Surveillance and persuasion

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Abstract This paper is as much about surveillance as about persuasive technologies (PTs). With regard to PTs it raises the question about the ethical limits of persuasion. It will be argued that even some forms of self-imposed persuasive soft surveillance technologies may be considered unethical. Therefore, the ethical evaluation of surveillance technologies should not be limited to privacy issues. While it will also be argued that PTs may become instrumental in pre-commitment strategies, it will also be demonstrated that the use of persuasive surveillance technologies in order to influence the users to become more compliant, to get their consent more easily or making it harder to opt out of the system does give rise to ethical issues.

Keywords Surveillance · Privacy · Persuasive technologies · Behavioral change · Freedom

Introduction

This paper is as much about surveillance as it is about persuasive technologies (PTs). In the context of this work, PTs refers to technologies designed explicitly to change the behavior or beliefs of their users (Fogg 2003).[1] As Andreas Spahn has pointed out, the fundamental ethical question with regard to PTs is "where to draw the fine line between persuasion and manipulation," since PTs "do not *convince* the user to change his behavior or attitudes, but *persuade* him to do so" (Spahn 2012, p. 634). In this paper, I focus on a specific aspect of the general ethical challenges for

PTs by raising questions about the use of persuasive elements to promote compliance with PTs.

While PTs has become a common name for an emerging field of research and development, we have to consider that very few examples of PTs are available to consumers. Therefore, a fictional example was chosen. By discussing a fictional example of a self-imposed persuasive soft surveillance system, the paper also aims to contribute to the ongoing discussion about the ethical evaluation of surveillance. It will be argued that even under conditions of informed consent, a self-imposed persuasive soft surveillance system may give rise to ethical issues, which are not privacy issues.[2]

In this paper, surveillance and persuasion are regarded as being morally ambivalent. Not only may certain kinds of surveillance be justifiable from an ethical perspective, but also certain surveillance practices might even be seen as empowering to individuals and groups [e.g., forms of "participatory surveillance" as discussed by Albrechtslund (2008)].

Persuasion in itself is not unethical. Arguing from an Aristotelian perspective for example, one might claim that a virtuous person must master the skills of persuasion to help others become virtuous (Rese 2002; Rapp 2010). Therefore, changing human behavior using computers

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[1] Recently, the term "angel technologies" has been suggested by Sendhil Mullainathan and Saugato Datta to describe technologies designed to "help people run their life better" by making use of behavioral science knowledge (Mullainathan and Datta 2012).

[2] For example, in his "Editorial Introduction—Surveillance and privacy" to the special issue of *Ethics and Information Technology*, Philip Brey said that "surveillance frequently undermines privacy because its very purpose is to retrieve information about persons and use it to exert some amount of control over them, and surveillance often takes place without informed consent" (Brey 2005b).

should not be considered unethical. New technologies always tend to cause changes in human behavior. The telephone rings and humans answer the phone. The traffic lights go red and humans stop moving.[3] The findings in science and technology studies and in other fields clearly suggest that humans are not the autonomous users of tools, but that there is a much more complicated interplay between humans and technology (e.g., Verbeek 2005, 2011; Capurro 2010). However, we may still need to draw a line between persuasion and manipulation. While it may be worthwhile to have a clear distinction between these two modes of shaping human behavior, in this paper, I focus on the tensions emerging from the persuasive nature of PTs themselves.

The fictional example of reasonable-drinkers.org is introduced in the first section. The platform will be described and analyzed as a self-imposed persuasive soft surveillance system. The fictional case is constructed and presented in such a way that concerns about privacy have been minimized. Therefore, the analysis of the system can focus on other ethical issues. Information about the underlying assumptions and the scientific findings on which the fictional example is constructed will be part of the discussion. Following David Lyon (2001), "surveillance" is presented as a two-step process. The ethical evaluation of surveillance systems must address both steps of the process. Since the first step is often discussed in terms of privacy, the focus of this paper will be on the second step in which previously collected data is used to shape people's behavior. Therefore, the second part of the paper focuses on the tension between persuasion and freedom. More precisely, the challenges to negative freedom that arise from the PTs are addressed because PTs aim to make it less likely for users to enjoy their freedom to do *Y* instead of *X*. Making use of PTs may be justified as being instrumental to enjoy the freedom to do *X*. However, we also have to take into account that surveillance systems may also include persuasive elements that aim to make the users more compliant. At this point, even a self-imposed soft persuasive surveillance system may give rise to ethical issues.

