

**Home Maintainer, Guardian or Companion? Three Commentaries on the Implications of
Domestic AI in the Household.**

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Abstract

Objective

This paper explores the potential implications of domestic AI systems in everyday households for chore distribution, family surveillance and the (re)valuation of interpersonal communication.

Background

We differentiate between three types of domestic AI systems based on the social roles they are promised to fulfill: domestic AI as a 'home maintainer'; a 'guardian'; and a 'companion'.

Method

We contrasted the findings from empirical studies with discourse on the development of these domestic AI systems to establish how scholarly research differ from the promises of developers when it comes to the social implications of domestic AI.

Results

We noticed that for each social role of domestic AI scholarly research nuances the promises of developers. First, domestic AI as a home maintainer can lead to subtle shifts in the gender division of household chores and introduce new forms of control through digital housekeeping. Second, when domestic AI acts as a guardian, it may reshape intimate surveillance practices, blurring the line between care and control. Finally, as a companion, domestic AI might shape or be shaped by existing household dynamics.

Conclusion

Our analysis shows that domestic AI systems should be interpreted in a larger vision for the future for the household, where implementations of domestic AI fit the norms and values embedded in our households. Therefore, we should reflect on (1) what roles we introduce or reconfigure by introducing

domestic AI, (2) what 'price' we want to pay to deploy domestic AI, and (3) to what extent automation through domestic AI aligns with household values and norms?

Implications

We direct our focus towards researchers, urging them to look beyond deterministic views and effectively examine everyday negotiations, adoption, and the extent to which the domestic AI systems align with the norms and needs of family members. Moreover, we argue for policy makers and practice to shift from a technical perspective on domestic AI to a relational one. Regulation and services supporting families should focus on the social roles that domestic AI plays in the household.

Keywords: Domestic AI, family dynamics, AI companion, chore division, intimate surveillance, pretend empathy

Introduction

Since the dawn of industrialization, technology has played a crucial role in futuristic visions of the home (Spigel, 2001). These futuristic visions often reflect not only technological advancements but also evolving domestic ideals. For example, in the 1950s and 1960s, Monsanto showcased its version of the “house of the future” at Disneyland against the background of the rise of dual-income households. This vision featured technologies designed to ease household chores, such as the microwave for cooking and the dishwasher for cleaning (Chambers, 2020). Ultimately, the concept of the future home must thus be understood in the context of a changing society and its shifting domestic expectations.

Given the technological advancements of the past few decades, it should not surprise that more recent imaginations concern the role of artificially intelligent computing systems in the household (Aagaard, 2023). Indeed, contemporary household appliances and tools are increasingly augmented with computational and connected capacities, turning households into so-called ‘smart homes’ equipped with domestic AI systems such as smart robot vacuum cleaners (Strengers & Kennedy, 2021) and personal digital assistants (Lopatovska & Williams, 2018) that aim to anticipate the needs of their occupants and promote comfort, convenience, security and entertainment (Argandoña et al., 2021; Chambers, 2020).

While domestic AI systems and technology in general is often proposed as an enhancement to domestic life, not everyone meets them with the same enthusiasm. There are fears and worries about their impact on the social fabric of the household, an institutional cornerstone of society (e.g., Aagaard, 2023; Erscoi et al., 2023; Messing et al., 2020; Turkle, 2007). While these fears and worries could easily take the form of a ‘techno-panic’, we find it relevant to examine these dystopian narratives and visions as they often inform about the societal values that people hold high and perceive to be at stake.

In general, history shows that when technology diffuses into society, utopian and dystopian claims are often tempered by observations of how the technology is ultimately adopted in and adapted

to everyday life. Prior research on the domestication of 'older' domestic technology in the household, for instance, found how the purchase of a washing machine more often leads to increasing standards of cleanliness, rather than the proposed (utopian) goal of it drastically reducing domestic labor (Cowan, 1983). We argue that recent work on the domestication of AI systems in the household invites to move beyond a mere focus on the promises and perils of domestic AI. What we aim for with this article is thus to make the different narratives and views on domestic AI more visible as this sheds light on conflicts between domestic AI and the norms and values of society that are currently held high. We then embark on an analysis of three types of domestic AI by looking into research that investigates their potential implications in everyday households. We end the analysis of each type of AI with a series of questions to guide future research.

