through what have been called: ethno fictions such as Johannes Sjoberg's Transfiction (2007); speculative fabulation in Juan F. Salazar's *Nightfall on Gaia* (2015) (and see, Salazar, 2017); and ethno science fiction in Sjoberg's *Call me Back* (2021) (and see, Sjoberg, 2017). These works demonstrate a growing recognition that filmic ethnographies of everyday, realities, possibilities and imaginaries have a significant role to play in contesting and complicating climate futures, gendered and technological futures. In the next section I expand from these foundations to outline design anthropological filmmaking as a practice for engaging with possible automated futures.

Design Anthropological Filmmaking and Automated Futures

Design anthropological filmmaking for automated futures involves an interdisciplinary theory and practice which brings together design anthropology (Smith & Otto, 2016), anthropological documentary filmmaking (e.g., Henley, 2020), visual ethnography (Pink, 2021b), futures anthropology (Pink & Salazar, 2017) and the critical perspective of the anthropology of emerging technologies (Pink, 2021a; Pink et al., 2021). This constitutes a "blended practice" between anthropology, design (Pink et al., 2017) and filmmaking. Design anthropology and futures anthropology are both interventional and engaged forms of scholarship, which means they contest the theory and practice of anthropologies *of* design or *of* futures. Therefore design anthropological filmmaking does not necessarily conform to the tenets of mainstream anthropology, or share conventional anthropological interests in the study of futures. Rather in its shared intent with design anthropology, it seeks to engage interventionally with emergent and possible futures through ethnographic video and documentary practice. In doing so its agenda relating to automated futures is critical of and subverts four existing strands.

First, design anthropological filmmaking is an alternative to the anthropology *of* the future which studies anticipation as a social practice in the present (Bryant & Knight, 2019). Instead it develops a futures anthropology approach that seeks to intervene in the lives of participants, on film: by engaging with them and inviting and invoking their creativity and improvisation as they step forward into everyday futures with automated technologies; by encouraging them to imagine possible futures in relation to technology both performatively and verbally; and by acknowledging their possibility and potential to act as, Melisa Duque puts it "everyday designers" (in Pink et al., 2022). Second, it contests dominant technologically determinist and solutionist narratives—what Sheila Jasanoff (2015) calls sociotechnical imaginaries—that promote and predict "better" futures where society will benefit from the promise of automation, by revealing everyday futures filmically. Its focus on an ongoingly emergent everyday world, of sensory, affective and embodied ways of knowing, learning and understanding, seeks to reveal how change happens on the ground. Third, it offers a different interpretation to accounts that play out the logics of automation to dystopian conclusions. It complicates these narratives with attention to the human improvisation, creativity and imagination (Ingold, 2013) that is emergent from everyday life circumstances, where people and researchers alike participate in the "everyday design" of the present and possible futures. It shows how everyday logics, ethics and priorities shape what automated futures can be. Fourth, this interdisciplinary and blended approach also means that design anthropological filmmaking creates new roles and collaborations. These differ from the single-person documentary making unit (like the lone anthropologist) who typifies much training and practice in ethnographic filmmaking in favor of bringing together multiple layers of expertise, and stakeholders (see also, Pink et al., 2017).

There are multiple ways in which such an interdisciplinary combination might be conceived. Here, I establish a starting point, by examining how design anthropological filmmaking can be engaged to contest dominant narratives about technological and automated futures by: drawing on

embodied participatory encounters to directly, reflexively and sensorially tell the stories of how technologies are already evolving as part of our lives; arguing along the lines of decolonizing approaches that "respectful and responsible development of autonomous machines" (Abdilla, 2018, p. 80) needs to happen in collaboration with the people whose lives they concern; and revealing how realistic and plausible futures might as such be better be framed and worked toward. This version of design anthropological filmmaking is rooted in and creates a particular filmic argument about futures and simultaneously offers a way forward as a design proposition. The ambition for such films is for them to be significant as interventions for: the audiences of ethnographic film festivals, by inviting them to ways of knowing otherwise inaccessible; industry and policy research partners and stakeholder organizations, by showing them how people's real lives complicate the assumptions upon which they base their narratives, hopes and hype about technologically driven futures, and technological solutions; and in teaching across social sciences and design and in design itself by inviting students sensorially and reflexively into the everyday, environments, activities and feelings of those people who designs are too often thought of as impacting "on."