Persuasive surveillance

A fictional example: reasonable-drinkers.org

Imagine a group of people whose members have decided to have healthier lives by reducing their alcohol consumption.[4]

To achieve this goal, the group sets up an online service based on results from the behavioral sciences. As social psychology has demonstrated, people's behavior is often based on their assumptions about the average behavior of others.[5] The problem is that often we do not know what constitutes average human behavior. This also holds true in the case of alcohol consumption. As studies have demonstrated, people overestimate the amount of alcohol other people drink. People often drink more alcoholic drinks than they would if they knew the actual numbers.

Based on their findings, the group collaborates to set up an online service called reasonable-drinkers.org.[6] They decide to keep the service simple and sensitive to privacy. Every user receives a login name and password, but no personal data is collected. Each member is requested to enter the number of drinks they had the previous day. By the end of the week, individual feedback will be provided to each member, which consists of the average amount of alcohol consumed by the group's members during the last week and the individual's alcohol consumption in that week. The group also decides to incorporate some persuasive elements into the design of the online service: if the individual amount of alcohol consumed is about the same or lower than the average, the feedback will include a happy emoticon (smiley face), otherwise the feedback will include a sad emoticon (sad face). Since this is a fictional example, let us assume that this online service actually helps its users to reduce their alcohol consumption.

Discussion

Our fictional example is based on two cases presented in *Nudge* by Richard Thaler and Sunstein (2008).[7] The first case is the adoption of a large-scale educational campaign by the state of Montana "that stresses the fact that strong majorities of citizens do not drink. One advertisement attempts to correct misperceived norms on college campuses by asserting, 'Most (81 %) of Montana college students have four or fewer alcoholic drinks each week.'" (Thaler and Sunstein 2008). A similar approach to prevent young people from smoking has led to a significant

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[3] These examples are taken from Perry London's 1969 book *Behavior Control* as a reminder of the debate on behavior control and so-called "psychotechnologies" (Schwitzgebel and Schwitzgebel 1972), which echoes in the PTs discussion.

[4] The example of reducing alcohol consumption was chosen because there is no way to overdo "drinking less alcohol."

[5] References are given in the following section.

[6] The nonfictional example of "Rethinking Drinking" will be addressed below.

[7] Since the analysis of these kinds of studies and the underlying methodological issues are beyond the scope of this article, it is assumed that the designers of our self-imposed persuasive soft surveillance system do believe that results presented by Thaler and Sunstein (2009) are valid.

decrease in tobacco consumption.[8] The authors claim that the success of these campaigns was based on "the possibility of changing behavior by emphasizing the statistical reality" (Thaler and Sunstein 2008). A similar approach is taken in our fictional example, where information about the actual average alcohol consumption is provided to the users.

The second real-world case presented by Thaler and Sunstein (2008) is the use of emoticons as visual feedback in a study on how to decrease the energy use of households in San Marcos, California: "All of the households were informed about how much energy they had used in previous weeks; they were also given (accurate) information about the average consumption of energy by households in their neighborhood. In the following weeks, the above-average energy users significantly decreased their energy use; the below-average users significantly increased their energy use" (Thaler and Sunstein 2008). In addition to the information, some of the households also received visual feedback in the form of a happy or sad emoticon. A happy emoticon was presented to below-average users. An unhappy emoticon was presented to above-average users. This type of feedback resulted in a greater feedback impact and prevented the so-called "boomerang effect" on below-average users.[9]

Although the two examples originally did not include online computer services, it seems plausible to use these findings in designing an online service as described above. In this way, the fictional example also shows a link between the discussion on influencing human behavior and decision making in general (referred to as "nudging" by Thaler and Sunstein) and the idea of designing PTs (Fogg 2003). The example is also designed to illustrate a potential link between surveillance and persuasion, which has been mostly discussed in the field of ambient intelligence (AmI) (e.g. Jespersen et al. 2007; Verbeek 2009).

