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Called Back Onstage: Dramaturgic Analysis, Domestic Social Robots, and Privacy

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Abstract. I argue that social robots installed inside homes produce a novel privacy problem when they invite their users to engage with them. To build my case, I introduce relevant concepts from Erving Goffman's theory of Dramaturgic Analysis to interpret human-robot interactions. Following Goffman, I posit that we pre-reflectively adjust our behavior to communal expectations and perform as characters when interacting with other people in public. We tend to step into character when we encounter familiar social situations, which, I argue, includes those created by robots that mimic human social behavior. Our homes, ideally, enable us to set aside the characters we play in public to pursue private tasks associated with our well-being, autonomy, and intimate relationships. As such, when domestic social robots elicit social responses from users, they may rob users of time they could otherwise dedicate to valuable private activities—an issue I categorize as a privacy problem.

Keywords. robot ethics, privacy, dramaturgic analysis, domestic robots, social robots

1. Introduction

> So young Rossum said to himself: "A [human] is something that feels happy, plays the piano, likes going for long walks, and in fact, wants to do a whole lot of things that are really unnecessary." [1]

Erving Goffman claims that the vocabulary of dramaturgy includes many concepts that can be used to describe how humans coordinate during their day-to-day lives [2: 13-28]. When we interact with other people in public settings, he explains, we follow behavioral patterns analogous to the scripts actors memorize to help them embody a character. While we have some room to improvise, we tend to pre-reflectively adapt our behavior to the expectations of others. We play numerous characters throughout our day, shifting from one role to the next as we interact with different people in different contexts. Goffman asserts that we cannot stay in character indefinitely. Actors take breaks during productions, and step offstage to attend to tasks they cannot satisfy while performing for their audience [2: 114-115]. Likewise, we must distance ourselves from others to complete tasks unassociated with the characters we play in public [2: 116-120]. These

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moments offstage often consist of short breaks, but also include longer periods spent in dedicated private spaces—most notably our homes.

I will argue in this paper that social robots designed for home use (henceforth *domestic social robots*) disrupt their users' ability to remain offstage. These machines simulate the experience of interacting with other people by harnessing our tendency to treat things that resemble social actors like social actors. I will posit that these robots call their users back onstage when they initiate (artificial) social interactions. Furthermore, I will present an original synthesis of several privacy scholars' interpretations of why we need time to ourselves to show that being called back onstage by robots is a privacy problem. I will argue that our homes should be places where we can set aside the characters we play in public to pursue private activities related to our well-being, autonomy, and the maintenance of our intimate relationships. And, being called back onstage by robots robs users of time they could otherwise dedicate to these tasks.

Overall, I aim to show that domestic social robots raise a privacy problem that scholars have yet to identify, that occurs when they invite their users to engage with them, and we should be wary of introducing them into homes for this reason. Before moving forward, I would like to ask my readers to view this paper as a conceptual rather than empirical exploration of an under-researched privacy problem made possible by social robots. I will draw from empirical evidence, when possible, but mostly rely on my interpretation of relevant sociological, human-robot interaction, and ethical research to build my argument.

2. Dramaturgic Analysis

According to Erving Goffman, our lives in public are analogous to stage productions [2: 26-27]. When we participate in communal activities, we perform as "characters" who others expect to behave in specific ways. Much like how we anticipate that an actor playing Macbeth will emphasis the tragic nature of this character through their speech and movements, we assume that someone working as a waiter will speak with their customers, take orders, and bus tables in a manner befitting this role [2: 22]. We step onto a metaphorical stage when we engage with others in public settings and perform for onlookers, who serve as our audience. Meeting our audiences' expectations ensures that they will treat us as competent individuals who have the qualities necessary to complete whatever task we are undertaking.

Goffman developed this way of conceptualizing social relations, called Dramaturgic Analysis, partly to explain why we perform seemingly unnecessary actions when coordinating as groups [2: 13-15]. A waiter does not need to smile at customers while moving dishes to-and-from tables. Nor does a stage actor need to cup their face in their hands when reacting to shocking fictional events. These actions communicate that the waiter and actor can live up to, or exceed, their respective audiences' expectations. Goffman explains that coordinating with others does not just call for us to mechanically complete tasks, but also requires us to present ourselves as the type of people who can perform such activities [2: 24; 3: 24]. I will draw from my experience working as a teacher to unpack these ideas.