Anthropology, Ethnography Film and Futures

A growing body of anthropological filmmaking practice demonstrates how documentary can be engaged to propose, suggest and show possible futures. The works noted above are pioneering examples: Juan F. Salazar's *Nightfall on Gaia* (2015) weaves between ethnographic footage shot in the everyday worlds of people living in Antarctica and speculative fabulation which tells the story of a Maori woman scientist who witnesses future climate disaster (Salazar, 2017). Johannes Sjoberg's *Call me Back* (2020) involves a collaboration between Sjoberg and the film's protagonist who enacts phone calls between his past and future selves as his local area and his life change over his life course. Such works make the sensory and affective possibilities of everyday future imaginaries visible, alongside everyday life, as they are played out in the embodied experience, performance and dialogues of the protagonists.

Another mode of experimenting with possibility involves enacting situations that might not have otherwise come about. In some cases such situations are already found in the creative and experimental activities of activists, artists and designers. Examples include experimental actions such as those described Eeva Berglund and Cindy Kohtala in discussing their fieldwork with Materialist Activist Communities (MACs)—DIY maker spaces, hackerspaces and such like which undertake "messy and highly imaginative" projects which are playful, with vague motivations and "militantly anti-productivist" (Berglund & Kohtala, 2021, p. 154). They argue that MACs "render more-than-human and other-than-capitalist futures tangible and realistic, practicing futures that are difficult if not impossible for inhabitants of industrial and post-industrial worlds to imagine" (Berglund & Kohtala, 2021, p. 155). Other examples include speculative design crossing with social science, where design probes invoke new possibilities when they are placed in people's homes (e.g., Michael, 2016), and situations where social scientists have engaged with public self-driving technology tests and trials (Marres, 2018) or with public dialogues involving future probes (Stilgoe & Cohen, 2021). My collaborative design anthropological work in this area has included driving and video recording with people to learn about their experiences of and future imaginaries for automated and connected cars (Pink et al., 2018). *Laundry Lives* (Pink & Astari, 2015) discussed above likewise engages with the materiality and sensoriality of people's existing everyday lives and relationships with technology as a probe through which they were invited to speculate about their futures. Significantly this work showed us how deeply people's personal future hopes and visions are rooted in what matters to them already in their everyday relationships and environments. Subsequent work developed through collaborations with colleagues to develop anthropological studies of and with Wizard of Oz (simulated self-driving cars) testing of self-driving cars (Lindgren et al., 2021; Pink et al., 2021). These methods go further by inviting participants to experience situations that represent elements of possible automated futures. Ethnographically this means that we can undertake research with people as they experience everyday possibilities that would have otherwise been impossible. It also invites visions of realities where the "digital divide" and exclusion from access to digital and automated technologies might be eliminated.

These research sites are not "futures" but possibilities which enable ethnographic research into, and anthropological analysis of, how everyday lives with automation unfold over time. Anthropologically speaking however futures are always only possibilities, and in this sense the absence of actual "futures" to research in is not a deficit, but rather a critical response to those narratives that do seek to predict futures. In a practical sense the creation of these various versions of the possible has enabled us to investigate how people live and learn with automated technologies, and how they experience and sense feelings such as trust and anxiety (e.g., Pink et al., 2021, 2020) Yet, as I have emphasized above, these findings refer to elements of possible "futures" that normally remain hidden, and to advance an engaged futures-focused social science, I believe that we need to make them visible. Filmmaking is one way to achieve this. I next discuss how encountering participants as they experience their lives and environments in ways that would have otherwise have been impossible, through a sensory,

reflexive and participatory video ethnography method which I have developed, adapted and renewed over the last 30 years through new projects and collaborations (Pink, 2021b), becomes part of design anthropological filmmaking through the example of *Smart Homes for Seniors*.

Smart Homes for Seniors

Smart Homes for Seniors is a documentary film based on a project which Yolande Strengers, Melisa Duque, Larissa Nicholls, Rex Martin and I developed with McLean Care, a not for profit aged care provider, and colleagues at Deakin University to investigate how smart home technologies could support older people's wellbeing and independence. The trailer can be found here: https://www.youtube.com/watch?v=t-5GfB0srkQ.

The project's findings (e.g., Duque et al., 2021; Pink, Strengers, et al., 2022; Strengers et al., 2021), identify the independence and wellbeing benefits of smart and intelligent technologies for seniors, and highlight and urge designers to attend to their needs. Here I discuss the documentary as a method for bringing both seniors' experiences, and an alternative, theoretically grounded and ethnographically immersive perspective, to the fore. The film's engagement with this group also critically contests problematic narratives concerning the smart home. These have been characterized by, the "new white futurism" noted above (Rottinghaus, 2021) or the "techno-hedonist" persona, which Kari Dahlgren and colleagues coined to demonstrate how dominant representations show smart home technologies as serving the gratification of masculine gendered individuals by offering pleasure, efficiency and rationalization (Dahlgren et al., 2021).