Surveillance may be defined as "any collection and processing of personal data, whether identifiable or not, for the purposes of influencing or managing those whose data has been collected" (Lyon 2001). Hence, surveillance is to be understood as a two-step process: In the first step, data about people is collected and analyzed; in the second step, the analyzed data is used to influence the behavior of people. According to this definition, the process described above is considered to be surveillance because it includes the collection and analysis of data (in this case: collecting data about the subject's alcohol consumption and calculating their average per week), also the use of the data to influence the behavior of the subjects (such as giving persuasive feedback).[10]

We also might consider this as an example of "soft surveillance" (Marx 2006) because the users of the service have given their informed consent and the surveillance process does not include any form of coercion or punishment, but remains surveillance.[11]

While this definition of surveillance may be in need of further clarification because of its use of rather unspecific or at least broad terms such as "influencing," its strength rests in not limiting surveillance to the collection, analysis, and storage of data. "Influencing" includes advertising and targeted marketing practices are frequently described as surveillance by scholars (e.g., Fuchs et al. 2012).

Since surveillance is understood as a two-step process, both steps may cause ethical concerns. While step 1 (collecting the data) has been discussed extensively in ethics under the topic of "privacy," questions about step 2 (influencing people) have rarely been raised in the context of (soft) surveillance.

In our fictional example, concerns about privacy issues were minimized by including participatory elements, which also ensure that users are well informed about the surveillance system. For example, users are aware that the system is designed to persuade them and are also informed about its theoretical background and the way the data is used. The amount of data collected is minimized to what is necessary and no personal data except for individual drinking behavior is collected. Users also assume that the data is not shared or used in any other way. If we consider this type of collection and analysis of data as an issue of information privacy at all, it surely has to be regarded as minimal.

Freedom and persuasion

If step 1 of the surveillance process does not cause ethical concerns, what about step 2? How do we evaluate the use of persuasive strategies as part of a surveillance process?

Negative freedom and persuasion

Philip Brey (2005a) noted that AmI "has a potential to limit negative freedom because it could confront humans with smart objects that perform autonomous action against

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[8] Thaler and Sunstein (2009) here refer to studies presented by Linkenbach (2003) and Linkenbach and Perkins (2003).

[9] Thaler and Sunstein (2009) here refer to the work of Schultz et al. (2007). The "boomerang effect" refers to the increase of energy consumption by below-average users.

[10] In contrast to Fogg (2003), who also addresses surveillance technology as a tool, I consider persuasive elements to be part of the surveillance process.

[11] It should be noted that most of David Lyon's work is not on "soft surveillance."

their wishes. … AmI also has the potential to limit positive freedom, by pretending to know what our needs are and telling us what to believe and decide" (Brey 2005a). Since the visions of PTs and AmI overlap to a certain degree (e.g., Verbeek 2009), we may assume that step 2 of a persuasive surveillance process is also to be analyzed for its potential to limit users' positive freedom of choice. In short, PTs may be seen as paternalistic (Spahn 2012).

However, I argue that persuasive surveillance and PTs in general may also limit the users' *negative* freedom in a different way as suggested by Brey (2005a).

In his book on Isaiah Berlin's concept of freedom, Jean-Claude Wolf suggested that negative liberty has the function "to keep doors open" (Wolf 1995); we value the "freedom to do X" even if we do not choose to do X, because the choice to do or to not do X is left to us.

The PTs literature [and at the current literature on persuasion, e.g., Thaler and Sunstein (2008)] gives examples where persuasion is used to support people to have healthier lives (play more sport and eat and drink less). For example, the 7th International Conference on Persuasive Technology held in 2012 was explicitly dedicated to the design of PTs for health and safety (Bang and Ragnemalm 2012). And—as has already been mentioned—Thaler and Sunstein (2008) refer to studies about reducing alcohol and tobacco consumption. However, Peter-Paul Verbeek points out that if "the government were to force people to practice sports regularly and to smoke and drink less by means of legislation, there would be great consternation: people are deemed able to take responsibility for their own lifestyles" (Verbeek 2009). Therefore, he argues that it is important "to design democratic procedures to shape this kind of influential technologies" (Verbeek 2009). While I do agree with Verbeek about the need for democratic procedures,[12] I am not so sure that persuasive surveillance will be seen as being similar to forcing people to do X by means of legislation. First, PTs are presented as being free of coercion (Fogg 2003). One may also consider persuasive strategies—or "nudging"—even as an alternative to legislation: "Putting the fruit at eye level counts as a nudge. Banning junk food does not," (Thaler and Sunstein 2008). Therefore, PTs actually do enhance the users' negative freedom, because there might be fewer regulations. This is especially the case since "persuasion … implies voluntary change" (Fogg 2003) and "interventions must be easy and cheap to avoid" (Thaler and Sunstein 2008). This might especially be true if PTs were employed to influence the user to do X instead of Y without restricting the opportunity to do