When I enter a classroom, I step into the character of "a teacher" and follow behavioral patterns my students expect from someone playing this role. On some level, I appeal to a script by consciously and unconsciously reenacting successful performances I have seen other teachers and people in similar positions give in the past. I was never

formally taught to present myself as a teacher, but I know through watching others and learning from my own performances how to conduct myself when around students. Although teaching formally requires me to verbally relay relevant information to my students, I perform many additional actions to communicate that I am good at my job. I use intonation that signals I am confident and pause between sentences to show I am reflecting on my words. I occasionally smile while giving presentations to ensure I do not seem unfriendly but generally keep po-faced to convey my concentration. I present myself as knowledgeable and attentive through these subtle yet highly meaningful gestures that are not essential for the task at hand yet expected from a teacher.

Stage actors who flub their lines or break character risk facing backlash from their audience. Failing to meet people's expectations in day-to-day life results in similar outcomes. If I were to stare at the floor while teaching, I would have trouble garnering respect from students. Even if I fulfilled the formal requirements of my job (e.g., verbally relaying information to students), I would still risk upsetting students if I acted in this way. Although we avoid giving performances that will displease our audience, our actions are not necessarily motivated by fear of social backlash. Being among people who expect us to present ourselves as a character is often enough to prompt us to present ourselves as said character [2: 81-82; 3: 35-38]. When students ask me questions during classes, they invite me to respond to them as a teacher would, something I do when performing this role, without much reflection. My tendency to automatically perform as a teacher when around students is plainly obvious when I run into them outside the classroom. Speaking with a student on the street, for instance, makes me pay attention to formalities associated with the classroom that I would not normally follow in this context. Without realizing it, I adjust my speech patterns and choice of words to match this social engagement, becoming the teacher this student expects me to be. And the teacher I want them to treat me as. We frequently step into character pre-reflectively throughout our day. Talking with cashiers in stores encourages us to perform as "customers". Likewise, when communicating with our bosses we take on the role of "employees".

Performing as characters, for Goffman, does not mean we are acting in bad faith. Our performances communicate that we understand (or do not understand) others' expectations of us. Like any other form of communication, we can convey truth or falsehoods via our performances [2: 244-245]. For instance, I enjoy teaching and truthfully express my enjoyment of this line of work through my performances in the classroom. Regardless of how we feel about the characters we play, Goffman explains, we cannot sustain performances indefinitely and must sporadically distance ourselves from others to attend to other aspects of our lives [2: 109-141]. For stage actors to give a good performance, they need time offstage to prepare themselves before their curtain calls. Once onstage, they must refrain from behaving in ways that would break the fourth wall. Goffman claims that this division between being on and offstage applies to everyday life as well.

Playing characters, Goffman explains, takes a toll on us [2: 129-141]. We eventually become exhausted from having to adjust our behavior to meet our audiences' expectations. I cannot rest, pursue my hobbies, or answer phone calls while performing as a teacher, as this would communicate to my students I am not focused on the task at hand. However, I can complete these activities in other, appropriate contexts without anyone batting an eyelid. To complete tasks unassociated with the characters that we play throughout our day, we must step offstage and signal to others that we are taking time for ourselves [2: 109-141].

Goffman notes that workplaces often feature spaces where people can step offstage. Until recently, workplaces often had dedicated smoking areas where staff could socialize as friends rather than co-workers [3: 39-40]. Likewise, restaurants usually prepare food behind closed doors, allowing chefs and waiters to act without worrying that they may accidentally offend their guests [2: 117-120]. Even in highly public spaces, such as train stations, people can signal to others they wish to be left alone by picking up a newspaper or book [3: 38-42]. These spaces, Goffman claims, are analogous to a theatre's "backstage"—a place where actors drop character and take care of their personal needs without disturbing or (being disturbed by) their audience. He also claims that people usually know they should not enter these spaces without an invitation, much like how audience members during stage productions usually refrain from barging into backstage areas [3: 40].

Distancing ourselves from others is the most effective way to communicate that we no longer want to participate in performances. Solitude affords us space to complete tasks others may find inappropriate in public settings. Goffman suggests that we cast aside our public personas at our front doors [3: 9]. Our homes shield us from social engagements. Their walls ensure that others cannot invite us to perform in character alongside them. Additionally, people usually know that they should not disturb someone when inside their homes, as they have clearly communicated that they want time off by removing themselves from the stage of public life. Aside from suggesting that performing for others eventually exhausts us, Goffman does not provide much normative justification for why we should be left alone at certain times. However, privacy scholars have argued that we must step offstage to fulfil several, crucial needs that cannot be adequately met in public settings—which I will detail later in this paper.