In what follows, we first provide a working definition of domestic AI systems and introduce a categorization of the three broad groups of domestic AI systems based on the social roles they play in households. These categories are meant to broaden our perspective on domestic AI, rather than exhaustively cover all possible applications. For each category, we then describe the ideals reflected in the development of these systems and what fears and concerns they provoke. Next, we examine how they could subtly reconfigure household dynamics, such as chore distribution, family surveillance, and the (re)valuation of interpersonal communication. In the discussion, we finally propose three overarching questions on domestic AI systems that allow for greater nuance and encourage a shift away from narrowly focused research findings on individual use cases. By asking such broader questions, we aim to foster a more comprehensive understanding of the impact of domestic AI and guide future research in this area.

Domestic AI systems: a definition and categorization

Domestic AI systems are gaining momentum as ubiquitous computing systems for household maintenance and management. We define them as AI systems designed to fulfil various social roles

within a household context. Previous categorizations of AI in the home primarily focused on technical capabilities. In our definition, instead, we emphasize how these systems are connected to social roles and impact family dynamics. Doing so, we follow the reasoning of Argandoña and colleagues (2021, p. 4) that “[...] the impacts of digital technology are related to that of the functional dimensions in [the] home [...]”. Indeed, domestic AI systems, such as smart home systems (Sadowski et al., 2024), assistive technology (Argandoña et al., 2021), and social robots (Bogue, 2017; Edwards et al., 2020; Leo-Liu, 2023) have transcended the status of mere ‘tools’ and are increasingly domesticated in everyday households, used by family members for a variety of tasks and purposes, effectively influencing the social fabric in our households (Argandoña et al., 2021; Chambers, 2020).

We distinguish between three different social roles for domestic AI: domestic AI as a home maintainer, a guardian, and a companion. Each category represents a different aspect of our domestic environment that has been ‘enhanced’ with smart devices. These social roles collectively illustrate how domestic AI can be integrated into various facets of our contemporary homes. The different social roles are based on the three main areas that smart homes are designed to address: comfort (*Domestic AI as a home maintainer*), (health)care (*Domestic AI as a guardian*) and leisure (*Domestic AI as a companion*) (Argandoña et al., 2021). They are not meant to be exhaustive but cover a wide variation of domestic AI technology.

First, domestic AI systems can take a supportive role in performing house maintenance by assisting with or carrying out everyday chores: a smart vacuum cleaner, lawn mower, smart lighting, or an automated heating system (Bogue, 2017). Their entry into the household is often considered of little impact as they are designed to do one specific household task; yet household chores often hold grounds for conflict in the household as chore division in the household has always been highly gendered (Cowan, 1983). Moreover, because of how these technologies are implemented, a new centre of control is introduced in the digital home of the future that could shift who exerts power over basic household

functions (e.g., what the ideal temperature of the living room should be, who should have access to a home) (Aagaard, 2023).

Second, domestic AI systems can serve as a guardian that helps with caregiving and protecting through the monitoring of family members, for instance elderly whose health is monitored via a technology-enhanced living environment, or children and teenagers whose independent mobility is monitored using a location tracking app. While such monitoring can help with caregiving and protecting, a culture of surveillance could also be normalized in which a good parent or caregiver is seen as someone who closely watches or monitors the practices of his or her loved ones as part of caring for them (Leaver, 2017). A clear question that then arises is what should be considered as caring and what should be considered as controlling.

Third, domestic AI systems can function as a social actor within the household that partakes in basic and complex social interactions, and even provides companionship. As a companion, domestic AI could have high quality social interactions with humans and support interpersonal norms we consider important (Leo-Liu, 2023). They could be used to combat loneliness, provide social comfort and even satisfy other companionship needs (Edwards et al., 2020). However, they could also potentially dehumanize other humans or devalue human interactions in general when these systems outperform their human counterpart in terms of (pretend) empathy (Turkle, 2007).

The current integration of the above categories of domestic AI within the household reflects a transformation where technology is subtly woven into the domestic space, a shift from the conspicuous gadgets of the past to the nearly invisible infrastructures of the present.

The seamless integration of domestic AI into daily life, with households adopting and embedding the technology with a certain taken-for-grantedness that only becomes explicit or visible when the technology 'breaks' (cf. Ling, 2012), may mask, however, the potentially subtle reconfigurations of power and labor dynamics that it may introduce and reinforce within the home.

While marketing discourses focus on how domestic AI systems can simplify household chores, and offer support and convenience, scholars have already explored how they could disrupt traditional family roles and power structures. In the following section we dive deeper in each of the three categories, explain what envisioned role domestic AI could fulfil in our household, and how they could reconfigure family dynamics in our digital households.

