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Personal information as communicative acts

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Abstract The paper extends previous accounts of informational privacy as a contextual notion. Where previous accounts have focused on interpretations of the privacy context itself as being contextual and open for negotiation and interpretation, this paper extends those analyses and shows that personal information itself is in fact best understood as contextual and situational—and as such open for interpretation. The paper reviews the notion of information as it has been applied in informational privacy and philosophy of information, and suggests that personal information ought to be regarded as communicative acts. The paper suggests a reconceptualization of informational privacy from having its focus on controlling, limiting, and restricting access to material carriers of information to a focus on a regulation of the use, analysis, and interpretation of personal information.

Keywords Personal information · Personal data · Informational privacy · Privacy · Philosophy of information

Introduction

In which way is it possible to protect people's informational privacy? Discussions and analyses addressing this question presume conceptualizations of the notion: 'personal information'. The question of what is meant by 'personal information' is not new; in fact, there have been speculations as to what privacy ought to protect since the beginning of privacy theory. Warren and Brandis (1890) famously asked, "what is the thing which is protected?" (p. 214) and they wondered whether it is "the intellectual act of recording the fact" or the "fact itself" (p. 214). They suggested that it ought to be "not the intellectual product, but the domestic occurrence" (p. 214), which is a significant and important distinction; there is a difference between protecting the fact itself and protecting a recording of the fact. To begin to address in which ways it might be possible to protect people's informational privacy, we first need to conceptualize what is meant by personal information; in other words, we need to ask: should informational privacy protect the information *itself* or information *about* state of affairs; the recordings or the fact?

The value and ethics of informational privacy hinges on the specific conception of information embedded into theories of informational privacy; it makes a difference whether informational privacy is concerned with information *itself* or with information *about* state of affairs. The value and ethics of informational privacy can be conceptualized within a larger framework of philosophy of information. Philosophy of information is the area of study concerned with: (1) the nature of information; (2) information use; (3) information transfer; and (4) the relationship between information and reality. The particular theoretical conceptualization of personal information shapes the possible privacy protections that a theory of informational privacy offers.

This paper proposes an understanding of personal information that is grounded in a pragmatic understanding of information (Mai 2013), in which the meaning of information is central to understanding the value and ethics of information and personal information. The specific conceptual foundation for this account is found in

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semiotics and more specifically in Grice's (1989) pragmatic philosophy of language. The paper proposes a conception of personal information that is contextual, situational, and based in the communicative acts in which personal information is used. The paper is structured as follows: I will first establish the importance of the notion of the information in informational privacy and then I will make a short review of the notion of information. Then I will explore the interrelations between the notions of information, data, and meaning, and lastly I will make some concluding remarks regarding possible conceptualizations of personal information in informational privacy.

Informational privacy

Personal information demarcates a special kind of information that is of special interest when it comes to privacy. It is assumed that there are relations of sorts between personal information and privacy, but that the two are not equal or dependent. In other words, personal information does not demarcate the limits and characteristics of (informational) privacy nor does privacy define personal information. As such, there can be a claim to privacy even where there is no personal information involved, and personal information can be distributed and used even though no privacy has been violated. While the collection of personal information used to adhere to the principle that, "power should be visible" (Foucault 1977, p. 201) by insisting on informed consent (Solove 2013), today, "surveillance systems are less and less obvious and overt, but more and more systematic and subtle" (Lyon 2001, p. 2). Contemporary digital media has only increased the collection of personal information, and made it even less overt—we have moved from surveillance by watching, over surveillance as tracking (Agre 1994), to today's surveillance by datafication and predictive analyses (Mai, forthcoming).