Our fieldwork was undertaken as a video ethnography with 23 households and 33 seniors in rural and regional New South Wales, undertaken in participants' homes in 2020, and subsequently online during the COVID-19 pandemic. I had originally intended to shoot video during our first ethnographic meetings with participants, to share with filmmaker Citt Williams who would subsequently have returned with us to film with selected participants. However, as we could not return due to the pandemic, Citt produced the film using the materials shot by myself, Melisa, Larissa and Rex, along with existing and stock footage, and Melisa and Yolande played key roles in supporting the development of the film. Once the film was completed a final "rough cut" was screened to each of the participants for their feedback and approval.

As a design anthropological filmmaking project, in contrast to the GCVA and SEL visual anthropological and sensory ethnography traditions, *Smart Homes for Seniors* has a number of characteristics, which distinguish it as design anthropological filmmaking. The teamwork involved in the research, film development and production separates it from the single or two-person filmmaking units that endure in much independent ethnographic filmmaking. Another key characteristic of *Smart Homes for Seniors* is the theoretical-ethnographic dialogue that underpins the research design, our engagements with participants, its focus on futures, and the film's argument as expressed in its voiceover narration. I return to this in the next section, to further my points about the role of theoretical and conceptual work in design anthropology for investigating automated futures. In the remainder of this section I discuss three further elements, both in relation to *Smart Homes for Seniors*, and which I advocate for design anthropological filmmaking in general: an interventional stance, which is both characteristic of design anthropology and, I propose, necessary to a critical engagement with narratives concerning automated futures; a reflexive accountability, which reveals both researchers and the research process as part of the film; and the relationship between the voices of participants, researchers and narration.

Smart Homes for Seniors is interventional on several levels. First, its ethnographic site was not simply participants' homes but a smart home technology trial, which was itself a technology intervention. The circumstances of the trial enabled the participants to experience a way forward in their everyday lives that would have otherwise not been possible. It constituted an alternative immediate future to that they had imagined before agreeing to participate in the trial, and which opened up subsequent possibilities for them. This is not to say that either the technology or the trial determined their futures but that their participation in it, and engagements with the technologies and researchers constituted a new set of circumstances and possibilities.

Second, our video ethnographic practice was participatory and collaborative and interventional rather than observational. Based on the video tour and video reenactment methods developed across previous projects (Pink, 2004, 2015; Pink & Mackley, 2012, 2014) we asked participants to tour their homes with us and to show us where they kept and how they used the technologies. As in *Laundry Lives*, these methods are designed to surface audiovisual performative modes of showing and imagining everyday life ways of knowing, remembering and imagining in the home, through the relationship between researchers, camera and participants (Pink, 2021b). Video ethnography of this kind, is shot in the confined spaces of people's home, where the close-up is an important element of the work (Figure 4), since it both generates the closeness needed for the research encounter to be empathetic and for the viewer of the film to engage empathetically with the positionality and sensory and affective experience of the filmmaker researcher. This approach was expanded in this project through Melisa Duque's practice of everyday designing by engaging with participants in using the technologies with them as well as

focusing on how participants engaged with the technology in ways that mattered to them.

These encounters with participants, technologies and homes are reflexive. The research team all appear and speak in the film at various moments, and make our own probing and interventional roles explicit (Figure 3). In ways this resonates with Stoller's (1997, pp. 121–133) interpretation of the surrealist tradition of Antonin Artaud's *Theater of Cruelty* and elements of Jean Rouch's practice, in the sense of the transformative processes that the filmmaking enables and witnesses. Keeping a commitment to design anthropological theory, the film intentionally focuses on how change happens through the incremental and experimental modes through which participants engaged with and learned with the smart home technologies (Figure 4), and acknowledges how the research team participated in this.

Anthropological filmmaking, and anthropology generally often needs to move between the general and particular, the sensible and the intelligible (Stoller, 1997), and to maintain a dialogue between the ethnographic and the theoretical. This is not something that only happens when anthropologists write or edit, but can happen throughout fieldwork, analysis, writing and editing. In the film a voiceover narration is used to frame the project and our argument, this is intended to direct viewers to the context and issues, as well as to invite them to listen to the participants, in this film in particular as well as to account for seniors and their expertise in smart home technology design.