3. Being Called Back Onstage by Robots

Researchers have known, for over twenty years, that people tend to treat simulated social stimulus as though it were the real thing [4, 5: 23-83; 6]. A computer program which speaks with a male-coded voice may sound more convincing than one with female-coded voice to anyone who implicitly or explicitly subscribes to gender stereotypes which portray men as better suited for leadership positions than women [6]. Similarly, when a machine seems friendly and cooperative, its users will likely behave politely towards it and try to avoid hurting its non-existent feelings [5, 6]. Social robotics, as a discipline, aspires to harness this tendency to create robots that simulate the experience of interacting with genuine social actors [7, 8].

Rather than creating technologies that one could plausibly call sentient, social roboticists usually aim to design robots that trigger the tendency outlined above [7, 9]. It does not matter if users believe a robot has comparable psychological capabilities to a human, so long as its mimicry of social behavior prompts them to respond in kind. Roboticists often accomplish this by creating robots that mimic contextually relative behavior associated with specific and reasonably well-defined social situations [10]. For instance, people already know what to expect from service workers, thus a robot designed to help customers in retail environments should act like someone fulfilling this role [11]. Thanks to our life-experiences, we know what being in this social situation entails. When a service worker smiles at us, we understand that this is an invitation to engage with them and request their assistance [12: 3-24]. And a robot that mimics this behavior will ideally produce a similar response from its users [13].

When we interact with a social robot, we should not feel like we are dealing with a technical artefact. Whereas we must employ specialized technical skills to operate tools, machines, and most electronic devices, we should be able to rely on our social know-how to use social robots. By behaving like a human plausibly would in the same situation, social robots should motivate people to respond to their computationally determined outputs as though they were socially meaningful. In turn, this should encourage users to interact with a social robot by manipulating signs, such as spoken language or bodily movements, that they assume a human interlocutor would understand [4]. Ideally, users can exclusively rely on communicative skills, otherwise used to coordinate with other people, to complete tasks with social robots.

Very few researchers have used Dramaturgic Analysis to describe human-robot interactions to date[2]. I intend to begin filling this literature gap in this paper and believe that Goffman's work contains many helpful concepts that we can use to interpret what happens when robots successfully convince people to treat them as social actors. Indeed, one could, and perhaps, should say that social robots invite users to perform in character for them.

To return to the service robot example again, this type of robot prompts its users to perform as "customers" in response to its mimicry of another familiar character from day-to-day life: a "service worker". Interactions between these two characters tend to follow predictable patterns. Service workers convey to customers their willingness to help them by smiling, making eye-contact, and greeting them with open questions (e.g., "how are you today?" or "is there something I can help you with?"). Someone who recognizes these opening strategies will likely respond to them as we expect a customer would. For instance, they may accept the service worker's invitation by maintaining eye-contact, reciprocating their smile, then politely make their needs known. Or decline their invitation by making it clear they do not want assistance, perhaps by shaking their heads or raising one of their hands to signal "no, thank you" [13].

A service robot should get its users to behave in this way. By convincing users to perform as customers, the robot encourages them to rely on their experience of similar social situations when interacting with it. The same holds for other social robots. Companionship robots mimic how we expect dependents to behave to ensure users perform as "caregivers" [15]. Likewise, an effective teacher-robot would have to make its users behave as "students" for it to function in this capacity at all [16]. I should reiterate that we tend to step into character automatically when we enter familiar social situations. Social robots, one could say, trigger this type of response by mimicking contextually relative social behavior that, when performed by humans, call us onstage.

Being called onstage in public spaces is something we take for granted. We cannot go about our day without engaging with others who expect us to perform in character, as coordinating with others at our jobs, inside stores, or on the street demands this from us. Thus, robots that initiate interactions in these locales, arguably, do not disrupt our ability to remain offstage any more than a human would if they did the same. In contrast, we tend to treat our homes as places where we can disengage from performances. If a social robot were to invite a user to perform in character at home, this machine would call them onstage in a locale where we do not expect or, often want, this to happen. The robot would change this offstage locale into an onstage one.

[2] Mark Coeckelbergh is a noticeable exception and uses "performance metaphors" to describe how humans relate to technology [14].

In recent years, numerous companies have created social robots for home use that complete tasks which require interactions between at least two people when done by humans. These robots include embodied virtual assistants that perform household chores while maintaining an air of friendliness [17]. Robots that serve as stand-ins for authority figures, such as nannies, tutors, or care workers [18]. And, robots designed for entertainment purposes, which primarily function as artificial friends for children and adults [5]. Like other social robots, these machines invite their users to treat them as familiar characters from day-to-day life, in turn encouraging users to step into character themselves. A domestic social robot that acts like a subordinate (e.g., a housekeeper or assistant) encourages its users to perform as its boss and follow behavioral patterns associated with this character. Likewise, a domestic social robot that seems authoritative, may convince its users to respond to it as though they were dealing with someone acting in this way [4, 19].