Solove (2008) notes that there is no single conception of privacy that provides "the necessary and sufficient conditions" (p. 44) for an overall definition of privacy, instead we have come to conflate "different kinds of problems [that] can lead to understandings of the meaning of 'privacy' that distract courts and policymakers" (p. 46). Solove draws on readings in American pragmatism and Wittgenstein's later works to explore the idea that meanings and understandings are tied to contexts and activities. Solove argues that the context of a given privacy problem should shape our understanding of privacy in the particular situation. Whereas a traditional assumption in privacy scholarship has been that, "information is classified as public or private under the assumption that these are qualities that inhere in the information" (pp. 68–69), Solove suggests that the particulars of the context, situation, and personal preferences determine whether or not information is private. The basic idea being that whereas a specific piece of information might be private in some contexts, the same information is public in other contexts. In this paper, I will extend the analysis begun by Solove but shift focus from the pragmatics of the 'privacy situation' to the pragmatics of 'personal information'.

There has been some discussion of the notion of information in the privacy literature, Solove (2008) cites Murphy's common definition of personal information, that says that personal information is "any data about an individual that is identifiable to that individual" (p. 25). Floridi (2005) takes this idea one step further and suggests that, "'My' in 'my information' is not the same 'my' as in 'my car' but rather the same 'my' as in 'my body' or 'my feeling'" (Floridi 2005, p. 195). In Floridi's sense of personal information, people do not own their personal information; they are their personal information. Personal information is therefore not external information about a person—it is that person. My home address is therefore not personal information ('my' address is temporary, like 'my' car), neither is information about my height, profession, hair color, marital status, income, taxes, etc. Only very limited information is 'my' information in Floridi's account. At a more genereal level, Agre (1994) notes that, "the tacit assumption" (p. 107) that is most common in the privacy literature is "that information is true—that it corresponds in some transparent way to certain people, places, and things in the world" (p. 107), and as such information is not problematized. It is assumed that information just *is*, that is has no agency, and corresponds to objective state of affairs. Solove (2008), however, takes a different and more pragmatic approach when he reminds us that, "personal information is often formed in relationships with others. All parties to that relationship have some claim to the information" (p. 27). When I purchase gas, information about that transaction belongs both to the gas station and to me. It is information about me in the sense that it says something about my choices (how much gas, how often, which brand, etc.) and it is important information for the gas station (when did they sell the gas, how much, how was it paid for, etc.).

The two common conceptualizations of privacy of personal information regards privacy as the ability to "limit or restrict others from information about" oneself (Tavani 2008, p. 141) and the "control of personal information" (Solove 2008, p. 24). Both conceptualizations operate with a notion of information as something which can be controlled or to which access can be restricted. Data or information is regarded as objective entities that exist and it is assumed, though often unarticulated, that there is a direct and true correspondence between the data or

information and some actual state of affairs in the world. Hence the notion of *footprints*; footprints presume that there is a neutral and direct one-to-one relation between the traces left behind by human activity, the footprint, and the actual state of that human activity. The basic premise is that people may enjoy privacy when they have the abilities to control and/or restrict access to data or information—when they control and/or restrict access to footprints left behind. These conceptualizations of informational privacy follow a tradition in philosophy of information, which "treat data and information as reified entities, that is, stuff that can be manipulated (consider, for example, the now common expressions 'data mining' and 'information management')" (Floridi 2008b, p. 20). As such, information is objective in the sense that, "it is independent of what we think or believe. It is independent of what we know" (Dretske 2008, p. 31).

My argument is that an understanding of information, and personal information, as something that is independent of what we know is problematic. It is problematic because the protection of personal information is concerned exactly with what is known about a person and how that person control or restrict access to knowledge about him/herself. We need, therefore, a different conceptualization of information as the foundation for informational privacy.

The notion of information

If one starts from the question of: what is information? and asks: "Is there such a thing as information?" (Fox 1983, p. 17). There seems to be two possible answers, one that denies the existence of information and another that is affirmative. If the affirmative route is taken, then a next question could be: "What, exactly, is the thing that information is?" (p. 17). Regardless of the answer, the question and the conceptual framework that supports the question has constrained possible answers to what Fox calls "information realism" (p. 17). To pursue answers to the question one starts looking for something that can be called information and as such one has set out on an ontological quest—perhaps even without being aware or having accepted the epistemological commitments attached to the question.