Design Anthropological Filmmaking and Theoretical-Ethnographic Dialogue

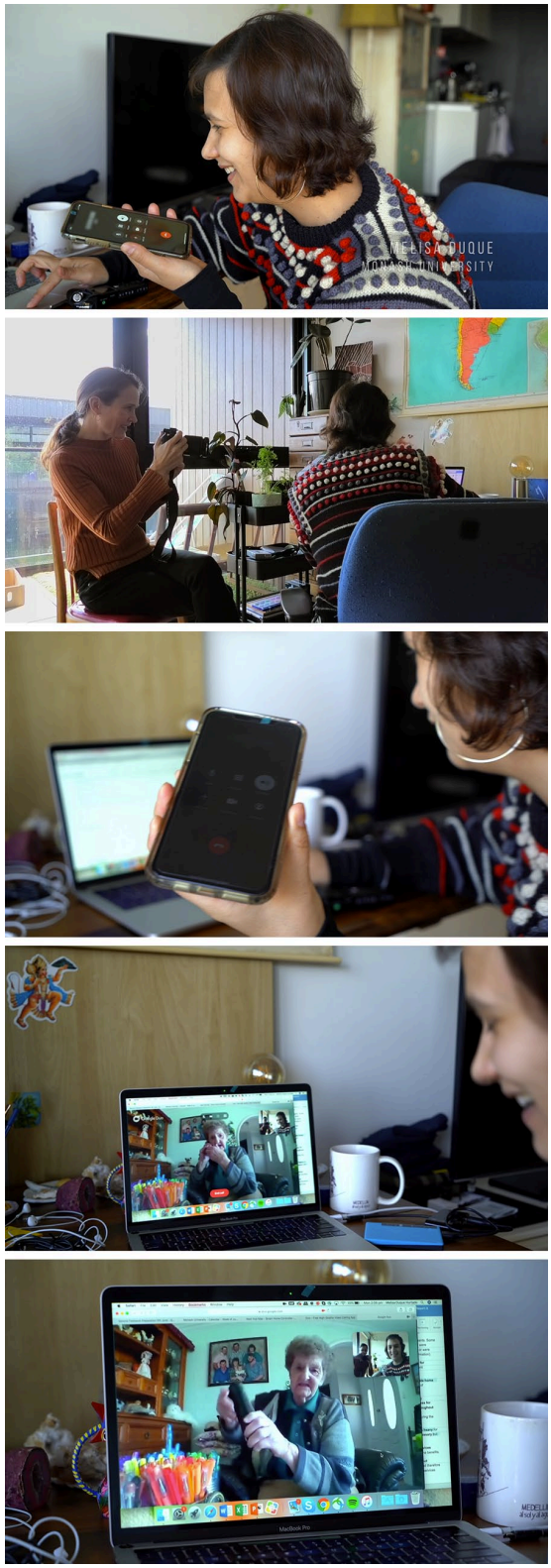
Some commentators in ethnographic filmmaking claim that we are now in a new era that shouldn't be held back by disciplinary and historical debates. I concur, in the spirit that my own agenda is to establish new interdisciplinary anthropological and ethnographic documentary practices. But as should be evident from the discussion above, I believe that the methodological, theoretical and conceptual underpinnings of anthropological and ethnographic filmmaking are fundamental to its integrity. I strongly differentiate my approach from cavalier claims which appear to dismiss the value of aligning and acknowledging the situatedness of filmmaking practice theoretically and ethically, with academic disciplines. Or, as Phillip Vannini (2020, Chapter 1) expresses it

> Heck, it doesn't matter if you all have a degree in the first place. And it does not matter whether your work makes an explicit attempt to contribute to a discipline, advance our understanding of a theory, an empirical subject or analytical concept

For Vannini (2020, Chapter 1) what matters is that "as an ethnographic work whatever you did with your camera was done with the intent to learn by building relationships based on respect, trust, integrity and with the intent to teach audiences sincerely and authentically through an audiovisual medium." Vannini's proposal has a powerful democratic call and opens it up for anyone to be an ethnographic filmmaker. However, without the reflexivity, attentiveness, analysis and collaborative storytelling that has underpinned the history of visual anthropology, ethnographic filmmaking is ungrounded. If ethnographic filmmaking is to be so free floating that it requires no academic reflection, then what would the point be in having an academic training, or theoretically grounded set of ethical commitments at all? It is precisely the development of academic ways of knowing, ethics that are grounded in everyday and academic understandings, and their dialogue with theoretical and conceptual thinking and knowing that enables us to weave together the arguments that sustain anthropological film.