Y. Since the users are still free to do Y, their negative "freedom to do Y" is not questioned.

However, since PTs are designed to lower the probability of doing Y instead of X, one may also argue that its users are no longer free to do Y without interference. Therefore, PTs present a challenge to our negative freedom in the sense that they are designed to close doors or, at least, to make certain doors more attractive and more likely to be used.

Persuasion and self-binding

If we agree that negative freedom is to be valued because it keeps doors open, we imply that having more choices is always better. Simply put, it is always better to be able to choose to do X or Y than only being able to do X and not Y (even if we do want to do X and not Y). However, at times, it might be rational to close doors as studies in precommitment have demonstrated (Elster 2000), e.g., we might have a choice to do X or Y. While X helps us to achieve an important goal, doing Y is so much more fun. Actually, Y is very tempting. Hence, any self-imposed measure that makes it more likely that we do X may be considered as an enhancement of our freedom to do X. In this way, PTs that help us to do X rather than Y actually can be seen as helpful in enjoying the freedom to do X. Of course, they do limit our number of choices, since we are now (much) more likely to choose X. But—and this has importance in precommitment—we willingly choose to make Y less attractive to achieve our preset goal.

On an individual level, personal strategies like "tunneling" or "self-monitoring" (Fogg 2003) may be considered as helpful in supporting people who have decided to adopt a healthier lifestyle by drinking less or exercising more. The same might be said about self-imposed persuasive soft surveillance systems. People have decided to do X (reducing alcohol consumption) and have agreed upon a self-imposed soft surveillance to receive support in doing X.

On the limits of persuasive surveillance: engineering consent

Fogg (2003) uses the term *macrosuasion* to describe the "overall persuasive intent of a product" (in the example given: reducing alcohol consumption), while *microsuasion* is used for persuasive elements that are incorporated into PTs to achieve the overall goal. In the previous sections, the focus has been on the macro level, on the overall goal. Here, we have argued that using persuasive surveillance might be instrumental for a group of people to achieve a specific predetermined goal. However, even a self-imposed persuasive surveillance may become questionable if the

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[12] One may consider PTs as similar to traditional regulations as a means to govern people. In this case, it seems reasonable to suggest that similar procedures used to establish and enforce regulations are being applied to PTs such as regulations concerning the specific domains where PTs might or ought to be used.

system is designed in such a way that it persuades the users to continue using the system.

To get a better understanding of the problem, let us compare the fictional case with a real-world example: the US National Institute on Alcohol Abuse and Alcoholism (NIAAA)'s Web site "Rethinking Drinking." Part of the website is an online test, where users can check their drinking patterns. Based on the number of so-called "standard drinks," users will be told if they are "low risk," "at risk," or "heavy drinkers." In contrast to our fictional example of reasonable-drinkers.org, the evaluation is based on a survey of 43,000 US adults (NIAAA 2009). It is worth noting the similarities of "Rethinking Drinking" to our fictional example. In both cases, the users have to provide information about their actual alcohol consumption, and in both cases they receive feedback based on data about other people's drinking behavior. However, following Thaler and Sunstein (2008), the designers of reasonable-drinkers.org might argue that their own approach is superior to "Rethinking Drinking" because it is much more likely to persuade its users to drink less. The behavioral sciences support the view of the human tendency to "follow the herd" (Thaler and Sunstein 2008); our knowledge or assumptions about the likely behavior of others strongly influence our own behavior. And the influence seems to be even stronger when we are able to relate to these others as being "like us." For example, Goldstein et al. (2008) demonstrated that the display of a sign in a hotel stating that "In a study conducted in Fall 2003, 75 % of the guests participated in our new resource savings program by using their towels more than once" led to an increase of the numbers of hotel guests who participated. However, signs that informed the guest about the percentage of participants in a specific room had a greater impact, which suggests that people consider other people to be "like them" (members of the same herd, so to speak) if they stayed in the same hotel room.[13] Therefore, an important difference between the real-world example of "Rethinking Drinking" and our fictional example of reasonable-drinkers.org might stem from the assumption that the design and the implementation of the system was collaborative. The basic fact that the users of the system might perceive themselves as being part of the reasonable-drinkers.org's "herd" might actually make the system more persuasive than the real-world example since the evaluation of drinking behavior is based on the data provided by people who are also part of the reasonable-drinkers.org community.