If one accepts the question of 'what is information?', then one might start a list of *things* that *inform*: "pictures, drawings, photographs, plans, blueprints and graphs, spoken and written languages, gestures, hand signals and other non-verbal behavior, genes and DNA, electro-magnetic and sound waves, mechanical and electro-mechanical devices, records, tapes, films, holographs and video-disks, and so on" (Fox 1983, p. 7). The list is never-ending. Which leads to the unsatisfactory answer that, "If anything is, or might be, informative, then everything is, or might well be, information" (Buckland 1991, p. 356). However, if one starts not with the question 'what is information?'—but from explorations of what information does, and starts from the basic assumption that information is something that is created with the intention to communicate: to tell something, to argue something, to inform about something, to convince someone about something, to state something, etc. then questions of who said so, when, where, why, and in which context and with which intention become significant to understanding the notion of information.

There are several different schools of thought as to how information can be conceptualized. Goguen (1997) outlines three common approaches: "a statistical theory of information", "a representational theory of information", and "a social theory of information" (p. 3). Gougen advocates a social theory of information based in semiotics, meaning, and social contexts, suggesting that, "An item of information is an interpretation of a configuration of signs for which members of some social group are accountable" (p. 4). He contrasts this to representational theory of information, which includes a theory of meaning in which signs "represents something in the real world" (p. 6) and thereby, "leaves out the work of interpretation and the social accountability that is required for interpretation" (p. 6). While Shannon and Weaver's statistical theory of information is often included as a theory about information, "it was explicitly a theory of 'signals' and not of 'significance'" (Peters 1988, p. 17) and as such "had nothing to do with meaning" (p. 17). Wilson (1977) discriminates between a neutral and an evaluative sense of information, noting that information is only acquired in the evaluative sense, when it can be distinguished from misinformation, "when we ask for information, we are asking others to give us some of their knowledge in the best way they can, by saying what correctly represents their knowledge" (p. 41). A neutral sense of information contains no relation to knowledge; it does not matter whether the information is true, false, meaningful, or nonsense—it matters only the information exist. Information in the evaluative sense, however, can be misunderstood, misused, or misinterpreted, and the receiver might fail to acquire the knowledge it conveys, and the sender might deliberately lie or deceive.

Another useful distinction between different conceptualizations of information is to divide them between an *abstract* sense of the term and a *particularistic* sense of the term. The abstract sense is, "where it [information] refers not to knowledge… concerning some particular fact, subject, or event; but rather to a kind of intentional substance that is present in the world, a sense that is no longer closely connected to the use of the verb 'inform,' anchored in particular speech acts" (Nunberg 1996, p. 110). In the particularistic sense, "information [is] about such and such" (p. 122); this is

the kind of information at play when we ask for information about this or that. The distinction between abstract information and particularistic information gives a good rough division of the term into two different ontological arenas; one in which information is stuff that can be counted and measured and another in which information is stuff that has relations to knowledge and meaning. Agre (1994) has nicely summed up the challenge with information as the term is employed in privacy literature,

> Computers are frequently said to store and transmit information. The term information, though, conceals a significant ambiguity. On one hand, information can be defined (as per Shannon and Weaver) as a purely mathematical measure of information and information-carrying capacity, without regard for the content. On the other hand, information is information also about something. (A similar point applies to customary uses of the term data.) Although it makes sense to speak of false information (for example, in a faulty credit database), the tacit assumption is most commonly that information is true - that it corresponds in some transparent way to certain people, places, and things in the world. This assumption does not, strictly speaking, derive from any inherent property of computers. It is, rather, a theory of representation that is embedded in the way that computers have customarily been used (p. 107).