Of course, peoples' responses to these invitations to step into character at home will vary. Whereas one person may immediately begin performing as an authoritative character when a domestic social robot asks for a command, another may dismiss this invitation. Nonetheless, the invitation is there, signaling to users that there is someone inside their homes who wishes to call them onstage. When domestic social robots send these signals, they disrupt their users' ability to shield themselves from social engagements by entering their homes—a phenomenon that, I will argue in the next section of this paper, amounts to a privacy problem.

4. Privacy as Being Offstage

Privacy scholars have drawn from Goffman's work to justify why we need time to ourselves since the 1960s [20]. Although performing in character constitutes a significant part of day-to-day life, a life lived wholly among our peers, superiors, and strangers would be disastrous. Without periods of relief, we could not adequately take care of our well-being, make autonomous decisions, or cultivate relationships with people we love or like. In Western Liberal Democracies, our homes should provide us with space to pursue these needs without unwelcome disruptions [21; 22: 58-61]. Thus, when domestic social robots call users onstage, they intrude on their privacy. Before moving forward, I should state that I will not discuss privacy problems related to data misuse in this section. Instead, I aim to show, via my interpretation of several privacy scholars' accounts of why we deserve to be let alone at home, that being encouraged to perform in character by robots is a privacy problem.

Perhaps the first privacy scholar to appeal to Goffman in their work, Alan Westin, argues that we need privacy to attend to psychological and physiological needs that we cannot satisfy while among other people. Following Goffman, he explains that playing different characters throughout our day eventually exhausts us. We experience "tension" from having to meet the expectations associated with the characters we play, which at some point, we must attend to by finding relief in solitude [20: 41]. When onstage, we often cannot attend to tasks required for our well-being. For instance, we cannot sleep, groom ourselves, or rest. Additionally, Westin highlights that liberal theory recognizes that people deserve time-off from their (public) social commitments to enjoy themselves and focus on their passions. To live "a good life" we need "time devoted to sports, arts, literature, and similar non-political pursuits" [20: 35]. For Westin, we find fulfilment in

activities unassociated with our public lives and therefore deserve leisure time to pursue them.

Other scholars have argued that being alone affords us a crucial right protected by liberalism: autonomy [22: 31-37; 23]. As Goffman explains, we adjust our behavior to meet communally determined standards when playing characters; thus, have less freedom to express ourselves as individuals. Beate Rössler contends that privacy safeguards an aspect of our autonomy that we cannot fully realize in public [24: 43-71]. According to liberal theory, everyone deserves to govern themselves as they see fit [25]. As our lives are our own, we have the right to choose how we will live them. In practice, however, we have commitments to others that limit this freedom. Doing our jobs, for instance, requires us to conform to rules that we do not determine for ourselves. If we wish to maintain a good relationship with our bosses, clients, and co-workers, we cannot do as we please and must act in accordance with their expectations of us. In contrast, we can act with less concern for others' expectations when alone. Withdrawing from others affords us a degree of autonomy usually unavailable to us. Private moments, often spent inside our homes, allow us to reflect on who we are, who we wish to be and formulate lifegoals without worrying that our actions or thoughts will upset the people we coordinate with in public [24: 79-106].

Even though being in public and, by extension, performing in character, influences what we can and cannot do during a significant part of our daily lives, this does not mean we always hide our true selves from others. When we wish to form intimate relationships with other people, we share personal information with them that we usually keep undisclosed [26: 56-74]. We let our guards down to build and maintain bonds with our friends, romantic partners, and family members. As Rössler states:

> In private relationships - to the extent that they are private - we act differently, present ourselves differently, rehearse ourselves in a way that differs from what occurs in relationships with whom we are not on special or close terms. In this respect, the private sphere constitutes nothing less than a symbolic space in which, in our dealings with persons of our own choosing we can invent ourselves or at least act without protection. [24: 131]

These types of relationships require us to set aside performances. Being someone's friend means sharing private information with them, often concerning our thoughts and identities, that we do not share with everyone we meet. When we grant people access to our private lives in this way, we (hopefully) gain a trusted confidante whom we can step and remain offstage with. Without these relationships, we would have less leeway to be anything other than the characters we embody in public settings.

Goffman makes similar claims concerning the need to step offstage for the sake of intimacy. A married couple hosting a dinner party, for instance, cannot express the full extent of their love for one another while among their guests. First and foremost, they present themselves as ideal hosts by following appropriate etiquette and attending to other dinners' needs. Once alone, however, they can let their guards down and honestly discuss how the night's events made them feel, thus enriching their relationship [2: 84].