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[13] Goldstein et al. (2008) argue that "the social identity literature and the literature on the effects of similarity have addressed the issues of 'who' as they related to adherence to social norms; these literatures have by and large failed to address the issues of 'where.'".

Of course, this may be considered a minor issue. In the context of our fictional example, one may even be tempted to welcome this "side effect." However, we could easily imagine a persuasive surveillance system including micro-suasive elements that make it more likely that its users will continue to use the system and are less likely to opt out. For example, the system providing information about the percentage of users who enter their data on a regular basis might shape users' behavior in a similar way to information provided on the behavior of the previous guests in a hotel room. At this point, microsuasion becomes an ethical issue. The inclusion of microsuasive elements in a persuasive self-imposed soft surveillance system may undermine the very notion of free and voluntary consent that made the system initially acceptable from an ethical perspective.

It is generally challenging to address the potential persuasive nature of PTs themselves. Microsuasion may undermine the view of persuasive self-imposed soft surveillance system (or any other PTs) as being instrumental in increasing the freedom to do X, because the use of such a system may decrease our freedom to opt out of using the system. This tension may become apparent when we consider the use of surveillance as promoting consent to be surveilled. Based on the understanding of surveillance as a two-step process, we may consider informing the users of an online service about the activities of the other users as a form of surveillance. In step 1 of the process, data are being collected about the activities of the users. In step 2, the analyzed data is presented to the users to shape their behavior.

Conclusion and outlook

Self-imposed persuasive soft surveillance might be considered as being instrumental as part of precommitment strategies. But even self-imposed persuasive soft surveillance may become unethical if microsuasive elements are incorporated to promote compliance.

Building on David Lyon's understanding of surveillance as a two-step process, it has been shown that the ethical evaluation of a surveillance process should not only focus on the process of collecting and processing the data (step 1), but should also include an analysis of how the data may be used to influence human behavior (step 2). Pointing to "persuasion"—as being used within the context of PTs—as one part of step 2 of the surveillance process has proven to be helpful to avoid thinking about surveillance only in the context of "domination" and "oppression." In analyzing and evaluating step 2 of a surveillance process, we should ask if and how data is used to promote compliance with the system itself (or any other surveillance system).

The fictional example of reasonable-drinkers.org has been constructed in such a way that privacy issues can be

regarded as minimal. Hence, the focus of our inquiry could be allocated to step 2 of the surveillance process: the use of the collected data to change the behavior of the system's users. Later we discussed the use of the data about the users' behavior in order to persuade them to keep using the system. At this point the persuasive nature of the persuasive system itself became apparent. And it became questionable if the users of the system were really free in making decisions about their future use of the system.

The issue of persuading people to continue to use PTs is not limited to persuasive surveillance systems, but also in analyzing, evaluating, and designing PTs or ways to generally "nudge" people. It was outside the scope of this paper to evaluate the findings from different disciplines that could be used in the process of designing PTs. Neither should this paper be misunderstood as an evaluation of existing PTs. However, the underlying assumption is that those who argue in favor of different kinds of PTs do believe in the impact of persuasive design on the users. And it seems reasonable to ask those who do so to respond to the challenge presented in this paper.

One of the key issues in this paper has been the tension that emerges from my view on PTs as being instrumental in archiving a set goal and the potential persuasive nature of PTs themselves. Hence, we are dealing with persons who choose to subject themselves as autonomous beings to PTs that threaten their status as autonomous beings (at least in using the chosen technology). Because of the emphasis given to autonomy, one may classify this paper as a modernist approach to PTs (Verbeek 2011). That is to say, that we may come to a different conclusion with regard to PTs if we question the underlying idea of autonomy. However, this is as well beyond the scope of the current paper.

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