This interrelation and distinction between information as a neutral carrier of meaning and information as being about something is key to understanding the challenges in conceptualizing information as it is applied in informational privacy. On one hand, when information is applied as a neutral carrier of meaning there is no need to be concerned with the correctness of the information, whether the information is understood correctly, whether the information is open for multiple interpretations, or whether the information is created with ill intentions. On the other hand, if information is understood as *something about something* then a host of issues emerges, including the truthfulness of the information, the intentions behind the information, the meaning of the information, the sender's and receiver's varied interpretations of the information, etc.

Furthermore, as allured to by Agre, while the notion of false information may be included in the neutral carrier conception of information in the sense that the information is objectively incorrect; that the information fails to correspond to a particularly state of affairs. However, if there is the slightest uncertainty, say if there is debate about the faulty credit information and the credit information is challenged, the notion of information as neutral carrier comes short—this conception of information does not allow for a solution. If information is conceptualized as *something about something*, then the meaning, interpretation, truthfulness, and intention of the information is at play. In other words, one has to consider the speakers' intentions, the various interpretations of the information, the context and cultural circumstances of the information, and how the information creates meaning for the receiver. As such, we ought to consider whether the notion of "personal information" can be supplemented with the notions of "personal misinformation" (personal information that is incorrect) and "personal disinformation" (personal information that is deliberately misleading).

One possible avenue to take is to accept "the veridicality thesis" and hold that only true information is information; in which case disinformation and misinformation are not kinds of information. Dretske famously stated that, "misinformation is not a kind of information anymore than decoy ducks are a kind of duck" (Dretske 2008, pp. 29–30). In other words, only true information is proper information—and in cases of false information, this can be ignored because it is not information. Following this account, only true personal information would be regarded as personal information, and as such a "faulty credit database" can simply be ignored, because it is in fact not proper personal information. This approach may, however, encounter practical and empirical challenges—how does one, for example, determine whether information is true or false when only true information can be information? Another theoretical option, and the position taken in this paper, is to remain alethically neutral, and thus accept that, "information may be false" (Fox 1983, p. 193) and therefore acknowledge that, "misinformation is a species of information, just as misinforming is a species of informing" (p. 193).

The question of the role of agency is central to information ethics as it divides the field in two conceptual traditions, as noted by Mathiesen (2015), there is one school of thought that, "focuses primarily on human beings as the object of moral concern" and another—mainly advocated by Floridi (cf. e.g. 2005, 2008a)—that "focuses on information itself as the object of moral concern—with human being as a special case of information objects" (Mathiesen 2015, p. 430). The basic premise in Floridi's information ethics is that information objects have "moral rights" which at the same time is the "most controversial and celebrated part" of his philosophy of information (Martens 2015, p. 343).

Data, information, and meaning

Floridi (2010) defines information as "data + meaning" (p. 20). While Floridi acknowledges that this process where meaning is added to data to become information "is one of the hardest questions in semantics" (pp. 20–21) and although he notes that for his purpose the problem can "be

disregarded" (p. 21), the definition opens up for two additional questions: what is data?, and what is meaning? Floridi addresses the first question, and suggests that data is simply "a lack of uniformity" (p. 23), which is variation of Bateson's (1972) famous definition of information as the "difference which makes a difference" (p. 489). The basic idea is that data (or information in Bateson's case) is merely material stuff that is and exist independently of human agency and activity—these are *brute data* that have not yet met human interpretation, thought, and activity. As such data becomes information once meaning is added.