Ethics, defined anthropologically (Mattingly & Throop, 2018) are rooted in the everyday and indeed inseparable from the experience of everyday action and sensation. In contrast, engineers working in fields of Artificial Intelligence have treated ethics as a resource that can be extracted from the everyday via a game based online survey (Pink, 2022a). The effect of this is as Francisco Martinez et al. (2021, p. 3) express it, in writing of "peripheral wisdom," means that everyday knowing "is pushed out of sight to make something else appear clear." We can effectively engage design anthropological theory—through its focus on how change actually happens through human improvisation and creativity in ongoingly emerging and contingent circumstances—to contest dominant engineering narratives about automated futures, and this plays a role in anthropological filmmaking as well as in theoretical writing. Indeed as Karen Waltorp's collaborative practice suggests, anthropological filmmaking surfaces peripheral knowledge (Waltorp, 2021). Moreover, new ways of theorizing futures anthropologically are central to the task of creating interventional design anthropological film, and they are different to both anthropological theories *of* the future and technological determinist approaches to automated futures. *Smart Homes for Seniors* reflected these theoretical commitments of design anthropology in its engagement with and representation of seniors' experiences of smart home technologies. Doing so is important because the film seeks to correct dominant narratives about automated futures, and as such is aligned with established critical and theoretical academic arguments which support its agenda.

A brief discussion of another recent film based on a smart home technology trial demonstrates my point about why design anthropological filmmaking needs to be theoretically and ethnographically coherent, critical and interventional. Nick Agafonoff's (2019) *Agency in the Smart*



Edna: Hello?

Mel: Melisa: Hello, Edna. This is Melisa.

Edna: Edna: Hello Melisa. How are you?

Mel: Melisa: Good. How are you?

Edna: Edna: I'm all right, thanks. Okay.

Mel: Melisa: Are you ready to have a chat?

Edna: Edna: Oh, I think so. Yes.

Mel: Melisa: Okay. But I was thinking if we could do it with video as well. Remember how we talked about that last week?

Edna: Edna: Yes, yes.

Mel: Melisa: I have Sarah here with me. Remember Sarah?

Edna: Edna: Yes, yes, Sarah.

Mel: Melisa: She's here.

Sarah: Sarah: Hello, Edna!

Edna: Edna: Hello, Sarah. How are you?

Sarah: Sarah: I'm great, thank you.

Edna: Edna: That's good. Good to hear from you. I didn't know whether you were still there or what was happening, because I haven't heard anything from you or about you for ages.

Sarah: Sarah: [laughs] No, I'm still working with Melisa and the project, and looking forward to hearing how you've got on. And we're filming this as well.

Edna: Edna: Oh, okay. [laughter]

Mel: Melisa: So, I'm calling you.

Edna: Edna: A video call! Accept.

Melisa: Hello!

Figure 3. The reflexivity of the fieldwork and filmmaking is central to the Design Anthropological filmmaking method of *Smart Homes for Seniors.*
Source. Video captures Sarah Pink (2021).

Sarah: Do you always say ‘please’ when you talk to Google?
Beryl: Beryl: I do. It’s only habit. Yes. But you don’t have to, and it’s just something that you do, isn’t it, that you grow up with
Sarah: Sarah: Yes. Do you prefer to say ‘please’?
Beryl: Beryl: Yes. Manners. Somebody’s helping you …

Bob: Hey Google! Turn the fan off in the kitchen!
Edna: Edna [off screen]: See, to me that’s rude. That’s a rude way to speak to anybody. I wouldn’t speak to anybody like that. Don’t touch it!
Bob: Hey Google! Turn the fan off in the kitchen!
G: Digital Voice Assistant: Sorry, it looks like that device hasn’t been set up yet. You can do that in the Google Home app.
Bob: Bob: Good on you. [laughs]

(continued)

Figure 4. (continued)

Beryl: [laughing] I keep forgetting the name. It's Google! I've got Roomba for that, and then I'll think Roomba, Google …

Melisa: Do you feel sometimes you want to say 'thank you' or 'please'?
Hilda: Yes, I do. I like to extend, or say a 'thank you'. It's just like talking to …
Mel: Melisa: Yeah. Hey Google, thank you!
Digital Voice Assistant: I'm here to help.
Hilda: [laughs]

Figure 4. The collaborative, participatory and interventional method of design anthropological filmmaking was integral to the performative, collaborative and experimental stance of *Smart Homes for Seniors.*
Source. Video captures Sarah Pink (2021).