Attending to these needs requires our more-or-less undivided attention, hence why we often withdraw to private spaces, such as our homes, that shield us from unwelcome social engagements, when we wish to satisfy them. We cannot adequately care for ourselves, experience the level of autonomy outlined above, or bond with people we love or like when performing as characters. Furthermore, the time we can dedicate to these needs is limited. Most working-age people in the Global North spend at least eight hours

a day, five days a week, at work, where they must coordinate with others often in character [27].

When domestic social robots call users onstage at home, it follows, they rob them of time they could otherwise dedicate to valuable, private activities. Say, for instance, a robot virtual assistant, interrupts a couple discussing their plans for an upcoming holiday to request commands from them. This request invites the couple to perform as the robot's superiors at a moment when they wish to enjoy their downtime together, bond over a mutual exchange of personal information, and make plans for their future. Being called back onstage by the robot distracts them from these valuable tasks, leaving them with less time to enjoy planning their holiday together. Furthermore, this happens inside a private space where we expect to be let alone for the sake of our well-being, autonomy, and intimate relationships, thus calling into question a home's ability to shield its occupants from unwelcome social engagements.

One could argue that anyone who experiences this privacy problem does so by choice. People do not have to buy domestic social robots and can refrain from introducing technologies that call them onstage into their homes. Although this is true, being called onstage is not something we usually notice happening. Furthermore, researchers have yet to frame this phenomenon as a privacy problem, meaning that it is not an issue that consumers or roboticists likely consider when buying or designing robots, respectively[3]. Therefore, consumers may purchase robots that invite them to perform in character at home without realizing that this will rob them of the precious time they can dedicate to their private needs.

Additionally, as stated earlier, social roboticists often aspire to create robots that simulate the experience of interacting with an authentic social actor. Whereas other people usually understand when someone wishes to be let alone, as far as I know, no robot to date has been designed to recognize the signals we use to communicate that we want privacy (e.g., avoidance of eye contact). If roboticists do not recognize that people need to be let alone at home, they may inadvertently create robots that encourage users to engage with them at moments when they wish to attend to private tasks that require their full attention.

5. Conclusion

I argued in this paper that social robots invite users to perform in character, as described by Erving Goffman. When this happens inside people's homes, I posited, robots call their users back onstage resulting in them losing time they could otherwise spend on tasks that require privacy, namely those associated with their well-being, (increased) autonomy, and intimate relationships. I claimed that this issue (being called back onstage) is a privacy problem, especially since it occurs inside a space that we use to shield ourselves from social engagements: our homes.

As stated at the beginning of this paper, the argument provided throughout is chiefly conceptual in nature. I have drawn from empirical evidence as much as possible but primarily relied on my interpretation of relevant scholarly literature to frame human-robot interactions as performances. Then, argued that performing with other people (and

[3] Ryan Calo does highlight a comparable privacy problem but focuses on how social robots may chill people's behavior rather than encourage them to perform in character [4].

robots) takes a toll on us. Although one could view my strategy as overly reliant on speculation, I believe it lays the ground for new avenues of research that human-robot interaction scholars should pursue.

First and foremost, I believe researchers should pay closer attention to the subtle psychological costs of interacting with social robots. Coordinating with other humans demands a lot from us, even when we enjoy doing so. Knowing when, where, how and with whom we should perform as a given character, for instance, takes skill, effort, and learning. As made clear throughout this paper, employing our social know-how to interact with other people and robots is psychologically costly. Indeed, some scholars have even framed our usage of learnt social behavior as "labor" partly for this reason [12, 27, 28]. As far as I know, human-robot interaction scholars rarely discuss this issue in their work and often assume that people prefer dealing with robots that respond to social behavior than ones which do not, without recognizing the skill and effort required to do so. As such, I highly recommend human-robot interaction scholars acknowledge and study the psychological costs of coordinating with robots as though they were humans.

Although I focused on domestic social robots in this paper, the conclusions presented apply to social robots in other contexts. We usually expect to have less privacy at work, on the street, or in retail environments, than at home. Nonetheless, we do need time offstage in these places too. As stated earlier, workplaces often include spaces where people can drop character. Likewise, we often signal to others that we do not wish to interact with them in public spaces via various means (e.g., by holding a newspaper or cell phone in front of our faces). If robots that call users onstage appear in these settings, they will disrupt people's ability to remain offstage when they wish or need to—albeit less severely than ones installed inside homes. Considering that many social robots designed for workplaces and public settings have reached the market in recent years, I highly recommend researchers begin questioning whether these machines' presence curtails the amount of offstage space available in these environments.

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