The crucial point in Floridi's conceptualization of information is that once data is used or placed in context, it becomes information. While this "'water into wine' effect" (Cornelius 2002, p. 408) of changing data to information—which is sometimes followed by the changing of information into knowledge—is often evoked in the literature on the notion of information, the effect is seldom discussed, defended, or conceptualized. Furthermore, in the era of big data the practical distinction between raw data on one side and processed information one the other, comes apart when information is datafied, that is when information is put "in a quantified format so it can be tabulated and analyzed" (Mayer-Schönberger and Cukier 2013, p. 78). Datafication allows analysis of information in sophisticated ways and allows analyses across large datasets. As such information becomes data once datafied. As analysis of data becomes more prevalent, as businesses and government becomes more data-driven and as 'data science' arise both as a profession and as an area of study, some have begun to distinguish between different kinds of data, such as: big data, social data, small data, long data, thick data, and slow data (Halavais 2015). In fact, the distinction between data and information breaks down the closer one inspect the notions; data and information are often used synonymously in the wider literature and within the privacy literature the notions of personal information and personal data are often used synonymously.

The second question—what is meaning?—is more difficult to answer. The notion of 'meaning' is the subject for philosophy of language where there are a number of competing schools of thought. Strawson (1970) once suggested that this could be outlined to a "conflict between the theorists of communication-intension and the theorists of formal semantics" (p. 91), which amounts to a "Homeric struggle" (p. 92) with on the one side, "say, Grice, Austin and the later Wittgenstein, [and] on the other, Chomsky, Frege, and the earlier Wittgenstein" (p. 92). Where theorists in the 'communication-intention' tradition generally would hold that "the fundamental concept in the theory of meaning is that of … [an] utterer *meaning something by* an audience-directed utterance on a particular occasion" (p. 92), formalists would generally hold that "the truth-conditions" (p. 94) of a sentence determines its sense or meaning and that the communication can exist without reference to knowledge or mastery of the rules for communication. Grice (1967) likewise distinguishes between what he calls the "formalist and informalist groups" (p. 22) of writers on the philosophy of language. He notes that the formalist group is concerned with the "imperfection of natural languages" (p. 23) and seeks to erase the "indefiniteness" (p. 23) of expressions and meaning assignment by beginning "to construct an ideal language" (p. 23). Grice argues that language serves many important purposes beyond "those of scientific inquiry" (p. 23) and that we can know "perfectly well" (p. 23) what an expression means without a clear analysis or explication of the expression.

Grice (1957) instead outlines two different kinds of meaning—he calls these: natural and non-natural meaning. 'Natural meaning' is defined as utterances that entail some kind of fact. He gives the example (p. 213):

(1) "Those spots mean (meant) measles."

If someone utters that sentence, we would rightly expect that there is an actual correlation to a state of affairs in which certain spots entail that someone has the measles. In other words, it would be strange if someone said: "Those spots meant measles, but he hadn't got measles" (p. 213); if someone has these particular spots, then someone has the measles. Compare that to Grice's example of "non-natural meaning" (p. 214):

(2) "Those three rings on the bell (of the bus) mean that the bus is full."

This utterance does not in the same way *entail* a particular state of affairs. One could very reasonably "go on and say, 'But it isn't in fact full—the conductor made a mistake'" (p. 214). In this instance, *someone* has the intention of communicating something; there is a human agent present, and that agent can be correct or incorrect in his/her understanding of the actual state of affairs. This is, as Grice, notes "overrigid; but it will serve as an indication" (p. 215). As he further explains (p. 215):

> I do not want to maintain that *all* our uses of 'mean' fall easily, obviously, and tidily into one of the two groups I have distinguished; but I think that in most cases we should be at least fairly strongly inclined to assimilate a use of 'mean' to one group rather than to the other (Grice 1957, p. 215).

Grice aims to divide meaning into two different kinds of phenomena: one that merely points to an actual state of affairs, and another that allows for interpretation and situational understanding. In (2) the utterance is supposed to show something, in this instance that the bus is full; it is clear that someone has the intention of communicating that

the bus is full, and we can reasonably accept that the person could be wrong, even while making the utterance in good faith.