Home of the Future[1] is a short documentary based on a smart home tech trial undertaken by a company based in Australia. Agafonoff writes that the four families featured, had a range of smart home technologies installed [including some which coincide with *Smart Homes for Seniors*], such as lights and robotic vacuum cleaners, and that the film was made from smartphone video footage shot by field researchers. Narrating the film, Agafonoff calls the smart home technology trial a design fiction, which showed how people lived in possible futures. He asks how people would adapt and characterizes the highs and lows of their experiences of the design fictions as utopias and dystopias. As he describes it on the film's website, the installation of the devices would "generate a paradigmatic shift in their everyday living and interactions" enabling the discovery of "how human agency and structure reproduce in this potential living environment of the future." Agafonoff's film produces interesting insights, is engaging and snappy, but conceptually it aligns with agendas that I have critiqued at the beginning of this article. The question of how people will adapt to what he frames as a potential living environment of the future assumes the inevitability of technological "progress," that engages with existing sociotechnical imaginaries through the binaries of showcasing binary "utopian" and "dystopian" outcomes. This binary distinction differs from design anthropological understandings of the ongoing and contingent constitution of emerging circumstances. Theoretical engagement with questions of structure and agency are interesting for the study of society, but they are derived from sociological scholarship from the 20th century rather than from the critical and interventional scholarship of the moment. To be fair, Agafanoff's is not an academic film and is not designed as critique. In contrast, design anthropological film is and should be critique, and to be such it needs to be theoretically as well as ethnographically grounded in design anthropological frames and concepts, inspired by phenomenological anthropology, which as I outlined at the beginning of this article, understand our environments as ongoingly emergent and human life as inevitably anticipatory, creative and improvisatory (Ingold & Hallam, 2007).

Summing Up

To sum up, in this article, I have proposed the theory and practice of design anthropological filmmaking as a method of investigation and engagement related to automated futures. First from design anthropology it is committed to a processual theory of everyday life, environment and technology as ongoingly emerging (Akama et al., 2018; Pink et al., 2020; Smith & Otto, 2016). Second, from anthropological documentary it has made a long term commitment to sensory engagements with people in their environments and attention to the reflexive relations through which video is created (MacDougall, 1998, p. 200; Waltorp, 2020). Third, as a development of visual ethnography design anthropological filmmaking understands researching through video as a mode of revealing otherwise invisible everyday existing and possible future experiences and scenarios, which often contest dominant narratives and claims about automated futures; and with futures anthropology it is concerned with the contingency, improvisation and uncertainty that always characterizes the present and our possible futures (Pink, 2021c).

For audiences at ethnographic film festivals, students of design, technology and social science fields, and for industry, policy and other sector research partners, design anthropological filmmaking provides new opportunities to connect with everyday life realities and future imaginaries other than those proposed by dominant narratives. Both films discussed in this article were made in projects where we partnered with organizations, and in both cases we were careful to engage with our research partners during the filmmaking process. We wanted to present shared stories, which our partners were on board with, through the voices of participants in research. While some might see partnering with organizations as constraining our academic practice, for design anthropological filmmaking the point is different; it is through partnering that we are able to progress the design anthropological agenda toward engagement. To think in terms of such practice as limiting our work as academics would mean looking back to an idealized vision of academia, when instead I believe we need to look forward. It is by bringing ethnographic realities and imaginaries to the fore in such a way that academics and our research partners can better address both the immediate concerns of organizations and the wider issues relating to automated futures that I have raised.

Rather than a method to be replicated, Design Anthropological Filmmaking is a proposition. It is a practice in the making, and a methodology for engagement, at all moments in team-based, partnered research projects, from inception to dissemination, and beyond as films and their audiences take their own journeys. In a new film, *Digital Energy Futures* (Pink, 2022b), we similarly engage with people in the social, technological, material and interspecies sites and relations of their everyday worlds. There, we seek to contest dominant techno-determinist narratives that suggest that data driven personalized automated energy related services will solve everyday life, societal, economic and environmental problems. This and I hope other filmmaker's practice will advance an agenda to address questions about automated futures further through film that dialogues with theory and ethnography.

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Note

1. https://vimeopro.com/thepracticeinsights/agency-in-the-smart-home-of-the-future

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