Domestic AI as a home maintainer

A first type of Domestic AI are systems that fulfil tasks as a home maintainer. This form of AI has become an integral part of households for some time now, supporting various maintenance tasks and everyday chores (Aagaard, 2023). As home maintainers, domestic AI primarily take a physical form, such as smart vacuum cleaners, lawn mowers, smart thermostats, and smart locks (Bogue, 2017). These AI devices are designed to perform household chores and consequently come with the promise that they will improve the efficiency of the household (Urquhart et al., 2019). This type of domestic AI thus strongly resembles traditional domestic assistive technologies like washing machines, dishwashers, and microwaves: They are proposed as technology that could take over household chores, freeing up time for other activities (Chambers, 2020).

There are also worries and concerns, however. Over the years, AI for home maintenance has evolved from 'dumb' appliances to smart assistive technologies that collect and analyse large amounts of data (e.g., moisture level, temperature, floor type, garden layout...) to improve task efficiency and effectivity (Bogue, 2017). While due to this datafication the capabilities of this type of domestic AI have grown, scholars argue that these systems are no longer serving the interest of household members. Rather, they are devices bringing "digital capitalist logics into domestic practices and spaces" (Sadowski et al., 2024, p. 11). Arguably, an efficiency seeking approach of household management might be problematic when it necessitates the constant monitoring of the household (Kennedy et al., 2015).

Another key element of implementing Domestic AI as a maintainer in the household is the requirement for digital housekeeping. Digital housekeeping involves maintaining a networked home, installing apps, setting up devices, and updating them (Aagaard, 2023). Given that such digital expertise is often gendered, the abundance of technology within the home -allegedly aimed at improving efficiency and decreasing the strain of household tasks- may inadvertently alter and/or intensify the gendered distribution of household responsibilities (Sadowski et al., 2024). Moreover, studies have shown that the adoption of these systems intensifies gendered housework by raising the standards (e.g., cleaning standards, comfort standards) (Aagaard, 2023) as it has done in the past (e.g., Cowan, 1983). Additionally, the implementation of these devices has altered how some elements of the household should be managed: To let a robot vacuum or lawn mower run effectively, for instance, the house and garden needs to be tidied up to ensure the device does not get stuck on any obstacles. Arguably, our household habits are being adapted to the technology rather than the other way around. Often these 'enabling chores' for domestic AI reinforce the traditional gendered chore division. Taken together, one might argue that employing domestic AI as a maintainer might support a traditional chore division instead of changing it (Sadowski et al., 2024).

On top of the shift in time spent on chores, domestic AI as a home maintainer can centralize power in the household around the one managing the digital household. In a 'pre-AI-home', a household member could choose when the home would be vacuumed, what the heating schedule should be, and who should be able to enter the house. With these domestic AI systems, these points of control are handed off to those who have access to these parameters and control the digital household (Aagaard, 2023; Kennedy et al., 2015). Indeed, it is the one controlling the *digital* housekeeping that structures behavioral patterns within the home (Sadowski et al., 2024). This could be another member of the household, but it could also be a landlord or service provider. Arguably, this means that implementing

domestic AI as a home maintainer could potentially disrupt but also entrench power imbalances within the household.

Both promises and fears, however, should be nuanced as empirical research shows that the technology can also make chores negotiable in a household. In some households, the implementation of domestic AI has shifted the interest in doing specific chores, effectively redistributing these chores (Aagaard, 2023). Other research showed that people (re)gendered their domestic AI (e.g., the name of their robot vacuum) after discussing the gendered nature of the chore, shifting the narrative on whose job the chore should be (Strengers & Kennedy, 2021). The negotiation process that happens with the adoption of these systems could thus very well reconfigure family dynamics for the better. In terms of control, Aagaard (2023) found that in many households where domestic AI as a home maintainer was implemented, all household members that wanted control had control over the technology. These empirical findings thus negate part of the argument of power imbalances that originate from digital housekeeping.

We could argue that the promised benefits of domestic AI as a home maintainer are not as straight forward as the technology proposes and that the potential consequences in terms of the reconfiguration or reinforcement largely depend on how the technology is implemented and negotiated in the household. Going forward, we should avoid deterministic questions such as how the technology shifts control and whether the technology makes the home more efficient. A more relevant focus would be *“How are these technologies implemented and interpreted by the household members?”*, *“How do we ensure that the adoption of domestic AI as a home maintainer aligns with values and norms embedded in the household?”* and *“How does the way domestic AI is adopted and negotiated influence the potential reconfiguration of family dynamics?”*.