Dretske suggests using Grice's notions of natural and non-natural meaning to delimitate the notion of information. He notes that: "Information (once again as it is commonly conceived) is something closely related to what natural signs and indicators provide" (Dretske 2008, p. 30). The reason for this focus can be found in the fact that Dretske constrains the notion of information to include only "answers to questions" (p. 29), and further constrains the types of questions to those that can have verifiable answers, "not just any answers … [but] true answers" (p. 29). According to Dretske, the notion of information should not be limited by the notion of meaning, though, as he says, "meaning is fine. You can't have truth without it" (p. 29). Dretske links information to the notion of truth, asserting that "information, unlike meaning, has to be true" (p. 29). Dretske proposes, therefore, limiting the notion of information to Grice's notion of natural meaning, arguing that "Natural meaning is information" (Dretske 2008, p. 31).

There is a tedious relationship between data, information, meaning, and truth. The various theoretical positions entail different conceptualizations of that relationship, and shape different conceptual frameworks and theoretical standpoints when it comes to the definition and understanding of information and personal information. Depending on whether one regards data to be meaning-neutral, whether information is necessarily true, whether meaning is contextual and situational, whether information is representations of state of affairs, whether meaning entails intentions, whether information exists as part of communication, and whether information has meaning one will formulate different conceptualizations of information, and personal information, and as such have different answers to the question: " In which way is it possible to protect people's informational privacy?" The answer depends on what it is that one wants to protect. The notion of 'information' is central in order to outline and determine the possibilities of protecting people's informational privacy; various conceptions of information will shape different theories of informational privacy. Only once informational privacy theory is based on a clear conception of information, and personal information, will it become clear how to protect people's informational privacy.

Conclusions

The argument presented in this paper is that information can be understood in two fundamental different ways, and that each understanding entails different answers to the question of in which ways it is possible to protect people's informational privacy. One approach understands information as true representation of reality, and another approach understands information as signs of reality that is open for interpretation and negotiation. To apply Grice's conceptual framework of meaning, we can therefore outline two approaches to informational privacy:

1. Personal information is like *natural* meaning (spots that mean measles); data, traces' and footprints are viewed as true representations of state of affairs, and the challenge is to control the flow of the material that carries information. It is a correspondence concept of privacy where the aim is to control the material information to control knowledge about state of affairs. Personal information is seen as true, direct representations of facts.
2. Personal information is like *non-natural* meaning (rings on the bell that mean that the bus is full); data, traces, and footprints are viewed as signs open for interpretation and negotiation, which only make sense in specific contexts and situations through conventions. It is a contextual understanding of information in which meaning is negotiated and particular. Personal information is signs of state of affairs. Meaning is contextual, negotiated, and particular, and specific social groups are accountable for its use.

The distinctions between these two approaches are clear; in the first approach personal information is the material that carries information and the basic assumption is that meaning is explicit and obvious. Privacy theories in this tradition focus on controlling, limiting, and restricting access to the material carrier of information. In the second approach, personal information is communicative acts and the meaning of the information is regarded to be emergent and situational dependent. Privacy theories in this tradition focus on pragmatics of the information and of the situation; the aim is to regulate use, analysis, and interpretation of personal information.

This paper has advanced and expanded the pragmatic approach to informational privacy begun by Solove (2008) and others. The basic idea behind the pragmatic approach to informational privacy is that the 'privacy situation' shapes our understanding of privacy given the specifics of the situation. This paper expands this idea to argue that the meaning and understanding of information itself is closely tied to specific situations and contexts. Personal information is, as such, communicative acts. Therefore, the protection of people's information privacy cannot be limited to a focus on restricting, limiting, and controlling access to the material forms of information—informational privacy ought to be concerned with the use, analysis, and interpretation of personal information. As the employment of big data, algorithmic production of new personal

information, and the trading of personal information on information markets expands, the situational specifics of personal information becomes increasingly important—and a sophisticated and current theory of personal information is required to handle that situation. In the new era of informational privacy, the material forms of information become insignificant, the challenge becomes how to protect information *about* people's state of affairs.

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