Domestic AI as a guardian

A second category of Domestic AI are systems that can be used to monitor social others in the household. They could take the form of a physical panic button, a wearable sensor, or cameras in the household. This type of domestic AI, which can be said to function as a guardian, has evolved from extensions of smartphones and internet-based applications to intelligent systems within the home, allowing family members to monitor each other in both the private domain of the home and outside, in the public domain (Dereymaeker et al., 2024).

This type of domestic AI comes with the promise that it will give piece of mind to those who give care (i.e., checking in on their whereabouts) (Mascheroni, 2020), give more degrees of freedom to those who need care (i.e., elders that can live independently for longer) (O'Brien et al., 2020), or simply offer help in household management (i.e., checking if someone got on the bus to plan dinner)(Ribak, 2009). There are concerns, however, over how these systems might cultivate a culture of surveillance. When discussing parental surveillance, for example, one might ask whether this is becoming an expected part of modern parenting: 'Is a good parent someone who closely watches, monitors, and controls the activities of their children?' Marketing discourses certainly hint at this. For example, infant wearables are already being promoted as the "responsible and sensible" choice for parents (Leaver, 2017, p. 6). In academic circles, on the contrary, there is a growing concern about shifting moral responsibility to technologies whose operations and data handling we do not fully understand (Ehrenberg et al., 2023).

Yet, preliminary research shows a generally positive perspective, suggesting that young children often value this type of connectivity and parental surveillance (Sukk & Siibak, 2022). It also offers parents a sense of ease. However, we must distinguish between the 'feeling of control' and 'actual control' and consider what happens when virtually everything in the household can potentially be used as a surveillance tool. The management of these technologies (see digital housekeeping) is often in the hands of the husband/father, whose standards for what constitutes appropriate surveillance may not necessarily align with those of other family members (Aagaard, 2023). The responsibility for children's

upbringing and socialization, however, is often seen as a responsibility of the mother (Johnson, 2015). So-called intimate surveillance is defined as “the purposeful and routinely well-intentioned surveillance of young people by their parents, guardians, friends, and so forth” (Leaver, 2015, p. 153). However, the question arises of where the line is drawn between well-intentioned caring and controlling.

The previously discussed issues focused on the parent-child relationship, but similar questions can be raised about other relationships, such as those between partners and with older family members. There are unique challenges to employing domestic AI as a guardian in these relationships (Urquhart et al., 2019). When we talk about partner surveillance, it is often considered a form of ‘intimate partner violence’ rather than care (Dereymaeker et al., 2024; Messing et al., 2020). In this context, surveillance technology can inadvertently contribute to dynamics of control if not used responsibly. Messing et al. (2020) highlight that this behaviour needs careful consideration to ensure it supports rather than undermines trust and respect in relationships. In the case of elderly surveillance, the focus shifts to finding a balance between the autonomy and privacy versus the care and control of individuals who are experiencing physical and/or mental decline (Argandoña et al., 2021). Here, surveillance could be beneficial if it is implemented in a way that enhances the safety and well-being of the elderly, ensuring that it respects their dignity and independence while providing necessary support.

Overall, domestic AI as a guardian has the potential to reshape surveillance practices in the family, but it could just as easily extend certain practices or even facilitate the status quo. Previous research on surveillance practices, however, suggests that the situation may not be as extreme as it appears. In any case, we should avoid deterministic questions like: *“To what extent do we prevent parents from delegating their supervisory responsibilities to an AI system?”*. A more appropriate and accurate question would be: *“How do we ensure that supervision by an AI system aligns with parenting and the needs of the child?”*

Domestic AI as a companion in the household

A third category of domestic AI concern social robots designed for use in the household. Such domestic AI can vary in the degree to which they are embodied (e.g., a toy robot versus an AI girlfriend chatbot). While personal digital assistant technologies such as Siri or Alexa were traditionally conceived of as domestic AI to assist with small everyday tasks (e.g., add something to a shopping list, set a timer, mimic some pet like behavior etc.), recent developments in large language modelling, and the integration of such models into these personal assistants, is narrowing the gap between social robots and personal digital assistants. Indeed, digital 'assistants' have evolved to digital 'companions' capable of mimicking interpersonal communication as differences between human-human interaction and human-machine interactions are becoming increasingly smaller (Leo-Liu, 2023). As a result, these systems can partake in much more complex social interactions, opening their use for care and companionship work. For instance, they can now help children with their homework, read them bedtime stories, and can engage in fun and banter. Research also shows that people personify personal digital assistants such as Siri and Alexa, apologizing to them, thanking and reprimanding them (Lopatovska & Williams, 2018).

The development of domestic AI companions opens up expectations surrounding their use for providing care and companionship. AI has become so capable of carrying conversations and convey a feeling of connectedness, that users may feel interactions with AI companions are similar to human-human interactions in terms of their intimacy and understanding during emotional disclosure (Ho et al., 2018). AI may even be more capable of achieving high quality social interaction than humans (Edwards et al., 2020). Because domestic AI companions can act as social exchange robots that may reinforce and support the interpersonal norms that we consider important in our interpersonal communication and social interaction (Leo-Liu, 2023). As such, they come with the promise that they may help overcome some of the challenges of society. Domestic AI companions, for instance, could help in combatting loneliness among elderly household members (Alessa & Al-Khalifa, 2023); they could give children care that may be un- or less available from their (working) parents (Sharkey & Sharkey, 2011); they could

interact compassionately with psychosocially vulnerable household members to monitor how they are doing but also potentially intervene through compassion and just-in-time-adaptive-interventions (Grové, 2021); they could help satisfy both sexual and companionship needs of individuals (Scheutz & Arnold, 2016). In a myriad of ways, domestic AI companions could thus have a beneficial impact on society.

But there are also concerns. As these AI companions become more humanized, scholars argue they may increasingly 'dehumanize' individuals – the fear is then not just that humans might be replaced with technology; but also that there will be an inevitable devaluation and marginalization of humans. Turkle (2007) for instance, has written extensively about the 'pretend empathy' of AI companions, and how it might eventually make people avoid real interactions for being too messy and less controllable.

Similarly, feminist scholars caution that AI companions are often feminized, reinforcing stereotypical ideals of the 'perfect woman' as someone who is always available, empathetic, and eager to cater to every need and desire (Erscoi et al., 2023). These stereotypical ideals may be internalized by both men and women (Erscoi et al., 2023). At the same time, there are concerns about the biases present in the data used to train domestic AI companions, which contribute to a 'politics of invisibility' by prioritizing certain versions of reality (e.g., heterosexual romantic relationships) over others (e.g., non-heterosexual relationships), further marginalizing specific social groups. This issue becomes all the more complicated with private tech companies having the power over decisions pertaining to which versions of reality are more likely to be brought into the daily lives of individual household members (such as the decision to make the voice of digital assistants female on default) (Feine et al., 2020).

Yet, although empirical research on the actual implications of AI companions in the household remains limited, early findings suggest a more nuanced picture – with domestic AI companions both shaping and being shaped by family household dynamics. This becomes visible in studies showing substantial variability between households in how they approach and use personal digital assistants. In many households, for instance, parents and children engage in co-use of the technology (Wald et al.,

2023). Moreover, household members rely on the technology for a wide variety of purposes, where seemingly mundane activities such as asking the AI to set a timer are often implicated in parenting practices, for instance parents implementing time restrictions on a child's activities. Also nuancing are recent findings showing that the gendering of chatbots does not automatically lead to stereotyping – a finding that researchers tentatively explain through the growing awareness of and therefore resistance against this process among users (Bastiansen et al., 2022).

In other words, we might want to avoid deterministic questions, such as whether domestic AI companions will replace household members in providing care and companionship, or whether their representation will inevitably lead to the dehumanization and marginalization of individuals and social groups. Yet, this does not render questions about the stereotypical representation of domestic AI companions irrelevant. Even if we set aside their impact on individual households, the (biased and/or stereotypical) portrayal of AI remains an important cultural artefact worthy of examination. For example, it prompts reflection on how care and companionship in our society continue to be gendered and undervalued forms of work. Perhaps a more appropriate question would be *“How do households and their members use domestic AI companions for the purpose of companionship, and how do they perceive, negotiate and experience the opportunities that pertain to these technologies’ capacity for high quality social interactions, as well as the risks that pertain to their representation and use?”*

Discussion and Conclusion

In this paper, we focused on domestic AI systems and three social roles they fulfill, namely that of a home maintainer, a guardian, and a companion. Our analysis shows the value of not investigating domestic AI as a container term or merely focusing on its technological capabilities. Instead, focusing on the distinct social roles allows for a better understanding of how families and everyday households life is impacted.

Overall, our analysis demonstrates that domestic AI systems embody both the developers' utopian visions and society's dystopian concerns. While (initial) empirical research presents a less black-and-white narrative, we should not underestimate how domestic AI systems may still highlight certain values over others that further shape families and everyday household life.

First, in the case of domestic AI as a home maintainer, it's noticeable how there is a move to efficiency thinking that seeps into every aspect of our daily lives including how we should run our household. In a pursuit of maximizing productivity, there is a tendency to evaluate (household) tasks on how efficiently they are performed (e.g., Aagaard, 2021). When allowing this efficiency thinking into our households, we risk devaluing domestic work to only how long it takes to perform them. Moreover, by introducing domestic AI as a home maintainer, new power-embedded roles are being introduced to manage them.

Second, considering AI as a guardian, the added focus on control and safety management as part of caring for social others is prevalent (Leaver, 2017). In a similar fashion the value on control and surveillance could alter the dynamics of care, shifting from a relationship based on mutual trust to one characterized by oversight.

A third and last vision linked to domestic AI as a companion highlight how technology could copy human elements to be able to partake as an actor in our interpersonal lives (Leo-Liu, 2023). These AI systems are promoted as systems that could potentially fill the gap in companionship for individuals who might feel isolated or lonely. However, comparing AI companions to humans could be detrimental for how people look at and value imperfect human interactions.

For each social role that domestic AI can fulfil, we have already presented questions in an attempt to move beyond a deterministic (utopian/dystopian) perspective. In the remainder of this paper, we want to introduce three overarching questions: (1) To what extent are new roles being

introduced and/or existing roles reconfigured? (2) What is the 'price' we are willing to pay to deploy domestic AI systems? Finally, (3) To what extent do we want to automate our households?

The first of these questions concerns the introducing of new (management) roles in the household (i.e., those managing the digital household). Although many of these roles are necessary for domestic AI systems to run, adding them could redistribute responsibilities and power concentration. Moreover, as these new roles often require some technical skills, they are likely targeted at those with a familiarity with technology within the household. Consequently, the managerial power could disproportionately lie with those who are skilled.

A second issue is linked to the 'price' we want to pay to deploy these domestic AI systems. Arguably, all these domestic AI systems are increasing the amount of data that is captured from the household and its members. This data collection can lead to significant privacy concerns. Moreover, the newly introduced roles take up time to execute, time that cannot be used to do other tasks in the household. These -often hidden but- unavoidable changes to our household dynamics should be considered when looking into the adoption of these systems.

A third issue concerns the broader question on what we want to automate or delegate to AI in our household. Domestic AI systems add a technological layer on top of traditionally human practices or in some cases completely replaces it. Do we want interpersonal communication, caregiving, and household management to literally lose its human touch, and if so to what extent? Arguably changing 'warm' human behavior into 'cold' mechanical behavior or mimicry loses some of the nuance and imperfection characterizing our households. If the essence of human interactions lies in their imperfections, emotional nuances, and the ability to adapt to unexpected situations, replacing these interactions with AI could lead to a more efficient but less human home environment.

Whether or not these new or reconfigured roles, responsibilities, potential loss of privacy, changing family dynamics cause power imbalances or other detrimental outcomes mainly relies on how

the technology is adopted and negotiated within the household. At the moment, there is ample empirical evidence for both situations where the adoption of domestic AI systems had negative consequences and situations where this did not happen. We, therefore, argue that scholarly attention should go to *how* these domestic AI systems are implemented and negotiated, how their embedded goals align with the values and norms in a household and how these systems are used/adapted to fit a specific context.

Implications

One implication that emerges from the reflections made in this manuscript is that future research should move beyond a deterministic viewpoint when investigating domestic AI. Rather, future research should focus on the everyday negotiations that define how these technologies are integrated into our everyday lives. More specifically, researchers should not only focus on whether domestic AI inherently lead to (a loss of) control or empowerment, but also to how household members experience and reconcile these dualities in practice, thereby potentially changing the meaning of specific concepts such as control versus care.

This shift from a technical perspective to a relational one also has implications for policy and practice. It means that guidelines, regulation and services supporting families and households should focus more on the social roles that domestic AI plays in the household and account for how this shift affects household dynamics (e.g., power relationships, agency, and intimacy) rather than being based merely on an evaluation of how effectively and efficiently the system performs specific tasks.

Consequentially, when evaluating domestic AI, a key consideration for not just researchers, but also policy makers and practitioners working with families is how domestic AI aligns – or fails to align – with the norms, values and needs of all family members.

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